



Phase 2 Fuel Efficiency Standards for
Medium- and Heavy-Duty
Engines and Vehicles

Final EIS Appendices

August 2016

Docket No. NHTSA-2014-0074



U.S. Department of Transportation
National Highway Traffic Safety
Administration



APPENDIX A

Air Quality Nonattainment Area Results

Phase 2 Fuel Efficiency Standards for Medium- and Heavy-Duty Engines and Vehicles Final EIS

Table A1-1

**Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Direct and Indirect Impacts
Particulate Matter (PM2.5) 2018**

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Ada County; Boise, ID | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.01 | 0.01 | 0.01 | 0.01 |
| Adams, Denver, and Boulder Counties; Denver Metropolitan area, CO | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.05 | 0.05 | 0.05 | 0.06 |
| Ajo, AZ | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Albuquerque Area, NM | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.02 | 0.02 | 0.02 | 0.02 |
| Allegheny County Air Basin: Hazelwood monitor, PA | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Allegheny County, PA | PM2.5 (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 0.02 | 0.02 | 0.02 | 0.02 |
| Allegheny County; The area including Liberty, Lincoln, Port Vue, and Glassport Boroughs and the City of Clairton, PA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Allegheny, PA | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Allentown, PA | PM2.5 (2006 24-hour) | Maintenance, Moderate | 100 | 0 | 0.02 | 0.02 | 0.01 | 0.02 |
| Allentown-Bethlehem-Easton, PA | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Anchorage Area, AK | CO (1971 8-hour) | Maintenance, Serious | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Anchorage; Eagle River, AK | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| AQCR 012: Portions of Grant County, NM | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| AQCR 109-Millinocket, ME | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| AQCR 131: Anoka, Carver, Dakota, Hennepin, Ramsey, Scott, and Washington counties (Minneapolis-St. Paul), MN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| AQCR 237: Brown County: Green Bay sub-city area, WI | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| AQCR 238: Marathon County: Rothschild Sub-city area, Rib Mountain, Weston, WI | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| AQCR 238: Oneida County: Rhinelander Sub-city area, WI | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |

Appendix A Air Quality Non-Attainment Area Results

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Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Direct and Indirect Impacts

Particulate Matter (PM2.5) 2018

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| AQCR 239: Milwaukee County: Milwaukee sub-city area, WI | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| AQCR 240: Dane County: Madison sub-city area, WI | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Archuleta County; Pagosa Springs, CO | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Armstrong County; Madison Twp, Mahoning Twp, Boggs Twp, Washington Twp, Pine Twp, PA | SO ₂ (1971 24-hour/Annual) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Aroostock County; City of Presque Isle, ME | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Atlanta, GA | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Atlantic City Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Bakersfield Area, CA | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.04 | 0.05 | 0.06 | 0.07 |
| Baltimore Area, MD | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Baltimore, MD | Ozone (2008 8-hour) | Nonattainment, Moderate | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Baton Rouge, LA | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Beaver, PA | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Benton County; (part) TVA Johnsonville, TN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Billings Area, MT | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.20 | 0.30 | 0.34 | 0.41 |
| Billings, MT | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.20 | 0.30 | 0.34 | 0.40 |
| Birmingham, AL | PM2.5 (2006 24-hour) | Maintenance, -- | 100 | 0 | 0.04 | 0.04 | 0.04 | 0.04 |
| Boise-Northern Ada County Area, ID | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.01 | 0.01 | 0.01 | 0.01 |
| Bonner County; The Sandpoint Area, ID | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Boston Area, MA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.03 | 0.03 | 0.03 | 0.03 |
| Boyd County (part), KY | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Brooke; Follansbee area, WV | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Burlington Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Calaveras County, CA | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |

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| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|---|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Campbell-Clermont Counties, KY-OH | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Canton-Massillon, OH | PM2.5 (2006 24-hour) | Maintenance, -- | 100 | 0 | 0.12 | 0.18 | 0.21 | 0.24 |
| Central New Hampshire, NH | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.01 | 0.01 | 0.01 | 0.01 |
| Central Steptoe Valley, NV | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Charleston, WV | PM2.5 (2006 24-hour) | Maintenance, -- | 100 | 0 | 0.01 | 0.01 | 0.01 | 0.01 |
| Charlotte Area, NC | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.03 | 0.03 | 0.03 | 0.04 |
| Charlotte-Rock Hill, NC-SC | Ozone (2008 8-hour) | Maintenance, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Chicago-Naperville, IL-IN-WI | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Chico (Butte County), CA | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Chico Area, CA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Chico, CA | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.01 | 0.01 | 0.01 | 0.01 |
| Cincinnati, OH-KY-IN | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Clark County; Las Vegas planning area, NV | PM10 (1987 24-hour) | Maintenance, Serious | 100 | 0 | 0.05 | 0.05 | 0.05 | 0.05 |
| Cleveland Area, OH | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.03 | 0.03 | 0.02 | 0.03 |
| Cleveland, OH | PM2.5 (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 0.03 | 0.03 | 0.03 | 0.04 |
| Cleveland-Akron-Lorain, OH | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Cleveland-Akron-Lorain, OH | PM2.5 (2006 24-hour) | Maintenance, -- | 100 | 0 | 0.07 | 0.07 | 0.07 | 0.08 |
| Cochise County; Paul Spur/Douglas planning area, AZ | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Colorado Springs Area, CO | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.02 | 0.02 | 0.02 | 0.02 |
| Columbus, OH | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Cook County; Lyons Township, IL | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Cook County; Southeast Chicago, IL | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Coshocton County; Franklin Township, OH | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Coso Junction, CA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |

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Particulate Matter (PM2.5) 2018

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Cuyahoga County (part), OH | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Cuyahoga County, OH | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.03 | 0.03 | 0.02 | 0.03 |
| Dallas-Fort Worth, TX | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Delaware County, PA | PM2.5 (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 0.41 | 0.62 | 0.70 | 0.83 |
| Denver-Boulder Area, CO | CO (1971 8-hour) | Maintenance, Serious | 100 | 0 | 0.22 | 0.30 | 0.33 | 0.39 |
| Denver-Boulder-Greeley-Ft Collins-Loveland, CO | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Detroit Area, MI | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.08 | 0.09 | 0.10 | 0.11 |
| Detroit, MI | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.04 | 0.05 | 0.06 | 0.07 |
| Detroit-Ann Arbor, MI | PM2.5 (2006 24-hour) | Maintenance, -- | 100 | 0 | 0.17 | 0.18 | 0.18 | 0.21 |
| Dona Ana County; Anthony, NM | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Douglas, AZ | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Dukes County, MA | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Duluth Area, MN | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| East Chicago Area, IN | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.16 | 0.24 | 0.27 | 0.33 |
| East Helena Area, MT | SO ₂ (1971 24-hour/Annual) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| East Kern County Area, CA | PM10 (1987 24-hour) | Nonattainment, Serious | 70 | 0 | 0.03 | 0.04 | 0.05 | 0.05 |
| El Paso County, TX | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.05 | 0.06 | 0.07 | 0.08 |
| El Paso, TX | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.04 | 0.05 | 0.06 | 0.07 |
| Eugene-Springfield Area, OR | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.01 | 0.01 | 0.01 | 0.01 |
| Fairbanks Area, AK | CO (1971 8-hour) | Maintenance, Serious | 100 | 0 | 0.00 | 0.01 | 0.01 | 0.01 |
| Fairbanks, AK | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.01 | 0.01 | 0.01 | 0.01 |

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|---|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Flathead County; Columbia Falls and vicinity, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Flathead County; Kalispell and vicinity, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Flathead County; Whitefish and vicinity, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Fort Collins Area, CO | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Freehold Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Fremont County; Canon City Area, CO | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Fresno Area, CA | CO (1971 8-hour) | Maintenance, Moderate > 12.7ppm | 100 | 0 | 0.02 | 0.02 | 0.02 | 0.02 |
| Grants Pass Area, OR | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Great Falls Area, MT | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.02 | 0.03 | 0.03 | 0.04 |
| Greater Connecticut, CT | Ozone (2008 8-hour) | Nonattainment, Moderate | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Greeley Area, CO | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.01 | 0.02 | 0.02 | 0.02 |
| Hancock and Brooke Counties (Part); The city of Weirton, WV | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Hancock County (Part) The city of Weirton, including Butler and Clay: Magisterial Districts, WV | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Harrisburg-Lebanon-Carlisle-York, PA | PM2.5 (2006 24-hour) | Maintenance, Moderate | 100 | 0 | 0.04 | 0.03 | 0.03 | 0.04 |
| Hartford-New Britain-Middletown Area, CT | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.03 | 0.03 | 0.03 | 0.03 |
| Hayden, AZ | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Hayden, AZ | SO ₂ (1971 24-hour/Annual) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Hayden, AZ | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Hillsborough County, FL | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Houston-Galveston-Brazoria, TX | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Humphreys County; (part) TVA Johnsonville, TN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Imperial Co, CA | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.01 | 0.01 | 0.01 | 0.01 |

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|--|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Imperial County, CA | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Imperial County, CA | PM2.5 (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 0.01 | 0.01 | 0.01 | 0.01 |
| Imperial County; Imperial Valley planning area, CA | PM10 (1987 24-hour) | Nonattainment, Serious | 70 | 0 | 0.01 | 0.01 | 0.01 | 0.01 |
| Indian Wells, CA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.03 | 0.04 | 0.05 | 0.05 |
| Indiana, PA | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Indianapolis Area, IN | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Indianapolis, IN | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.01 | 0.01 | 0.01 | 0.01 |
| Inyo County; Owens Valley planning area, CA | PM10 (1987 24-hour) | Nonattainment, Serious | 70 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Jackson County, MO | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Jackson County; Medford-Ashland (including White City), OR | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.01 | 0.00 | 0.00 | 0.01 |
| Jamestown, NY | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Jefferson County, KY | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Jefferson County, MO | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Jefferson County; (part) Steubenville & Mingo Junction, OH | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Jefferson County; (part), OH | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Johnstown, PA | PM2.5 (2006 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Josephine County; Grants Pass, OR | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Juneau; Mendenhall Valley area, AK | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Kern County (Eastern Kern), CA | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| King County; Kent, WA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| King County; Seattle, WA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Klamath County; Klamath Falls, OR | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Klamath Falls Area, OR | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Klamath Falls, OR | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |

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|--|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Knoxville, TN | Ozone (2008 8-hour) | Maintenance, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Knoxville-Sevierville-La Follette, TN | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.03 | 0.03 | 0.03 | 0.03 |
| La Porte County: (part), IN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lake County (part); Lakeview, OR | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lake County, OH | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.01 | 0.01 | 0.01 | 0.01 |
| Lake County: (part), IN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lake County; (part) Eastlake, Timberlake, Lakeline, Willoughby, Mentor, OH | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lake County; Cities of East Chicago, Hammond, Whiting, and Gary, IN | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.16 | 0.25 | 0.28 | 0.33 |
| Lake County; Polson, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lake County; Ronan, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lake Tahoe Nevada Area, NV | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lake Tahoe North Shore Area, CA | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lake Tahoe South Shore Area, CA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lancaster, PA | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lancaster, PA | PM2.5 (2006 24-hour) | Maintenance, Moderate | 100 | 0 | 0.01 | 0.01 | 0.01 | 0.01 |
| Lane County (part); Oakridge, OR | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lane County; Eugene/Springfield, OR | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.01 | 0.01 | 0.01 | 0.01 |
| Las Vegas Area, NV | CO (1971 8-hour) | Maintenance, Serious | 100 | 0 | 0.05 | 0.05 | 0.05 | 0.05 |
| LaSalle County; Oglesby, IL | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Laurel Area, MT | SO ₂ (1971 24-hour/Annual) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lebanon County, PA | PM2.5 (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.01 |
| Lemont, IL | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.22 | 0.33 | 0.37 | 0.45 |
| Liberty-Clairton, PA | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |

Appendix A Air Quality Non-Attainment Area Results

Table A1-1

Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Direct and Indirect Impacts

Particulate Matter (PM2.5) 2018

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Lincoln County; Libby and vicinity, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Logan, UT-ID | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Longmont Area, CO | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lorain County (part), OH | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Los Angeles, CA | PM2.5 (2006 24-hour) | Nonattainment, Serious | 70 | 0 | 1.10 | 1.45 | 1.58 | 1.84 |
| Los Angeles-San Bernardino Counties (West Mojave Desert), CA | Ozone (2008 8-hour) | Nonattainment, Severe 15 | 25 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Los Angeles-South Coast Air Basin Area, CA | CO (1971 8-hour) | Maintenance, Serious | 100 | 0 | 1.10 | 1.45 | 1.58 | 1.84 |
| Los Angeles-South Coast Air Basin Area, CA | NO ₂ (1971 Annual) | Maintenance, -- | 100 | 0 | 1.10 | 1.45 | 1.58 | 1.84 |
| Los Angeles-South Coast Air Basin, CA | Ozone (2008 8-hour) | Nonattainment, Extreme | 10 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Los Angeles-South Coast Air Basin, CA | PM2.5 (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 1.10 | 1.45 | 1.58 | 1.84 |
| Lowell Area, MA | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lucas County (part), OH | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Madison County; Granite City Township and Nameoki Township, IL | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.11 | 0.16 | 0.19 | 0.22 |
| Manchester Area, NH | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Maricopa and Pinal Counties; Phoenix planning area, AZ | PM10 (1987 24-hour) | Nonattainment, Serious | 70 | 0 | 0.10 | 0.10 | 0.10 | 0.10 |
| Marion County; Lawrence, Washington, and Warrant Townships, IN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Mariposa County, CA | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Marshall, WV | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.08 | 0.12 | 0.14 | 0.16 |
| Medford Area, OR | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Memphis Area, TN | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.10 | 0.14 | 0.16 | 0.18 |

Table A1-1
Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Direct and Indirect Impacts
Particulate Matter (PM2.5) 2018

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|---|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Memphis, TN-MS-AR | Ozone (2008 8-hour) | Nonattainment TN & Maintenance MS/AR, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Miami, AZ | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Miami, AZ | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Miami, AZ | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Milwaukee-Racine, WI | PM2.5 (2006 24-hour) | Maintenance, -- | 100 | 0 | 0.03 | 0.03 | 0.03 | 0.04 |
| Minneapolis-St. Paul Area, MN | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.27 | 0.37 | 0.40 | 0.47 |
| Missoula Area, MT | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.03 | 0.04 | 0.04 | 0.05 |
| Missoula county; Missoula and vicinity, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.03 | 0.04 | 0.04 | 0.05 |
| Modesto Area, CA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.01 | 0.01 | 0.01 | 0.01 |
| Mohave County (part); Bullhead City, AZ | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Mono County; Mammoth Lake planning area, CA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Mono County; Mono Basin, CA | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Morenci, AZ | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Morgan County, IN | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Morongo Band of Mission Indians | Ozone (2008 8-hour) | Nonattainment, Serious | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Morristown Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Muscatine County; (part), IA | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Muscatine, IA | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Muskingum River, OH | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Nashua Area, NH | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Nassau County, FL | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Nevada County (Western part), CA | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| New Haven County, CT | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |

Appendix A Air Quality Non-Attainment Area Results

Table A1-1

Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Direct and Indirect Impacts

Particulate Matter (PM2.5) 2018

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| New Haven-Meriden-Waterbury Area, CT | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.02 | 0.02 | 0.02 | 0.02 |
| New Manchester-Grant magisterial district in Hancock County, WV | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| New York County, NY | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.02 | 0.02 | 0.01 | 0.02 |
| New York, NY-NJ-CT | PM2.5 (2006 24-hour) | Maintenance, -- | 100 | 0 | 0.54 | 0.58 | 0.59 | 0.66 |
| New York-N. New Jersey-Long Island Area, NY-NJ-CT | CO (1971 8-hour) | Maintenance, Moderate > 12.7ppm | 100 | 0 | 0.32 | 0.36 | 0.37 | 0.42 |
| New York-N. New Jersey-Long Island, NY-NJ-CT | Ozone (2008 8-hour) | Nonattainment, Moderate | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| NJ portion of the Northeast Pennsylvania-Upper Delaware Valley Interstate AQCR: (part), NJ | SO ₂ (1971 24-hour/Annual) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Nogales, AZ | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Oakridge, OR | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Ogden Area, UT | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Ogden Area, UT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Olmsted County; (part), MN | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Olmsted; City of Rochester, MN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |

Table A1-1
Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Direct and Indirect Impacts
Particulate Matter (PM2.5) 2018

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Pechanga Band of Luiseno Mission Indians of the Pechanga Reservation | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Pekin, IL | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Penns Grove Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Peoria County: Hollis Twp, IL | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Peoria County: Peoria, IL | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Perth Amboy Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.02 | 0.03 | 0.04 | 0.04 |
| Philadelphia-Camden County Area, PA-NJ | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.21 | 0.31 | 0.35 | 0.41 |
| Philadelphia-Wilmington, PA-NJ-DE | PM2.5 (2006 24-hour) | Maintenance, Moderate for PA and DE Subject to Former Subpart 1 for NJ | 100 | 0 | 0.79 | 1.14 | 1.28 | 1.51 |
| Philadelphia-Wilmington-Atlantic City, PA-NJ-MD-DE | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Phoenix Area, AZ | CO (1971 8-hour) | Maintenance, Serious | 100 | 0 | 0.10 | 0.09 | 0.09 | 0.10 |
| Phoenix-Mesa, AZ | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Pierce County; Tacoma, WA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Pima County; Ajo planning area, AZ | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Pima County; Rillito planning area, AZ | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Pinal and Gila Counties; Payson, AZ | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Pinal County (part); West Pinal, AZ | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.01 | 0.01 | 0.01 | 0.01 |
| Pitkin County; Aspen, CO | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Pittsburgh Area, PA | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.01 | 0.01 | 0.01 | 0.01 |
| Pittsburgh-Beaver Valley, PA | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Pittsburgh-Beaver Valley, PA | PM2.5 (2006 24-hour) | Maintenance, Moderate | 100 | 0 | 0.06 | 0.07 | 0.07 | 0.07 |
| Plumas County, CA | PM2.5 (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |

Appendix A Air Quality Non-Attainment Area Results

Table A1-1

Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Direct and Indirect Impacts

Particulate Matter (PM2.5) 2018

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Polk County, TN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Portland Area: Portland Metro Service District Boundary, OR | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.03 | 0.03 | 0.03 | 0.03 |
| Power-Bannock Counties; Fort Hall Indian Reservation, ID | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Power-Bannock Counties; Portneuf Valley Area, ID | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Provo Area, UT | CO (1971 8-hour) | Maintenance, Moderate > 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Provo, UT | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.01 | 0.01 | 0.01 | 0.01 |
| Prowers County; Lamar, CO | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Raleigh-Durham Area, NC | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.04 | 0.04 | 0.04 | 0.04 |
| Ramsey County; (part), MN | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Reading, PA | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Reno Area, NV | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.01 | 0.01 | 0.01 | 0.01 |
| Rhineland, WI | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Riverside County (Coachella Valley), CA | Ozone (2008 8-hour) | Nonattainment, Severe 15 | 25 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Riverside County; Coachella Valley planning area, CA | PM10 (1987 24-hour) | Nonattainment, Serious | 70 | 0 | 0.01 | 0.01 | 0.01 | 0.02 |
| Riverside, Los Angeles, Orange, and San Bernardino Counties; South Coast Air Basin, CA | PM10 (1987 24-hour) | Maintenance, Serious | 100 | 0 | 1.10 | 1.45 | 1.58 | 1.84 |
| Rosebud County; Lame Deer, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Routt County (part); Steamboat Springs, CO | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.01 | 0.01 | 0.01 |
| Sacramento Area, CA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.04 | 0.04 | 0.04 | 0.04 |
| Sacramento County, CA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.03 | 0.03 | 0.03 | 0.04 |
| Sacramento Metro, CA | Ozone (2008 8-hour) | Nonattainment, Severe 15 | 25 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Sacramento, CA | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.12 | 0.15 | 0.16 | 0.18 |
| Salem Area, OR | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.01 | 0.01 | 0.01 | 0.01 |
| Salt Lake City Area, UT | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.04 | 0.06 | 0.07 | 0.08 |

Table A1-1

Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Direct and Indirect Impacts

Particulate Matter (PM2.5) 2018

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|---|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Salt Lake City, UT | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.09 | 0.11 | 0.12 | 0.14 |
| Salt Lake County, UT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.06 | 0.08 | 0.09 | 0.10 |
| Salt Lake County, UT | SO ₂ (1971 24-hour/Annual) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| San Bernardino County (part); excluding Searles Valley Planning area and South Coast Air Basin, CA | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.02 | 0.02 | 0.02 | 0.02 |
| San Diego Area, CA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.09 | 0.09 | 0.09 | 0.10 |
| San Diego County, CA | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| San Francisco Bay Area, CA | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| San Francisco Bay Area, CA | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 1.01 | 1.44 | 1.60 | 1.89 |
| San Francisco-Oakland-San Jose Area, CA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.99 | 1.42 | 1.59 | 1.88 |
| San Joaquin Valley Air Basin; Fresno, Kern, Kings, Madera, Merced, San Joaquin, Stanislaus, Tulare Counties, CA | PM10 (1987 24-hour) | Maintenance, Serious | 100 | 0 | 0.15 | 0.16 | 0.16 | 0.18 |
| San Joaquin Valley, CA | Ozone (2008 8-hour) | Nonattainment, Extreme | 10 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| San Joaquin Valley, CA | PM2.5 (2006 24-hour) | Nonattainment, Serious | 70 | 0 | 0.15 | 0.16 | 0.16 | 0.18 |
| San Joaquin Valley, CA | PM2.5 (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 0.15 | 0.16 | 0.16 | 0.18 |
| San Luis Obispo (Eastern San Luis Obispo), CA | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| San Manuel, AZ | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| San Miguel County; Telluride, CO | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Sanders County (part); Thompson Falls and vicinity, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Santa Cruz County; Nogales planning area, AZ | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Seaford, DE | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Seattle-Tacoma Area, WA | CO (1971 8-hour) | Maintenance, Moderate > 12.7ppm | 100 | 0 | 0.08 | 0.08 | 0.08 | 0.08 |
| Seattle-Tacoma, WA | PM2.5 (2006 24-hour) | Maintenance, Moderate | 100 | 0 | 0.01 | 0.01 | 0.01 | 0.02 |

Appendix A Air Quality Non-Attainment Area Results

Table A1-1

Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Direct and Indirect Impacts

Particulate Matter (PM_{2.5}) 2018

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|---|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Sheboygan County, WI | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Sheridan County; City of Sheridan, WY | PM ₁₀ (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Shoshone County (part); excluding Pinehurst, ID | PM ₁₀ (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Shoshone County; City of Pinehurst, ID | PM ₁₀ (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Silver Bow County; Butte, MT | PM ₁₀ (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Somerville Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Southwest Indiana, IN | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Spokane Area, WA | CO (1971 8-hour) | Maintenance, Serious | 100 | 0 | 0.01 | 0.01 | 0.01 | 0.01 |
| Spokane County; (part), WA | PM ₁₀ (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.01 | 0.01 | 0.01 | 0.01 |
| Springfield Area, MA | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| St. Bernard Parish, LA | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.36 | 0.55 | 0.63 | 0.75 |
| St. Louis Area, MO | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.02 | 0.02 | 0.02 | 0.03 |
| St. Louis-St. Charles-Farmington, MO-IL | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Steubenville, OH-WV | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Steubenville-Weirton, OH-WV | PM _{2.5} (2006 24-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.01 |
| Stockton Area, CA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.01 | 0.01 | 0.01 | 0.01 |
| Sullivan County, TN | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Syracuse Area; Onondaga County, NY | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.01 | 0.01 | 0.01 | 0.02 |
| Tazewell County; Groveland Twp, IL | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Terre Haute, IN | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.01 | 0.01 | 0.01 | 0.02 |

Table A1-1

Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Direct and Indirect Impacts
 Particulate Matter (PM2.5) 2018

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|---|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Thurston County; Cities of Olympia, Tumwater, and Lacey, WA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Toms River Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Tooele County (part), UT | SO ₂ (1971 24-hour/Annual) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Trenton Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Trona, CA | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Tucson Area, AZ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.02 | 0.02 | 0.02 | 0.02 |
| Tuscan Buttes, CA | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Union County; LaGrande, OR | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Upper Green River Basin Area, WY | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Utah County, UT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.01 | 0.01 | 0.01 | 0.01 |
| Vancouver Area: Clark County (part), WA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.01 | 0.01 | 0.01 | 0.01 |
| Ventura County, CA | Ozone (2008 8-hour) | Nonattainment, Serious | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Vermillion County; Part of Clinton Township, IN | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Vigo County, IN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Walla Walla County; Wallula, WA | PM10 (1987 24-hour) | Maintenance, Serious | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Waltham Area, MA | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Warren County: Conewago Twp, PA | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Warren County: Warren Boro, Pleasant Twp, Glade Twp, PA | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Warren, PA | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.05 | 0.07 | 0.08 | 0.10 |
| Washington Area, DC-MD-VA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.02 | 0.02 | 0.02 | 0.02 |
| Washington, DC-MD-VA | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Washoe County; Reno planning area, NV | PM10 (1987 24-hour) | Nonattainment, Serious | 70 | 0 | 0.01 | 0.01 | 0.01 | 0.01 |

Appendix A Air Quality Non-Attainment Area Results

Table A1-1

Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Direct and Indirect Impacts

Particulate Matter (PM_{2.5}) 2018

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|---|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Wayne County: Boston, Center, Franklin, Wayne & Webster Townships, IN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Wayne County; (part), MI | PM ₁₀ (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.03 | 0.05 | 0.05 | 0.07 |
| West Central Pinal County, AZ | PM _{2.5} (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| West Silver Valley, ID | PM _{2.5} (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Winston-Salem Area, NC | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.01 | 0.01 | 0.01 | 0.01 |
| Worcester Area, MA | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.01 | 0.01 | 0.01 | 0.01 |
| Yakima Area, WA | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Yakima County; (part), WA | PM ₁₀ (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Yuba City-Marysville, CA | PM _{2.5} (2006 24-hour) | Maintenance, Moderate | 100 | 0 | 0.01 | 0.01 | 0.00 | 0.01 |
| Yuma County; Yuma planning area, AZ | PM ₁₀ (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |

^a Reductions are shown as positive values. Negative values are emissions increases. Values of less than 0.005 tons per year are rounded to zero.

^b Nonattainment or maintenance status as of 5/13/2016. Source: U.S. EPA, The Green Book Nonattainment Areas for Criteria Pollutants; <http://www.epa.gov/airquality/greenbook/>. "--" indicates that no severity classification has been established for the NAAQS pollutant.

^c Emissions thresholds in tons per year. Where the threshold differs by precursor pollutant, the smallest of the precursor thresholds is shown. These thresholds are provided for information only; a general conformity determination is not required for the Proposed Action. Source: 40 CFR 93.853.

Notes: CO = carbon monoxide; NAAQS =National Ambient Air Quality Standards; NO₂ = nitrogen dioxide; PM = particulate matter; SO₂ = sulfur dioxide

Table A1-2
Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Direct and Indirect Impacts
Particulate Matter (PM2.5) 2025

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Ada County; Boise, ID | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.05 | 0.07 | 0.02 | 0.03 |
| Adams, Denver, and Boulder Counties; Denver Metropolitan area, CO | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.36 | 0.64 | 0.45 | 0.65 |
| Ajo, AZ | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Albuquerque Area, NM | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.10 | 0.14 | 0.05 | 0.07 |
| Allegheny County Air Basin: Hazelwood monitor, PA | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Allegheny County, PA | PM2.5 (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 0.13 | 0.21 | 0.09 | 0.12 |
| Allegheny County; The area including Liberty, Lincoln, Port Vue, and Glassport Boroughs and the City of Clairton, PA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.01 | 0.02 | 0.03 | 0.04 |
| Allegheny, PA | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.02 | 0.04 | 0.03 | 0.04 |
| Allentown, PA | PM2.5 (2006 24-hour) | Maintenance, Moderate | 100 | 0 | 0.08 | 0.13 | 0.04 | 0.06 |
| Allentown-Bethlehem-Easton, PA | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Anchorage Area, AK | CO (1971 8-hour) | Maintenance, Serious | 100 | 0 | 0.02 | 0.02 | 0.01 | 0.01 |
| Anchorage; Eagle River, AK | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| AQCR 012: Portions of Grant County, NM | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| AQCR 109-Millinocket, ME | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| AQCR 131: Anoka, Carver, Dakota, Hennepin, Ramsey, Scott, and Washington counties (Minneapolis-St. Paul), MN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| AQCR 237: Brown County: Green Bay sub-city area, WI | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| AQCR 238: Marathon County: Rothschild Sub-city area, Rib Mountain, Weston, WI | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| AQCR 238: Oneida County: Rhinelander Sub-city area, WI | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| AQCR 239: Milwaukee County: Milwaukee sub-city area, WI | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |

Appendix A Air Quality Non-Attainment Area Results

Table A1-2

Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Direct and Indirect Impacts

Particulate Matter (PM2.5) 2025

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| AQCR 240: Dane County: Madison sub-city area, WI | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Archuleta County; Pagosa Springs, CO | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.01 | 0.00 | 0.00 |
| Armstrong County: Madison Twp, Mahoning Twp, Boggs Twp, Washington Twp, Pine Twp, PA | SO ₂ (1971 24-hour/Annual) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Aroostock County; City of Presque Isle, ME | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Atlanta, GA | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Atlantic City Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.01 | 0.01 | 0.00 | 0.01 |
| Bakersfield Area, CA | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.59 | 1.27 | 1.31 | 1.95 |
| Baltimore Area, MD | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Baltimore, MD | Ozone (2008 8-hour) | Nonattainment, Moderate | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Baton Rouge, LA | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Beaver, PA | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Benton County; (part) TVA Johnsonville, TN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Billings Area, MT | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 4.01 | 8.97 | 9.80 | 14.69 |
| Billings, MT | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 4.00 | 8.95 | 9.79 | 14.69 |
| Birmingham, AL | PM2.5 (2006 24-hour) | Maintenance, -- | 100 | 0 | 0.24 | 0.39 | 0.21 | 0.30 |
| Boise-Northern Ada County Area, ID | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.05 | 0.07 | 0.02 | 0.03 |
| Bonner County; The Sandpoint Area, ID | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Boston Area, MA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.25 | 0.47 | 0.39 | 0.57 |
| Boyd County (part), KY | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Brooke; Follansbee area, WV | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Burlington Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Calaveras County, CA | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Campbell-Clermont Counties, KY-OH | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.01 | 0.01 | 0.00 | 0.00 |

Table A1-2
Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Direct and Indirect Impacts
Particulate Matter (PM2.5) 2025

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|---|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Canton-Massillon, OH | PM2.5 (2006 24-hour) | Maintenance, -- | 100 | 0 | 2.37 | 5.25 | 5.69 | 8.52 |
| Central New Hampshire, NH | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.03 | 0.05 | 0.02 | 0.02 |
| Central Steptoe Valley, NV | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Charleston, WV | PM2.5 (2006 24-hour) | Maintenance, -- | 100 | 0 | 0.05 | 0.08 | 0.03 | 0.03 |
| Charlotte Area, NC | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.19 | 0.28 | 0.10 | 0.12 |
| Charlotte-Rock Hill, NC-SC | Ozone (2008 8-hour) | Maintenance, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Chicago-Naperville, IL-IN-WI | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Chico (Butte County), CA | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Chico Area, CA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.01 | 0.02 | 0.01 | 0.01 |
| Chico, CA | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.03 | 0.04 | 0.01 | 0.02 |
| Cincinnati, OH-KY-IN | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Clark County; Las Vegas planning area, NV | PM10 (1987 24-hour) | Maintenance, Serious | 100 | 0 | 0.28 | 0.46 | 0.24 | 0.33 |
| Cleveland Area, OH | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.14 | 0.21 | 0.07 | 0.09 |
| Cleveland, OH | PM2.5 (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 0.18 | 0.27 | 0.09 | 0.12 |
| Cleveland-Akron-Lorain, OH | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Cleveland-Akron-Lorain, OH | PM2.5 (2006 24-hour) | Maintenance, -- | 100 | 0 | 0.40 | 0.60 | 0.20 | 0.26 |
| Cochise County; Paul Spur/Douglas planning area, AZ | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.01 | 0.01 | 0.00 | 0.00 |
| Colorado Springs Area, CO | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.11 | 0.18 | 0.11 | 0.16 |
| Columbus, OH | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Cook County; Lyons Township, IL | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.01 | 0.02 | 0.01 | 0.01 |
| Cook County; Southeast Chicago, IL | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.01 | 0.02 | 0.01 | 0.01 |
| Coshocton County; Franklin Township, OH | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Coso Junction, CA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Cuyahoga County (part), OH | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Cuyahoga County, OH | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.14 | 0.21 | 0.07 | 0.09 |

Appendix A Air Quality Non-Attainment Area Results

Table A1-2

Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Direct and Indirect Impacts

Particulate Matter (PM_{2.5}) 2025

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Dallas-Fort Worth, TX | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Delaware County, PA | PM _{2.5} (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 8.19 | 18.29 | 19.97 | 29.93 |
| Denver-Boulder Area, CO | CO (1971 8-hour) | Maintenance, Serious | 100 | 0 | 3.49 | 7.54 | 7.83 | 11.69 |
| Denver-Boulder-Greeley-Ft Collins-Loveland, CO | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Detroit Area, MI | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.87 | 1.77 | 1.66 | 2.46 |
| Detroit, MI | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.67 | 1.47 | 1.56 | 2.33 |
| Detroit-Ann Arbor, MI | PM _{2.5} (2006 24-hour) | Maintenance, -- | 100 | 0 | 1.38 | 2.52 | 1.92 | 2.79 |
| Dona Ana County; Anthony, NM | PM ₁₀ (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Douglas, AZ | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Dukes County, MA | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Duluth Area, MN | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.02 | 0.03 | 0.01 | 0.01 |
| East Chicago Area, IN | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 3.21 | 7.19 | 7.87 | 11.80 |
| East Helena Area, MT | SO ₂ (1971 24-hour/Annual) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| East Kern County Area, CA | PM ₁₀ (1987 24-hour) | Nonattainment, Serious | 70 | 0 | 0.52 | 1.17 | 1.27 | 1.91 |
| El Paso County, TX | PM ₁₀ (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.77 | 1.67 | 1.76 | 2.63 |
| El Paso, TX | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.71 | 1.58 | 1.73 | 2.59 |
| Eugene-Springfield Area, OR | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.03 | 0.05 | 0.02 | 0.02 |
| Fairbanks Area, AK | CO (1971 8-hour) | Maintenance, Serious | 100 | 0 | 0.09 | 0.20 | 0.22 | 0.33 |
| Fairbanks, AK | PM _{2.5} (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.10 | 0.21 | 0.22 | 0.33 |

Table A1-2
Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Direct and Indirect Impacts
Particulate Matter (PM2.5) 2025

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|---|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Flathead County; Columbia Falls and vicinity, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Flathead County; Kalispell and vicinity, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.01 | 0.01 | 0.00 | 0.00 |
| Flathead County; Whitefish and vicinity, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Fort Collins Area, CO | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.02 | 0.03 | 0.01 | 0.01 |
| Freehold Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.01 | 0.00 | 0.00 |
| Fremont County; Canon City Area, CO | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.01 | 0.01 | 0.00 | 0.00 |
| Fresno Area, CA | CO (1971 8-hour) | Maintenance, Moderate > 12.7ppm | 100 | 0 | 0.09 | 0.14 | 0.06 | 0.08 |
| Grants Pass Area, OR | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.01 | 0.01 | 0.00 | 0.00 |
| Great Falls Area, MT | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.36 | 0.81 | 0.88 | 1.32 |
| Greater Connecticut, CT | Ozone (2008 8-hour) | Nonattainment, Moderate | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Greeley Area, CO | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.12 | 0.23 | 0.19 | 0.28 |
| Hancock and Brooke Counties (Part); The city of Weirton, WV | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.02 | 0.04 | 0.04 | 0.06 |
| Hancock County (Part) The city of Weirton, including Butler and Clay: Magisterial Districts, WV | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Harrisburg-Lebanon-Carlisle-York, PA | PM2.5 (2006 24-hour) | Maintenance, Moderate | 100 | 0 | 0.19 | 0.28 | 0.10 | 0.12 |
| Hartford-New Britain-Middletown Area, CT | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.17 | 0.25 | 0.08 | 0.11 |
| Hayden, AZ | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Hayden, AZ | SO ₂ (1971 24-hour/Annual) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Hayden, AZ | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Hillsborough County, FL | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Houston-Galveston-Brazoria, TX | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Humphreys County; (part) TVA Johnsonville, TN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Imperial Co, CA | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.03 | 0.05 | 0.02 | 0.02 |

Appendix A Air Quality Non-Attainment Area Results

Table A1-2

Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Direct and Indirect Impacts

Particulate Matter (PM2.5) 2025

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Imperial County, CA | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Imperial County, CA | PM2.5 (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 0.03 | 0.05 | 0.02 | 0.02 |
| Imperial County; Imperial Valley planning area, CA | PM10 (1987 24-hour) | Nonattainment, Serious | 70 | 0 | 0.04 | 0.06 | 0.02 | 0.02 |
| Indian Wells, CA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.52 | 1.17 | 1.27 | 1.91 |
| Indiana, PA | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.01 | 0.02 | 0.01 | 0.01 |
| Indianapolis Area, IN | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Indianapolis, IN | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.07 | 0.11 | 0.04 | 0.05 |
| Inyo County; Owens Valley planning area, CA | PM10 (1987 24-hour) | Nonattainment, Serious | 70 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Jackson County, MO | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.01 | 0.01 | 0.00 | 0.01 |
| Jackson County; Medford-Ashland (including White City), OR | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.03 | 0.04 | 0.01 | 0.02 |
| Jamestown, NY | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Jefferson County, KY | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.01 | 0.01 | 0.01 |
| Jefferson County, MO | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.01 | 0.01 | 0.00 | 0.00 |
| Jefferson County; (part) Steubenville & Mingo Junction, OH | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Jefferson County; (part), OH | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Johnstown, PA | PM2.5 (2006 24-hour) | Maintenance, Moderate | 100 | 0 | 0.02 | 0.03 | 0.01 | 0.01 |
| Josephine County; Grants Pass, OR | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.01 | 0.01 | 0.00 | 0.00 |
| Juneau; Mendenhall Valley area, AK | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Kern County (Eastern Kern), CA | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| King County; Kent, WA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| King County; Seattle, WA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Klamath County; Klamath Falls, OR | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.01 | 0.01 | 0.00 | 0.01 |
| Klamath Falls Area, OR | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.01 | 0.01 | 0.00 | 0.01 |
| Klamath Falls, OR | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.01 | 0.02 | 0.01 | 0.01 |

Table A1-2
Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Direct and Indirect Impacts
Particulate Matter (PM2.5) 2025

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Knoxville, TN | Ozone (2008 8-hour) | Maintenance, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Knoxville-Sevierville-La Follette, TN | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.15 | 0.22 | 0.07 | 0.09 |
| La Porte County: (part), IN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lake County (part); Lakeview, OR | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lake County, OH | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.04 | 0.06 | 0.02 | 0.03 |
| Lake County: (part), IN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lake County; (part) Eastlake, Timberlake, Lakeline, Willoughby, Mentor, OH | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lake County; Cities of East Chicago, Hammond, Whiting, and Gary, IN | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 3.24 | 7.23 | 7.88 | 11.81 |
| Lake County; Polson, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lake County; Ronan, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lake Tahoe Nevada Area, NV | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lake Tahoe North Shore Area, CA | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lake Tahoe South Shore Area, CA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.01 | 0.00 | 0.00 |
| Lancaster, PA | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lancaster, PA | PM2.5 (2006 24-hour) | Maintenance, Moderate | 100 | 0 | 0.08 | 0.12 | 0.04 | 0.05 |
| Lane County (part); Oakridge, OR | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lane County; Eugene/Springfield, OR | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.03 | 0.05 | 0.02 | 0.02 |
| Las Vegas Area, NV | CO (1971 8-hour) | Maintenance, Serious | 100 | 0 | 0.28 | 0.46 | 0.23 | 0.33 |
| LaSalle County; Oglesby, IL | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.01 | 0.01 | 0.00 | 0.00 |
| Laurel Area, MT | SO ₂ (1971 24-hour/Annual) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lebanon County, PA | PM2.5 (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 0.03 | 0.04 | 0.01 | 0.02 |
| Lemont, IL | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 4.37 | 9.78 | 10.68 | 16.01 |
| Liberty-Clairton, PA | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.01 | 0.02 | 0.03 | 0.04 |

Appendix A Air Quality Non-Attainment Area Results

Table A1-2

Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Direct and Indirect Impacts

Particulate Matter (PM2.5) 2025

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Lincoln County; Libby and vicinity, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Logan, UT-ID | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.01 | 0.02 | 0.01 | 0.01 |
| Longmont Area, CO | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.01 | 0.02 | 0.01 | 0.01 |
| Lorain County (part), OH | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Los Angeles, CA | PM2.5 (2006 24-hour) | Nonattainment, Serious | 100 | 0 | 16.17 | 34.51 | 35.25 | 52.59 |
| Los Angeles-San Bernardino Counties (West Mojave Desert), CA | Ozone (2008 8-hour) | Nonattainment, Severe 15 | 25 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Los Angeles-South Coast Air Basin Area, CA | CO (1971 8-hour) | Maintenance, Serious | 100 | 0 | 16.17 | 34.51 | 35.25 | 52.59 |
| Los Angeles-South Coast Air Basin Area, CA | NO ₂ (1971 Annual) | Maintenance, -- | 100 | 0 | 16.17 | 34.51 | 35.25 | 52.59 |
| Los Angeles-South Coast Air Basin, CA | Ozone (2008 8-hour) | Nonattainment, Extreme | 10 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Los Angeles-South Coast Air Basin, CA | PM2.5 (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 16.17 | 34.51 | 35.25 | 52.59 |
| Lowell Area, MA | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.02 | 0.02 | 0.01 | 0.01 |
| Lucas County (part), OH | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Madison County; Granite City Township and Nameoki Township, IL | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 2.19 | 4.89 | 5.35 | 8.02 |
| Manchester Area, NH | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.01 | 0.02 | 0.01 | 0.01 |
| Maricopa and Pinal Counties; Phoenix planning area, AZ | PM10 (1987 24-hour) | Nonattainment, Serious | 70 | 0 | 0.54 | 0.80 | 0.27 | 0.34 |
| Marion County; Lawrence, Washington, and Warrant Townships, IN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Mariposa County, CA | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Marshall, WV | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 1.59 | 3.57 | 3.90 | 5.86 |
| Medford Area, OR | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.01 | 0.02 | 0.01 | 0.01 |
| Memphis Area, TN | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 1.70 | 3.70 | 3.90 | 5.83 |

Table A1-2
Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Direct and Indirect Impacts
Particulate Matter (PM2.5) 2025

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|---|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Memphis, TN-MS-AR | Ozone (2008 8-hour) | Nonattainment TN & Maintenance MS/AR, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Miami, AZ | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Miami, AZ | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Miami, AZ | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Milwaukee-Racine, WI | PM2.5 (2006 24-hour) | Maintenance, -- | 100 | 0 | 0.21 | 0.34 | 0.17 | 0.23 |
| Minneapolis-St. Paul Area, MN | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 4.24 | 9.15 | 9.50 | 14.18 |
| Missoula Area, MT | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.49 | 1.08 | 1.17 | 1.75 |
| Missoula county; Missoula and vicinity, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.49 | 1.08 | 1.17 | 1.75 |
| Modesto Area, CA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.03 | 0.05 | 0.02 | 0.03 |
| Mohave County (part); Bullhead City, AZ | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.01 | 0.02 | 0.01 | 0.01 |
| Mono County; Mammoth Lake planning area, CA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.01 | 0.00 | 0.00 |
| Mono County; Mono Basin, CA | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Morenci, AZ | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Morgan County, IN | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.01 | 0.01 | 0.00 | 0.00 |
| Morongo Band of Mission Indians | Ozone (2008 8-hour) | Nonattainment, Serious | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Morristown Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.02 | 0.04 | 0.03 | 0.05 |
| Muscatine County; (part), IA | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Muscatine, IA | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Muskingum River, OH | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Nashua Area, NH | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.01 | 0.02 | 0.01 | 0.01 |
| Nassau County, FL | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Nevada County (Western part), CA | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| New Haven County, CT | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |

Appendix A Air Quality Non-Attainment Area Results

Table A1-2

Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Direct and Indirect Impacts

Particulate Matter (PM_{2.5}) 2025

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| New Haven-Meriden-Waterbury Area, CT | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.13 | 0.19 | 0.06 | 0.08 |
| New Manchester-Grant magisterial district in Hancock County, WV | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| New York County, NY | PM ₁₀ (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.08 | 0.13 | 0.04 | 0.05 |
| New York, NY-NJ-CT | PM _{2.5} (2006 24-hour) | Maintenance, -- | 100 | 0 | 4.41 | 8.10 | 6.20 | 9.02 |
| New York-N. New Jersey-Long Island Area, NY-NJ-CT | CO (1971 8-hour) | Maintenance, Moderate > 12.7ppm | 100 | 0 | 2.94 | 5.60 | 4.65 | 6.82 |
| New York-N. New Jersey-Long Island, NY-NJ-CT | Ozone (2008 8-hour) | Nonattainment, Moderate | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| NJ portion of the Northeast Pennsylvania-Upper Delaware Valley Interstate AQCR: (part), NJ | SO ₂ (1971 24-hour/Annual) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Nogales, AZ | PM _{2.5} (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.01 | 0.01 | 0.00 | 0.00 |
| Oakridge, OR | PM _{2.5} (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Ogden Area, UT | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.01 | 0.01 | 0.01 | 0.01 |
| Ogden Area, UT | PM ₁₀ (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.01 | 0.01 | 0.01 | 0.01 |
| Olmsted County; (part), MN | PM ₁₀ (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.01 | 0.00 | 0.00 |
| Olmsted; City of Rochester, MN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |

Table A1-2
Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Direct and Indirect Impacts
Particulate Matter (PM2.5) 2025

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Pechanga Band of Luiseno Mission Indians of the Pechanga Reservation | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Pekin, IL | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.01 | 0.01 | 0.00 | 0.00 |
| Penns Grove Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Peoria County: Hollis Twp, IL | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Peoria County: Peoria, IL | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Perth Amboy Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.42 | 0.92 | 0.99 | 1.48 |
| Philadelphia-Camden County Area, PA-NJ | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 3.93 | 8.70 | 9.36 | 14.02 |
| Philadelphia-Wilmington, PA-NJ-DE | PM2.5 (2006 24-hour) | Maintenance, Moderate for PA and DE Subject to Former Subpart 1 for NJ | 100 | 0 | 14.33 | 31.62 | 33.90 | 50.75 |
| Philadelphia-Wilmington-Atlantic City, PA-NJ-MD-DE | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Phoenix Area, AZ | CO (1971 8-hour) | Maintenance, Serious | 100 | 0 | 0.52 | 0.77 | 0.26 | 0.33 |
| Phoenix-Mesa, AZ | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Pierce County; Tacoma, WA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.04 | 0.08 | 0.09 | 0.14 |
| Pima County; Ajo planning area, AZ | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Pima County; Rillito planning area, AZ | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.01 | 0.01 | 0.00 | 0.01 |
| Pinal and Gila Counties; Payson, AZ | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.01 | 0.00 | 0.00 |
| Pinal County (part); West Pinal, AZ | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.06 | 0.09 | 0.03 | 0.04 |
| Pitkin County; Aspen, CO | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.01 | 0.00 | 0.00 |
| Pittsburgh Area, PA | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.04 | 0.07 | 0.04 | 0.06 |
| Pittsburgh-Beaver Valley, PA | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Pittsburgh-Beaver Valley, PA | PM2.5 (2006 24-hour) | Maintenance, Moderate | 100 | 0 | 0.50 | 0.91 | 0.70 | 1.02 |
| Plumas County, CA | PM2.5 (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Polk County, TN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |

Appendix A Air Quality Non-Attainment Area Results

Table A1-2

Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Direct and Indirect Impacts

Particulate Matter (PM2.5) 2025

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|-------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Portland Area: Portland Metro Service District Boundary, OR | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.18 | 0.26 | 0.09 | 0.12 |
| Power-Bannock Counties; Fort Hall Indian Reservation, ID | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Power-Bannock Counties; Portneuf Valley Area, ID | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.01 | 0.02 | 0.01 | 0.01 |
| Provo Area, UT | CO (1971 8-hour) | Maintenance, Moderate > 12.7ppm | 100 | 0 | 0.01 | 0.02 | 0.01 | 0.01 |
| Provo, UT | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.06 | 0.09 | 0.03 | 0.04 |
| Prowers County; Lamar, CO | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Raleigh-Durham Area, NC | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.20 | 0.30 | 0.10 | 0.13 |
| Ramsey County; (part), MN | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Reading, PA | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Reno Area, NV | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.05 | 0.07 | 0.02 | 0.03 |
| Rhineland, WI | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.01 | 0.01 | 0.00 | 0.00 |
| Riverside County (Coachella Valley), CA | Ozone (2008 8-hour) | Nonattainment, Severe 15 | 25 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Riverside County; Coachella Valley planning area, CA | PM10 (1987 24-hour) | Nonattainment, Serious | 70 | 0 | 0.08 | 0.12 | 0.04 | 0.05 |
| Riverside, Los Angeles, Orange, and San Bernardino Counties; South Coast Air Basin, CA | PM10 (1987 24-hour) | Maintenance, Serious | 100 | 0 | 16.16 | 34.50 | 35.24 | 52.59 |
| Rosebud County; Lame Deer, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Routt County (part); Steamboat Springs, CO | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.08 | 0.17 | 0.18 | 0.27 |
| Sacramento Area, CA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.20 | 0.30 | 0.10 | 0.13 |
| Sacramento County, CA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.18 | 0.27 | 0.09 | 0.12 |
| Sacramento Metro, CA | Ozone (2008 8-hour) | Nonattainment, Severe 15 | 25 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Sacramento, CA | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 1.46 | 3.02 | 2.92 | 4.33 |
| Salem Area, OR | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.04 | 0.05 | 0.02 | 0.02 |
| Salt Lake City Area, UT | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.79 | 1.76 | 1.90 | 2.85 |
| Salt Lake City, UT | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 1.18 | 2.47 | 2.44 | 3.63 |

Table A1-2
Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Direct and Indirect Impacts
Particulate Matter (PM2.5) 2025

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|---|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Salt Lake County, UT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.91 | 1.93 | 1.96 | 2.92 |
| Salt Lake County, UT | SO ₂ (1971 24-hour/Annual) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| San Bernardino County (part); excluding Searles Valley Planning area and South Coast Air Basin, CA | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.09 | 0.13 | 0.05 | 0.06 |
| San Diego Area, CA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.50 | 0.74 | 0.25 | 0.32 |
| San Diego County, CA | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| San Francisco Bay Area, CA | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| San Francisco Bay Area, CA | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 17.83 | 39.19 | 41.81 | 62.58 |
| San Francisco-Oakland-San Jose Area, CA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 17.74 | 39.07 | 41.77 | 62.53 |
| San Joaquin Valley Air Basin; Fresno, Kern, Kings, Madera, Merced, San Joaquin, Stanislaus, Tulare Counties, CA | PM10 (1987 24-hour) | Maintenance, Serious | 100 | 0 | 1.20 | 2.19 | 1.67 | 2.43 |
| San Joaquin Valley, CA | Ozone (2008 8-hour) | Nonattainment, Extreme | 10 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| San Joaquin Valley, CA | PM2.5 (2006 24-hour) | Nonattainment, Serious | 100 | 0 | 1.20 | 2.19 | 1.67 | 2.43 |
| San Joaquin Valley, CA | PM2.5 (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 1.20 | 2.19 | 1.67 | 2.43 |
| San Luis Obispo (Eastern San Luis Obispo), CA | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| San Manuel, AZ | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| San Miguel County; Telluride, CO | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Sanders County (part); Thompson Falls and vicinity, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Santa Cruz County; Nogales planning area, AZ | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.01 | 0.01 | 0.00 | 0.00 |
| Seaford, DE | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Seattle-Tacoma Area, WA | CO (1971 8-hour) | Maintenance, Moderate > 12.7ppm | 100 | 0 | 0.44 | 0.69 | 0.30 | 0.40 |
| Seattle-Tacoma, WA | PM2.5 (2006 24-hour) | Maintenance, Moderate | 100 | 0 | 0.10 | 0.18 | 0.12 | 0.18 |
| Sheboygan County, WI | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |

Appendix A Air Quality Non-Attainment Area Results

Table A1-2

Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Direct and Indirect Impacts

Particulate Matter (PM2.5) 2025

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|---|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Sheridan County; City of Sheridan, WY | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.01 | 0.00 | 0.00 |
| Shoshone County (part); excluding Pinehurst, ID | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.01 | 0.01 | 0.00 | 0.00 |
| Shoshone County; City of Pinehurst, ID | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Silver Bow County; Butte, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.01 | 0.01 | 0.00 | 0.00 |
| Somerville Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Southwest Indiana, IN | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Spokane Area, WA | CO (1971 8-hour) | Maintenance, Serious | 100 | 0 | 0.04 | 0.06 | 0.02 | 0.03 |
| Spokane County; (part), WA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.04 | 0.07 | 0.02 | 0.03 |
| Springfield Area, MA | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.02 | 0.04 | 0.01 | 0.02 |
| St. Bernard Parish, LA | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 7.37 | 16.50 | 18.06 | 27.08 |
| St. Louis Area, MO | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.13 | 0.19 | 0.07 | 0.08 |
| St. Louis-St. Charles-Farmington, MO-IL | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Steubenville, OH-WV | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.01 | 0.01 | 0.00 | 0.01 |
| Steubenville-Weirton, OH-WV | PM2.5 (2006 24-hour) | Maintenance, -- | 100 | 0 | 0.03 | 0.06 | 0.05 | 0.07 |
| Stockton Area, CA | CO (1971 8-hour) | Maintenance, Moderate ≤ 12.7ppm | 100 | 0 | 0.07 | 0.11 | 0.06 | 0.08 |
| Sullivan County, TN | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.01 | 0.01 | 0.01 | 0.02 |
| Syracuse Area; Onondaga County, NY | CO (1971 8-hour) | Maintenance, Moderate ≤ 12.7ppm | 100 | 0 | 0.08 | 0.12 | 0.05 | 0.06 |
| Tazewell County; Groveland Twp, IL | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Terre Haute, IN | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.14 | 0.31 | 0.33 | 0.49 |

Table A1-2
Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Direct and Indirect Impacts
Particulate Matter (PM2.5) 2025

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|---|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Thurston County; Cities of Olympia, Tumwater, and Lacey, WA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.02 | 0.02 | 0.01 | 0.01 |
| Toms River Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Tooele County (part), UT | SO ₂ (1971 24-hour/Annual) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Trenton Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.01 | 0.02 | 0.01 | 0.01 |
| Trona, CA | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Tucson Area, AZ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.13 | 0.19 | 0.06 | 0.08 |
| Tuscan Buttes, CA | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Union County; LaGrande, OR | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.01 | 0.00 | 0.00 |
| Upper Green River Basin Area, WY | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Utah County, UT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.06 | 0.09 | 0.03 | 0.04 |
| Vancouver Area: Clark County (part), WA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.04 | 0.06 | 0.02 | 0.03 |
| Ventura County, CA | Ozone (2008 8-hour) | Nonattainment, Serious | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Vermillion County; Part of Clinton Township, IN | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Vigo County, IN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Walla Walla County; Wallula, WA | PM10 (1987 24-hour) | Maintenance, Serious | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Waltham Area, MA | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.01 | 0.01 | 0.00 | 0.01 |
| Warren County: Conewago Twp, PA | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Warren County: Warren Boro, Pleasant Twp, Glade Twp, PA | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Warren, PA | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.99 | 2.21 | 2.42 | 3.62 |
| Washington Area, DC-MD-VA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.10 | 0.14 | 0.05 | 0.06 |
| Washington, DC-MD-VA | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Washoe County; Reno planning area, NV | PM10 (1987 24-hour) | Nonattainment, Serious | 70 | 0 | 0.05 | 0.07 | 0.02 | 0.03 |

Appendix A Air Quality Non-Attainment Area Results

Table A1-2

Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Direct and Indirect Impacts

Particulate Matter (PM_{2.5}) 2025

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|---|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Wayne County: Boston, Center, Franklin, Wayne & Webster Townships, IN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Wayne County; (part), MI | PM ₁₀ (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.64 | 1.42 | 1.54 | 2.31 |
| West Central Pinal County, AZ | PM _{2.5} (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.01 | 0.02 | 0.01 | 0.01 |
| West Silver Valley, ID | PM _{2.5} (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Winston-Salem Area, NC | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.05 | 0.08 | 0.03 | 0.03 |
| Worcester Area, MA | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.03 | 0.05 | 0.02 | 0.02 |
| Yakima Area, WA | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.01 | 0.01 | 0.00 | 0.00 |
| Yakima County; (part), WA | PM ₁₀ (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.02 | 0.03 | 0.01 | 0.01 |
| Yuba City-Marysville, CA | PM _{2.5} (2006 24-hour) | Maintenance, Moderate | 100 | 0 | 0.03 | 0.04 | 0.01 | 0.02 |
| Yuma County; Yuma planning area, AZ | PM ₁₀ (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.02 | 0.04 | 0.01 | 0.02 |

^a Reductions are shown as positive values. Negative values are emissions increases. Values of less than 0.005 tons per year are rounded to zero.

^b Nonattainment or maintenance status as of 5/13/2016. Source: U.S. EPA, The Green Book Nonattainment Areas for Criteria Pollutants; <http://www.epa.gov/airquality/greenbook/>. "--" indicates that no severity classification has been established for the NAAQS pollutant.

^c Emissions thresholds in tons per year. Where the threshold differs by precursor pollutant, the smallest of the precursor thresholds is shown. These thresholds are provided for information only; a general conformity determination is not required for the Proposed Action. Source: 40 CFR 93.853.

Notes: CO = carbon monoxide; NAAQS =National Ambient Air Quality Standards; NO₂ = nitrogen dioxide; PM = particulate matter; SO₂ = sulfur dioxide

Table A1-3
Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Direct and Indirect Impacts
Particulate Matter (PM2.5) 2040

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Ada County; Boise, ID | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.13 | 0.32 | 0.32 | 0.40 |
| Adams, Denver, and Boulder Counties; Denver Metropolitan area, CO | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 1.04 | 2.79 | 2.56 | 3.39 |
| Ajo, AZ | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Albuquerque Area, NM | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.26 | 0.67 | 0.65 | 0.82 |
| Allegheny County Air Basin: Hazelwood monitor, PA | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Allegheny County, PA | PM2.5 (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 0.37 | 0.94 | 0.91 | 1.16 |
| Allegheny County; The area including Liberty, Lincoln, Port Vue, and Glassport Boroughs and the City of Clairton, PA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.03 | 0.10 | 0.08 | 0.12 |
| Allegheny, PA | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.05 | 0.15 | 0.13 | 0.18 |
| Allentown, PA | PM2.5 (2006 24-hour) | Maintenance, Moderate | 100 | 0 | 0.23 | 0.58 | 0.57 | 0.72 |
| Allentown-Bethlehem-Easton, PA | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Anchorage Area, AK | CO (1971 8-hour) | Maintenance, Serious | 100 | 0 | 0.04 | 0.11 | 0.11 | 0.13 |
| Anchorage; Eagle River, AK | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.01 | 0.01 | 0.01 |
| AQCR 012: Portions of Grant County, NM | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| AQCR 109-Millinocket, ME | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| AQCR 131: Anoka, Carver, Dakota, Hennepin, Ramsey, Scott, and Washington counties (Minneapolis-St. Paul), MN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| AQCR 237: Brown County: Green Bay sub-city area, WI | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| AQCR 238: Marathon County: Rothschild Sub-city area, Rib Mountain, Weston, WI | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| AQCR 238: Oneida County: Rhinelander Sub-city area, WI | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| AQCR 239: Milwaukee County: Milwaukee sub-city area, WI | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |

Appendix A Air Quality Non-Attainment Area Results

Table A1-3

Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Direct and Indirect Impacts

Particulate Matter (PM2.5) 2040

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| AQCR 240: Dane County: Madison sub-city area, WI | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Archuleta County; Pagosa Springs, CO | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.01 | 0.02 | 0.02 | 0.03 |
| Armstrong County: Madison Twp, Mahoning Twp, Boggs Twp, Washington Twp, Pine Twp, PA | SO ₂ (1971 24-hour/Annual) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Aroostock County; City of Presque Isle, ME | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.01 | 0.02 | 0.02 | 0.02 |
| Atlanta, GA | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Atlantic City Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.02 | 0.06 | 0.05 | 0.07 |
| Bakersfield Area, CA | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 1.81 | 5.15 | 4.36 | 6.20 |
| Baltimore Area, MD | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.01 | 0.01 | 0.02 |
| Baltimore, MD | Ozone (2008 8-hour) | Nonattainment, Moderate | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Baton Rouge, LA | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Beaver, PA | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.01 | 0.02 | 0.02 | 0.02 |
| Benton County; (part) TVA Johnsonville, TN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Billings Area, MT | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 12.43 | 35.73 | 29.67 | 42.89 |
| Billings, MT | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 12.39 | 35.64 | 29.58 | 42.78 |
| Birmingham, AL | PM2.5 (2006 24-hour) | Maintenance, -- | 100 | 0 | 0.66 | 1.74 | 1.65 | 2.13 |
| Boise-Northern Ada County Area, ID | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.13 | 0.32 | 0.32 | 0.40 |
| Bonner County; The Sandpoint Area, ID | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.01 | 0.01 | 0.01 |
| Boston Area, MA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.72 | 1.98 | 1.76 | 2.39 |
| Boyd County (part), KY | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Brooke; Follansbee area, WV | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Burlington Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.01 | 0.01 | 0.01 |
| Calaveras County, CA | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Campbell-Clermont Counties, KY-OH | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.01 | 0.04 | 0.04 | 0.05 |

Table A1-3
Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Direct and Indirect Impacts
Particulate Matter (PM2.5) 2040

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|---|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Canton-Massillon, OH | PM2.5 (2006 24-hour) | Maintenance, -- | 100 | 0 | 7.32 | 20.99 | 17.48 | 25.21 |
| Central New Hampshire, NH | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.09 | 0.22 | 0.22 | 0.28 |
| Central Steptoe Valley, NV | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Charleston, WV | PM2.5 (2006 24-hour) | Maintenance, -- | 100 | 0 | 0.15 | 0.38 | 0.37 | 0.47 |
| Charlotte Area, NC | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.52 | 1.31 | 1.29 | 1.61 |
| Charlotte-Rock Hill, NC-SC | Ozone (2008 8-hour) | Maintenance, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Chicago-Naperville, IL-IN-WI | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Chico (Butte County), CA | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Chico Area, CA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.04 | 0.10 | 0.10 | 0.12 |
| Chico, CA | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.08 | 0.20 | 0.20 | 0.25 |
| Cincinnati, OH-KY-IN | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Clark County; Las Vegas planning area, NV | PM10 (1987 24-hour) | Maintenance, Serious | 100 | 0 | 0.79 | 2.06 | 1.97 | 2.52 |
| Cleveland Area, OH | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.38 | 0.98 | 0.96 | 1.20 |
| Cleveland, OH | PM2.5 (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 0.50 | 1.28 | 1.26 | 1.57 |
| Cleveland-Akron-Lorain, OH | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Cleveland-Akron-Lorain, OH | PM2.5 (2006 24-hour) | Maintenance, -- | 100 | 0 | 1.10 | 2.79 | 2.75 | 3.43 |
| Cochise County; Paul Spur/Douglas planning area, AZ | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.02 | 0.04 | 0.04 | 0.05 |
| Colorado Springs Area, CO | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.31 | 0.82 | 0.77 | 1.00 |
| Columbus, OH | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Cook County; Lyons Township, IL | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.03 | 0.08 | 0.08 | 0.10 |
| Cook County; Southeast Chicago, IL | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.03 | 0.09 | 0.08 | 0.11 |
| Coshocton County; Franklin Township, OH | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Coso Junction, CA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Cuyahoga County (part), OH | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Cuyahoga County, OH | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.38 | 0.97 | 0.96 | 1.20 |

Appendix A Air Quality Non-Attainment Area Results

Table A1-3

Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Direct and Indirect Impacts

Particulate Matter (PM_{2.5}) 2040

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Dallas-Fort Worth, TX | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Delaware County, PA | PM _{2.5} (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 25.37 | 72.93 | 60.58 | 87.55 |
| Denver-Boulder Area, CO | CO (1971 8-hour) | Maintenance, Serious | 100 | 0 | 10.69 | 30.41 | 25.65 | 36.58 |
| Denver-Boulder-Greeley-Ft Collins-Loveland, CO | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Detroit Area, MI | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 2.54 | 7.10 | 6.13 | 8.56 |
| Detroit, MI | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 2.08 | 5.94 | 4.99 | 7.14 |
| Detroit-Ann Arbor, MI | PM _{2.5} (2006 24-hour) | Maintenance, -- | 100 | 0 | 3.98 | 10.77 | 9.74 | 13.08 |
| Dona Ana County; Anthony, NM | PM ₁₀ (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.01 | 0.01 | 0.01 |
| Douglas, AZ | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Dukes County, MA | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Duluth Area, MN | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.05 | 0.13 | 0.13 | 0.16 |
| East Chicago Area, IN | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 9.96 | 28.65 | 23.78 | 34.39 |
| East Helena Area, MT | SO ₂ (1971 24-hour/Annual) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| East Kern County Area, CA | PM ₁₀ (1987 24-hour) | Nonattainment, Serious | 70 | 0 | 1.62 | 4.65 | 3.87 | 5.59 |
| El Paso County, TX | PM ₁₀ (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 2.35 | 6.71 | 5.64 | 8.07 |
| El Paso, TX | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 2.19 | 6.29 | 5.22 | 7.55 |
| Eugene-Springfield Area, OR | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.09 | 0.24 | 0.24 | 0.30 |
| Fairbanks Area, AK | CO (1971 8-hour) | Maintenance, Serious | 100 | 0 | 0.28 | 0.81 | 0.67 | 0.97 |
| Fairbanks, AK | PM _{2.5} (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.29 | 0.84 | 0.70 | 1.00 |

Table A1-3

Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Direct and Indirect Impacts

Particulate Matter (PM2.5) 2040

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|---|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Flathead County; Columbia Falls and vicinity, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Flathead County; Kalispell and vicinity, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.02 | 0.04 | 0.04 | 0.05 |
| Flathead County; Whitefish and vicinity, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.01 |
| Fort Collins Area, CO | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.05 | 0.12 | 0.12 | 0.15 |
| Freehold Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.01 | 0.03 | 0.03 | 0.03 |
| Fremont County; Canon City Area, CO | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.02 | 0.04 | 0.04 | 0.05 |
| Fresno Area, CA | CO (1971 8-hour) | Maintenance, Moderate > 12.7ppm | 100 | 0 | 0.24 | 0.63 | 0.61 | 0.77 |
| Grants Pass Area, OR | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.02 | 0.05 | 0.05 | 0.06 |
| Great Falls Area, MT | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 1.12 | 3.22 | 2.67 | 3.86 |
| Greater Connecticut, CT | Ozone (2008 8-hour) | Nonattainment, Moderate | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Greeley Area, CO | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.36 | 0.98 | 0.88 | 1.19 |
| Hancock and Brooke Counties (Part); The city of Weirton, WV | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.05 | 0.15 | 0.12 | 0.18 |
| Hancock County (Part) The city of Weirton, including Butler and Clay: Magisterial Districts, WV | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Harrisburg-Lebanon-Carlisle-York, PA | PM2.5 (2006 24-hour) | Maintenance, Moderate | 100 | 0 | 0.52 | 1.32 | 1.30 | 1.63 |
| Hartford-New Britain-Middletown Area, CT | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.46 | 1.17 | 1.15 | 1.43 |
| Hayden, AZ | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Hayden, AZ | SO ₂ (1971 24-hour/Annual) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Hayden, AZ | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Hillsborough County, FL | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.01 | 0.02 | 0.02 | 0.02 |
| Houston-Galveston-Brazoria, TX | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Humphreys County; (part) TVA Johnsonville, TN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Imperial Co, CA | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.09 | 0.22 | 0.21 | 0.27 |

Appendix A Air Quality Non-Attainment Area Results

Table A1-3

Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Direct and Indirect Impacts

Particulate Matter (PM2.5) 2040

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Imperial County, CA | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Imperial County, CA | PM2.5 (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 0.09 | 0.22 | 0.21 | 0.27 |
| Imperial County; Imperial Valley planning area, CA | PM10 (1987 24-hour) | Nonattainment, Serious | 70 | 0 | 0.10 | 0.26 | 0.26 | 0.32 |
| Indian Wells, CA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 1.62 | 4.65 | 3.87 | 5.59 |
| Indiana, PA | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.04 | 0.10 | 0.10 | 0.12 |
| Indianapolis Area, IN | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Indianapolis, IN | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.19 | 0.49 | 0.48 | 0.60 |
| Inyo County; Owens Valley planning area, CA | PM10 (1987 24-hour) | Nonattainment, Serious | 70 | 0 | 0.00 | 0.01 | 0.01 | 0.01 |
| Jackson County, MO | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.02 | 0.06 | 0.06 | 0.07 |
| Jackson County; Medford-Ashland (including White City), OR | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.08 | 0.20 | 0.20 | 0.24 |
| Jamestown, NY | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Jefferson County, KY | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.01 | 0.02 | 0.02 | 0.03 |
| Jefferson County, MO | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.02 | 0.05 | 0.05 | 0.07 |
| Jefferson County; (part) Steubenville & Mingo Junction, OH | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Jefferson County; (part), OH | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.01 |
| Johnstown, PA | PM2.5 (2006 24-hour) | Maintenance, Moderate | 100 | 0 | 0.05 | 0.13 | 0.13 | 0.16 |
| Josephine County; Grants Pass, OR | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.02 | 0.05 | 0.05 | 0.06 |
| Juneau; Mendenhall Valley area, AK | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.01 | 0.01 | 0.01 |
| Kern County (Eastern Kern), CA | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| King County; Kent, WA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.01 | 0.02 | 0.02 | 0.03 |
| King County; Seattle, WA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.01 | 0.01 | 0.01 |
| Klamath County; Klamath Falls, OR | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.03 | 0.08 | 0.08 | 0.10 |
| Klamath Falls Area, OR | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.03 | 0.08 | 0.08 | 0.10 |
| Klamath Falls, OR | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.03 | 0.09 | 0.09 | 0.11 |

Table A1-3
Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Direct and Indirect Impacts
Particulate Matter (PM2.5) 2040

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Knoxville, TN | Ozone (2008 8-hour) | Maintenance, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Knoxville-Sevierville-La Follette, TN | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.40 | 1.03 | 1.01 | 1.26 |
| La Porte County: (part), IN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lake County (part); Lakeview, OR | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.01 | 0.01 | 0.01 |
| Lake County, OH | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.11 | 0.28 | 0.28 | 0.35 |
| Lake County: (part), IN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lake County; (part) Eastlake, Timberlake, Lakeline, Willoughby, Mentor, OH | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lake County; Cities of East Chicago, Hammond, Whiting, and Gary, IN | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 10.02 | 28.79 | 23.92 | 34.57 |
| Lake County; Polson, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lake County; Ronan, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lake Tahoe Nevada Area, NV | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.01 | 0.02 | 0.02 | 0.02 |
| Lake Tahoe North Shore Area, CA | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.01 | 0.01 | 0.01 |
| Lake Tahoe South Shore Area, CA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.01 | 0.02 | 0.02 | 0.03 |
| Lancaster, PA | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lancaster, PA | PM2.5 (2006 24-hour) | Maintenance, Moderate | 100 | 0 | 0.21 | 0.54 | 0.53 | 0.66 |
| Lane County (part); Oakridge, OR | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lane County; Eugene/Springfield, OR | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.09 | 0.24 | 0.24 | 0.30 |
| Las Vegas Area, NV | CO (1971 8-hour) | Maintenance, Serious | 100 | 0 | 0.79 | 2.06 | 1.96 | 2.52 |
| LaSalle County; Oglesby, IL | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.01 | 0.04 | 0.04 | 0.05 |
| Laurel Area, MT | SO ₂ (1971 24-hour/Annual) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lebanon County, PA | PM2.5 (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 0.07 | 0.19 | 0.18 | 0.23 |
| Lemont, IL | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 13.56 | 38.98 | 32.38 | 46.79 |
| Liberty-Clairton, PA | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.03 | 0.10 | 0.08 | 0.12 |

Appendix A Air Quality Non-Attainment Area Results

Table A1-3

Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Direct and Indirect Impacts

Particulate Matter (PM2.5) 2040

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Lincoln County; Libby and vicinity, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.01 | 0.01 | 0.01 |
| Logan, UT-ID | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.04 | 0.10 | 0.09 | 0.12 |
| Longmont Area, CO | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.03 | 0.08 | 0.08 | 0.10 |
| Lorain County (part), OH | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Los Angeles, CA | PM2.5 (2006 24-hour) | Nonattainment, Serious | 100 | 0 | 49.30 | 139.78 | 118.44 | 168.23 |
| Los Angeles-San Bernardino Counties (West Mojave Desert), CA | Ozone (2008 8-hour) | Nonattainment, Severe 15 | 25 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Los Angeles-South Coast Air Basin Area, CA | CO (1971 8-hour) | Maintenance, Serious | 100 | 0 | 49.31 | 139.78 | 118.45 | 168.24 |
| Los Angeles-South Coast Air Basin Area, CA | NO ₂ (1971 Annual) | Maintenance, -- | 100 | 0 | 49.31 | 139.79 | 118.45 | 168.24 |
| Los Angeles-South Coast Air Basin, CA | Ozone (2008 8-hour) | Nonattainment, Extreme | 10 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Los Angeles-South Coast Air Basin, CA | PM2.5 (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 49.30 | 139.75 | 118.42 | 168.20 |
| Lowell Area, MA | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.04 | 0.11 | 0.11 | 0.13 |
| Lucas County (part), OH | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Madison County; Granite City Township and Nameoki Township, IL | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 6.78 | 19.49 | 16.19 | 23.40 |
| Manchester Area, NH | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.03 | 0.09 | 0.09 | 0.11 |
| Maricopa and Pinal Counties; Phoenix planning area, AZ | PM10 (1987 24-hour) | Nonattainment, Serious | 70 | 0 | 1.47 | 3.74 | 3.69 | 4.60 |
| Marion County; Lawrence, Washington, and Warrant Townships, IN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Mariposa County, CA | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Marshall, WV | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 4.94 | 14.22 | 11.81 | 17.07 |
| Medford Area, OR | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.04 | 0.10 | 0.10 | 0.13 |
| Memphis Area, TN | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 5.21 | 14.87 | 12.49 | 17.88 |

Table A1-3
Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Direct and Indirect Impacts
Particulate Matter (PM2.5) 2040

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|---|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Memphis, TN-MS-AR | Ozone (2008 8-hour) | Nonattainment TN & Maintenance MS/AR, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Miami, AZ | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.01 | 0.01 | 0.01 |
| Miami, AZ | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Miami, AZ | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.01 | 0.01 | 0.01 |
| Milwaukee-Racine, WI | PM2.5 (2006 24-hour) | Maintenance, -- | 100 | 0 | 0.58 | 1.52 | 1.45 | 1.86 |
| Minneapolis-St. Paul Area, MN | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 12.97 | 36.90 | 31.12 | 44.38 |
| Missoula Area, MT | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 1.51 | 4.33 | 3.60 | 5.19 |
| Missoula county; Missoula and vicinity, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 1.51 | 4.32 | 3.60 | 5.19 |
| Modesto Area, CA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.09 | 0.22 | 0.22 | 0.27 |
| Mohave County (part); Bullhead City, AZ | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.04 | 0.10 | 0.10 | 0.13 |
| Mono County; Mammoth Lake planning area, CA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.01 | 0.04 | 0.04 | 0.04 |
| Mono County; Mono Basin, CA | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Morenci, AZ | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Morgan County, IN | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.01 | 0.03 | 0.03 | 0.04 |
| Morongo Band of Mission Indians | Ozone (2008 8-hour) | Nonattainment, Serious | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Morristown Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.05 | 0.15 | 0.13 | 0.18 |
| Muscatine County; (part), IA | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Muscatine, IA | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.01 | 0.02 | 0.02 | 0.03 |
| Muskingum River, OH | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.01 | 0.01 | 0.01 |
| Nashua Area, NH | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.03 | 0.08 | 0.08 | 0.10 |
| Nassau County, FL | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.01 |
| Nevada County (Western part), CA | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| New Haven County, CT | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.01 | 0.02 | 0.02 | 0.02 |

Appendix A Air Quality Non-Attainment Area Results

Table A1-3

Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Direct and Indirect Impacts

Particulate Matter (PM2.5) 2040

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| New Haven-Meriden-Waterbury Area, CT | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.35 | 0.89 | 0.88 | 1.09 |
| New Manchester-Grant magisterial district in Hancock County, WV | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| New York County, NY | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.23 | 0.59 | 0.58 | 0.72 |
| New York, NY-NJ-CT | PM2.5 (2006 24-hour) | Maintenance, -- | 100 | 0 | 12.78 | 34.61 | 31.27 | 42.01 |
| New York-N. New Jersey-Long Island Area, NY-NJ-CT | CO (1971 8-hour) | Maintenance, Moderate > 12.7ppm | 100 | 0 | 8.62 | 23.62 | 21.02 | 28.61 |
| New York-N. New Jersey-Long Island, NY-NJ-CT | Ozone (2008 8-hour) | Nonattainment, Moderate | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| NJ portion of the Northeast Pennsylvania-Upper Delaware Valley Interstate AQCR: (part), NJ | SO ₂ (1971 24-hour/Annual) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Nogales, AZ | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.02 | 0.05 | 0.05 | 0.06 |
| Oakridge, OR | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Ogden Area, UT | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.02 | 0.06 | 0.06 | 0.07 |
| Ogden Area, UT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.02 | 0.06 | 0.06 | 0.07 |
| Olmsted County; (part), MN | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.01 | 0.03 | 0.03 | 0.03 |
| Olmsted; City of Rochester, MN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |

Table A1-3
Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Direct and Indirect Impacts
Particulate Matter (PM2.5) 2040

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Pechanga Band of Luiseno Mission Indians of the Pechanga Reservation | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Pekin, IL | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.02 | 0.04 | 0.04 | 0.05 |
| Penns Grove Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Peoria County: Hollis Twp, IL | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Peoria County: Peoria, IL | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Perth Amboy Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 1.29 | 3.70 | 3.09 | 4.44 |
| Philadelphia-Camden County Area, PA-NJ | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 12.14 | 34.78 | 29.02 | 41.77 |
| Philadelphia-Wilmington, PA-NJ-DE | PM2.5 (2006 24-hour) | Maintenance, Moderate for PA and DE Subject to Former Subpart 1 for NJ | 100 | 0 | 44.21 | 126.58 | 105.75 | 152.07 |
| Philadelphia-Wilmington-Atlantic City, PA-NJ-MD-DE | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Phoenix Area, AZ | CO (1971 8-hour) | Maintenance, Serious | 100 | 0 | 1.41 | 3.58 | 3.52 | 4.40 |
| Phoenix-Mesa, AZ | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Pierce County; Tacoma, WA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.12 | 0.33 | 0.28 | 0.40 |
| Pima County; Ajo planning area, AZ | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Pima County; Rillito planning area, AZ | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.03 | 0.07 | 0.07 | 0.08 |
| Pinal and Gila Counties; Payson, AZ | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.01 | 0.03 | 0.03 | 0.04 |
| Pinal County (part); West Pinal, AZ | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.17 | 0.42 | 0.42 | 0.52 |
| Pitkin County; Aspen, CO | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.01 | 0.03 | 0.03 | 0.03 |
| Pittsburgh Area, PA | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.10 | 0.27 | 0.26 | 0.33 |
| Pittsburgh-Beaver Valley, PA | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Pittsburgh-Beaver Valley, PA | PM2.5 (2006 24-hour) | Maintenance, Moderate | 100 | 0 | 1.44 | 3.89 | 3.52 | 4.72 |
| Plumas County, CA | PM2.5 (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Polk County, TN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |

Appendix A Air Quality Non-Attainment Area Results

Table A1-3

Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Direct and Indirect Impacts

Particulate Matter (PM2.5) 2040

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|-------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Portland Area: Portland Metro Service District Boundary, OR | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.48 | 1.22 | 1.20 | 1.50 |
| Power-Bannock Counties; Fort Hall Indian Reservation, ID | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Power-Bannock Counties; Portneuf Valley Area, ID | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.04 | 0.10 | 0.10 | 0.12 |
| Provo Area, UT | CO (1971 8-hour) | Maintenance, Moderate > 12.7ppm | 100 | 0 | 0.03 | 0.08 | 0.07 | 0.09 |
| Provo, UT | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.16 | 0.41 | 0.40 | 0.50 |
| Prowers County; Lamar, CO | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Raleigh-Durham Area, NC | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.56 | 1.42 | 1.40 | 1.74 |
| Ramsey County; (part), MN | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Reading, PA | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Reno Area, NV | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.13 | 0.33 | 0.32 | 0.40 |
| Rhinelander, WI | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.02 | 0.04 | 0.04 | 0.05 |
| Riverside County (Coachella Valley), CA | Ozone (2008 8-hour) | Nonattainment, Severe 15 | 25 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Riverside County; Coachella Valley planning area, CA | PM10 (1987 24-hour) | Nonattainment, Serious | 70 | 0 | 0.21 | 0.52 | 0.51 | 0.64 |
| Riverside, Los Angeles, Orange, and San Bernardino Counties; South Coast Air Basin, CA | PM10 (1987 24-hour) | Maintenance, Serious | 100 | 0 | 49.28 | 139.71 | 118.38 | 168.15 |
| Rosebud County; Lame Deer, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.01 | 0.03 | 0.03 | 0.04 |
| Routt County (part); Steamboat Springs, CO | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.24 | 0.69 | 0.58 | 0.83 |
| Sacramento Area, CA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.53 | 1.34 | 1.32 | 1.64 |
| Sacramento County, CA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.50 | 1.27 | 1.25 | 1.56 |
| Sacramento Metro, CA | Ozone (2008 8-hour) | Nonattainment, Severe 15 | 25 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Sacramento, CA | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 4.41 | 12.38 | 10.65 | 14.93 |
| Salem Area, OR | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.10 | 0.26 | 0.26 | 0.32 |
| Salt Lake City Area, UT | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 2.45 | 7.03 | 5.86 | 8.44 |
| Salt Lake City, UT | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 3.57 | 10.06 | 8.60 | 12.12 |

Table A1-3
Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Direct and Indirect Impacts
Particulate Matter (PM2.5) 2040

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|---|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Salt Lake County, UT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 2.77 | 7.84 | 6.65 | 9.43 |
| Salt Lake County, UT | SO ₂ (1971 24-hour/Annual) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| San Bernardino County (part); excluding Searles Valley Planning area and South Coast Air Basin, CA | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.23 | 0.57 | 0.56 | 0.70 |
| San Diego Area, CA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 1.35 | 3.43 | 3.38 | 4.21 |
| San Diego County, CA | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| San Francisco Bay Area, CA | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| San Francisco Bay Area, CA | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 54.92 | 157.10 | 131.44 | 188.77 |
| San Francisco-Oakland-San Jose Area, CA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 54.70 | 156.52 | 130.87 | 188.05 |
| San Joaquin Valley Air Basin; Fresno, Kern, Kings, Madera, Merced, San Joaquin, Stanislaus, Tulare Counties, CA | PM10 (1987 24-hour) | Maintenance, Serious | 100 | 0 | 3.47 | 9.40 | 8.50 | 11.41 |
| San Joaquin Valley, CA | Ozone (2008 8-hour) | Nonattainment, Extreme | 10 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| San Joaquin Valley, CA | PM2.5 (2006 24-hour) | Nonattainment, Serious | 100 | 0 | 3.47 | 9.40 | 8.50 | 11.41 |
| San Joaquin Valley, CA | PM2.5 (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 3.47 | 9.40 | 8.50 | 11.41 |
| San Luis Obispo (Eastern San Luis Obispo), CA | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| San Manuel, AZ | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| San Miguel County; Telluride, CO | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.01 | 0.01 | 0.01 |
| Sanders County (part); Thompson Falls and vicinity, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Santa Cruz County; Nogales planning area, AZ | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.02 | 0.05 | 0.05 | 0.06 |
| Seaford, DE | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Seattle-Tacoma Area, WA | CO (1971 8-hour) | Maintenance, Moderate > 12.7ppm | 100 | 0 | 1.22 | 3.15 | 3.05 | 3.86 |
| Seattle-Tacoma, WA | PM2.5 (2006 24-hour) | Maintenance, Moderate | 100 | 0 | 0.29 | 0.78 | 0.72 | 0.95 |
| Sheboygan County, WI | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |

Appendix A Air Quality Non-Attainment Area Results

Table A1-3

Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Direct and Indirect Impacts

Particulate Matter (PM2.5) 2040

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|---|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Sheridan County; City of Sheridan, WY | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.01 | 0.03 | 0.03 | 0.03 |
| Shoshone County (part); excluding Pinehurst, ID | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.02 | 0.04 | 0.04 | 0.05 |
| Shoshone County; City of Pinehurst, ID | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Silver Bow County; Butte, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.02 | 0.04 | 0.04 | 0.05 |
| Somerville Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.01 | 0.02 | 0.02 | 0.02 |
| Southwest Indiana, IN | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.01 | 0.01 | 0.01 |
| Spokane Area, WA | CO (1971 8-hour) | Maintenance, Serious | 100 | 0 | 0.11 | 0.29 | 0.29 | 0.36 |
| Spokane County; (part), WA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.12 | 0.30 | 0.30 | 0.37 |
| Springfield Area, MA | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.07 | 0.17 | 0.17 | 0.21 |
| St. Bernard Parish, LA | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 22.86 | 65.74 | 54.57 | 78.92 |
| St. Louis Area, MO | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.35 | 0.88 | 0.87 | 1.08 |
| St. Louis-St. Charles-Farmington, MO-IL | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Steubenville, OH-WV | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.03 | 0.07 | 0.07 | 0.08 |
| Steubenville-Weirton, OH-WV | PM2.5 (2006 24-hour) | Maintenance, -- | 100 | 0 | 0.10 | 0.26 | 0.24 | 0.32 |
| Stockton Area, CA | CO (1971 8-hour) | Maintenance, Moderate ≤ 12.7ppm | 100 | 0 | 0.18 | 0.47 | 0.45 | 0.58 |
| Sullivan County, TN | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.02 | 0.06 | 0.05 | 0.07 |
| Syracuse Area; Onondaga County, NY | CO (1971 8-hour) | Maintenance, Moderate ≤ 12.7ppm | 100 | 0 | 0.22 | 0.57 | 0.56 | 0.70 |
| Tazewell County; Groveland Twp, IL | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Terre Haute, IN | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.43 | 1.23 | 1.03 | 1.48 |

Table A1-3
Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Direct and Indirect Impacts
Particulate Matter (PM2.5) 2040

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|---|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Thurston County; Cities of Olympia, Tumwater, and Lacey, WA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.04 | 0.10 | 0.10 | 0.12 |
| Toms River Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.01 | 0.01 | 0.01 |
| Tooele County (part), UT | SO ₂ (1971 24-hour/Annual) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Trenton Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.04 | 0.09 | 0.09 | 0.11 |
| Trona, CA | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Tucson Area, AZ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.34 | 0.87 | 0.85 | 1.07 |
| Tuscan Buttes, CA | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Union County; LaGrande, OR | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.01 | 0.04 | 0.04 | 0.04 |
| Upper Green River Basin Area, WY | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Utah County, UT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.16 | 0.41 | 0.40 | 0.50 |
| Vancouver Area: Clark County (part), WA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.11 | 0.28 | 0.27 | 0.34 |
| Ventura County, CA | Ozone (2008 8-hour) | Nonattainment, Serious | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Vermillion County; Part of Clinton Township, IN | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.02 | 0.04 | 0.04 | 0.05 |
| Vigo County, IN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Walla Walla County; Wallula, WA | PM10 (1987 24-hour) | Maintenance, Serious | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.01 |
| Waltham Area, MA | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.02 | 0.06 | 0.06 | 0.07 |
| Warren County: Conewago Twp, PA | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Warren County: Warren Boro, Pleasant Twp, Glade Twp, PA | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Warren, PA | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 3.06 | 8.81 | 7.32 | 10.58 |
| Washington Area, DC-MD-VA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.26 | 0.67 | 0.66 | 0.83 |
| Washington, DC-MD-VA | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Washoe County; Reno planning area, NV | PM10 (1987 24-hour) | Nonattainment, Serious | 70 | 0 | 0.13 | 0.33 | 0.32 | 0.40 |

Appendix A Air Quality Non-Attainment Area Results

Table A1-3

Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Direct and Indirect Impacts

Particulate Matter (PM_{2.5}) 2040

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|---|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Wayne County: Boston, Center, Franklin, Wayne & Webster Townships, IN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Wayne County; (part), MI | PM ₁₀ (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 1.98 | 5.68 | 4.73 | 6.82 |
| West Central Pinal County, AZ | PM _{2.5} (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.03 | 0.09 | 0.09 | 0.11 |
| West Silver Valley, ID | PM _{2.5} (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 0.01 | 0.02 | 0.02 | 0.03 |
| Winston-Salem Area, NC | CO (1971 8-hour) | Maintenance, Moderate ≤ 12.7ppm | 100 | 0 | 0.15 | 0.38 | 0.37 | 0.46 |
| Worcester Area, MA | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.09 | 0.24 | 0.24 | 0.30 |
| Yakima Area, WA | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.02 | 0.04 | 0.04 | 0.05 |
| Yakima County; (part), WA | PM ₁₀ (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.05 | 0.12 | 0.12 | 0.14 |
| Yuba City-Marysville, CA | PM _{2.5} (2006 24-hour) | Maintenance, Moderate | 100 | 0 | 0.08 | 0.19 | 0.19 | 0.24 |
| Yuma County; Yuma planning area, AZ | PM ₁₀ (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.07 | 0.17 | 0.16 | 0.20 |

^a Reductions are shown as positive values. Negative values are emissions increases. Values of less than 0.005 tons per year are rounded to zero.

^b Nonattainment or maintenance status as of 5/13/2016. Source: U.S. EPA, The Green Book Nonattainment Areas for Criteria Pollutants; <http://www.epa.gov/airquality/greenbook/>. "--" indicates that no severity classification has been established for the NAAQS pollutant.

^c Emissions thresholds in tons per year. Where the threshold differs by precursor pollutant, the smallest of the precursor thresholds is shown. These thresholds are provided for information only; a general conformity determination is not required for the Proposed Action. Source: 40 CFR 93.853

Notes: CO = carbon monoxide; NAAQS = National Ambient Air Quality Standards; NO₂ = nitrogen dioxide; PM = particulate matter; SO₂ = sulfur dioxide

Table A1-4
Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Direct and Indirect Impacts
Particulate Matter (PM2.5) 2050

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Ada County; Boise, ID | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.15 | 0.40 | 0.40 | 0.50 |
| Adams, Denver, and Boulder Counties; Denver Metropolitan area, CO | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 1.23 | 3.41 | 3.12 | 4.14 |
| Ajo, AZ | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Albuquerque Area, NM | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.31 | 0.83 | 0.82 | 1.03 |
| Allegheny County Air Basin: Hazelwood monitor, PA | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Allegheny County, PA | PM2.5 (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 0.44 | 1.17 | 1.14 | 1.44 |
| Allegheny County; The area including Liberty, Lincoln, Port Vue, and Glassport Boroughs and the City of Clairton, PA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.04 | 0.12 | 0.09 | 0.14 |
| Allegheny, PA | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.06 | 0.16 | 0.14 | 0.19 |
| Allentown, PA | PM2.5 (2006 24-hour) | Maintenance, Moderate | 100 | 0 | 0.27 | 0.72 | 0.72 | 0.90 |
| Allentown-Bethlehem-Easton, PA | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Anchorage Area, AK | CO (1971 8-hour) | Maintenance, Serious | 100 | 0 | 0.05 | 0.13 | 0.13 | 0.17 |
| Anchorage; Eagle River, AK | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.01 | 0.01 | 0.01 |
| AQCR 012: Portions of Grant County, NM | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| AQCR 109-Millinocket, ME | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| AQCR 131: Anoka, Carver, Dakota, Hennepin, Ramsey, Scott, and Washington counties (Minneapolis-St. Paul), MN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| AQCR 237: Brown County: Green Bay sub-city area, WI | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| AQCR 238: Marathon County: Rothschild Sub-city area, Rib Mountain, Weston, WI | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| AQCR 238: Oneida County: Rhinelander Sub-city area, WI | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| AQCR 239: Milwaukee County: Milwaukee sub-city area, WI | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |

Appendix A Air Quality Non-Attainment Area Results

Table A1-4

Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Direct and Indirect Impacts

Particulate Matter (PM2.5) 2050

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| AQCR 240: Dane County: Madison sub-city area, WI | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Archuleta County; Pagosa Springs, CO | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.01 | 0.03 | 0.03 | 0.04 |
| Armstrong County: Madison Twp, Mahoning Twp, Boggs Twp, Washington Twp, Pine Twp, PA | SO ₂ (1971 24-hour/Annual) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Aroostock County; City of Presque Isle, ME | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.01 | 0.02 | 0.02 | 0.03 |
| Atlanta, GA | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Atlantic City Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.03 | 0.07 | 0.07 | 0.09 |
| Bakersfield Area, CA | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 2.13 | 6.21 | 5.16 | 7.33 |
| Baltimore Area, MD | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.01 | 0.02 | 0.02 | 0.02 |
| Baltimore, MD | Ozone (2008 8-hour) | Nonattainment, Moderate | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Baton Rouge, LA | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Beaver, PA | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.01 | 0.02 | 0.02 | 0.03 |
| Benton County; (part) TVA Johnsonville, TN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Billings Area, MT | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 14.55 | 42.92 | 34.85 | 50.36 |
| Billings, MT | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 14.51 | 42.81 | 34.75 | 50.23 |
| Birmingham, AL | PM2.5 (2006 24-hour) | Maintenance, -- | 100 | 0 | 0.79 | 2.14 | 2.03 | 2.63 |
| Boise-Northern Ada County Area, ID | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.15 | 0.40 | 0.40 | 0.50 |
| Bonner County; The Sandpoint Area, ID | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.01 | 0.02 | 0.02 | 0.02 |
| Boston Area, MA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.86 | 2.41 | 2.13 | 2.90 |
| Boyd County (part), KY | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Brooke; Follansbee area, WV | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Burlington Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.01 | 0.01 | 0.01 |
| Calaveras County, CA | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Campbell-Clermont Counties, KY-OH | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.02 | 0.05 | 0.05 | 0.06 |

Table A1-4

Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Direct and Indirect Impacts
 Particulate Matter (PM2.5) 2050

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|---|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Canton-Massillon, OH | PM2.5 (2006 24-hour) | Maintenance, -- | 100 | 0 | 8.57 | 25.23 | 20.56 | 29.63 |
| Central New Hampshire, NH | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.11 | 0.28 | 0.28 | 0.35 |
| Central Steptoe Valley, NV | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Charleston, WV | PM2.5 (2006 24-hour) | Maintenance, -- | 100 | 0 | 0.18 | 0.47 | 0.47 | 0.58 |
| Charlotte Area, NC | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.61 | 1.63 | 1.62 | 2.02 |
| Charlotte-Rock Hill, NC-SC | Ozone (2008 8-hour) | Maintenance, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Chicago-Naperville, IL-IN-WI | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Chico (Butte County), CA | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Chico Area, CA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.05 | 0.13 | 0.13 | 0.16 |
| Chico, CA | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.09 | 0.25 | 0.25 | 0.31 |
| Cincinnati, OH-KY-IN | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Clark County; Las Vegas planning area, NV | PM10 (1987 24-hour) | Maintenance, Serious | 100 | 0 | 0.94 | 2.55 | 2.44 | 3.13 |
| Cleveland Area, OH | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.46 | 1.22 | 1.21 | 1.51 |
| Cleveland, OH | PM2.5 (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 0.60 | 1.59 | 1.57 | 1.97 |
| Cleveland-Akron-Lorain, OH | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Cleveland-Akron-Lorain, OH | PM2.5 (2006 24-hour) | Maintenance, -- | 100 | 0 | 1.31 | 3.47 | 3.45 | 4.31 |
| Cochise County; Paul Spur/Douglas planning area, AZ | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.02 | 0.05 | 0.05 | 0.06 |
| Colorado Springs Area, CO | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.37 | 1.01 | 0.94 | 1.23 |
| Columbus, OH | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Cook County; Lyons Township, IL | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.04 | 0.10 | 0.10 | 0.12 |
| Cook County; Southeast Chicago, IL | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.04 | 0.10 | 0.10 | 0.12 |
| Coshocton County; Franklin Township, OH | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Coso Junction, CA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Cuyahoga County (part), OH | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Cuyahoga County, OH | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.46 | 1.21 | 1.20 | 1.50 |

Appendix A Air Quality Non-Attainment Area Results

Table A1-4

Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Direct and Indirect Impacts

Particulate Matter (PM_{2.5}) 2050

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Dallas-Fort Worth, TX | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Delaware County, PA | PM _{2.5} (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 29.70 | 87.60 | 71.18 | 102.82 |
| Denver-Boulder Area, CO | CO (1971 8-hour) | Maintenance, Serious | 100 | 0 | 12.54 | 36.63 | 30.32 | 43.21 |
| Denver-Boulder-Greeley-Ft Collins-Loveland, CO | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Detroit Area, MI | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 2.91 | 8.38 | 7.11 | 9.95 |
| Detroit, MI | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 2.47 | 7.23 | 5.96 | 8.51 |
| Detroit-Ann Arbor, MI | PM _{2.5} (2006 24-hour) | Maintenance, -- | 100 | 0 | 4.71 | 13.15 | 11.83 | 15.87 |
| Dona Ana County; Anthony, NM | PM ₁₀ (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.01 | 0.01 | 0.01 | 0.02 |
| Douglas, AZ | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Dukes County, MA | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Duluth Area, MN | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.06 | 0.17 | 0.17 | 0.21 |
| East Chicago Area, IN | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 11.66 | 34.41 | 27.93 | 40.38 |
| East Helena Area, MT | SO ₂ (1971 24-hour/Annual) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| East Kern County Area, CA | PM ₁₀ (1987 24-hour) | Nonattainment, Serious | 70 | 0 | 1.89 | 5.59 | 4.54 | 6.56 |
| El Paso County, TX | PM ₁₀ (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 2.75 | 8.07 | 6.64 | 9.50 |
| El Paso, TX | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 2.56 | 7.56 | 6.14 | 8.87 |
| Eugene-Springfield Area, OR | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.12 | 0.31 | 0.30 | 0.38 |
| Fairbanks Area, AK | CO (1971 8-hour) | Maintenance, Serious | 100 | 0 | 0.33 | 0.97 | 0.79 | 1.14 |
| Fairbanks, AK | PM _{2.5} (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.34 | 1.00 | 0.82 | 1.18 |

Table A1-4
Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Direct and Indirect Impacts
Particulate Matter (PM2.5) 2050

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|---|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Flathead County; Columbia Falls and vicinity, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Flathead County; Kalispell and vicinity, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.02 | 0.05 | 0.05 | 0.06 |
| Flathead County; Whitefish and vicinity, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.01 | 0.01 | 0.01 |
| Fort Collins Area, CO | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.06 | 0.15 | 0.15 | 0.19 |
| Freehold Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.01 | 0.04 | 0.04 | 0.05 |
| Fremont County; Canon City Area, CO | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.02 | 0.05 | 0.05 | 0.06 |
| Fresno Area, CA | CO (1971 8-hour) | Maintenance, Moderate > 12.7ppm | 100 | 0 | 0.29 | 0.77 | 0.75 | 0.95 |
| Grants Pass Area, OR | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.02 | 0.06 | 0.06 | 0.08 |
| Great Falls Area, MT | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 1.31 | 3.86 | 3.13 | 4.53 |
| Greater Connecticut, CT | Ozone (2008 8-hour) | Nonattainment, Moderate | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Greeley Area, CO | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.43 | 1.20 | 1.06 | 1.44 |
| Hancock and Brooke Counties (Part); The city of Weirton, WV | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.06 | 0.18 | 0.15 | 0.21 |
| Hancock County (Part) The city of Weirton, including Butler and Clay: Magisterial Districts, WV | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Harrisburg-Lebanon-Carlisle-York, PA | PM2.5 (2006 24-hour) | Maintenance, Moderate | 100 | 0 | 0.62 | 1.64 | 1.63 | 2.04 |
| Hartford-New Britain-Middletown Area, CT | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.55 | 1.45 | 1.44 | 1.80 |
| Hayden, AZ | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Hayden, AZ | SO ₂ (1971 24-hour/Annual) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Hayden, AZ | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Hillsborough County, FL | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.01 | 0.02 | 0.02 | 0.03 |
| Houston-Galveston-Brazoria, TX | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Humphreys County; (part) TVA Johnsonville, TN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Imperial Co, CA | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.10 | 0.27 | 0.27 | 0.34 |

Appendix A Air Quality Non-Attainment Area Results

Table A1-4

Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Direct and Indirect Impacts

Particulate Matter (PM2.5) 2050

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Imperial County, CA | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Imperial County, CA | PM2.5 (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 0.10 | 0.27 | 0.27 | 0.34 |
| Imperial County; Imperial Valley planning area, CA | PM10 (1987 24-hour) | Nonattainment, Serious | 70 | 0 | 0.12 | 0.33 | 0.33 | 0.41 |
| Indian Wells, CA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 1.89 | 5.58 | 4.54 | 6.55 |
| Indiana, PA | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.05 | 0.12 | 0.12 | 0.15 |
| Indianapolis Area, IN | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Indianapolis, IN | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.22 | 0.59 | 0.59 | 0.73 |
| Inyo County; Owens Valley planning area, CA | PM10 (1987 24-hour) | Nonattainment, Serious | 70 | 0 | 0.00 | 0.01 | 0.01 | 0.02 |
| Jackson County, MO | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.03 | 0.07 | 0.07 | 0.09 |
| Jackson County; Medford-Ashland (including White City), OR | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.10 | 0.25 | 0.25 | 0.31 |
| Jamestown, NY | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Jefferson County, KY | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.01 | 0.03 | 0.02 | 0.03 |
| Jefferson County, MO | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.03 | 0.07 | 0.07 | 0.08 |
| Jefferson County; (part) Steubenville & Mingo Junction, OH | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Jefferson County; (part), OH | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.01 | 0.01 | 0.01 |
| Johnstown, PA | PM2.5 (2006 24-hour) | Maintenance, Moderate | 100 | 0 | 0.06 | 0.16 | 0.16 | 0.20 |
| Josephine County; Grants Pass, OR | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.02 | 0.06 | 0.06 | 0.08 |
| Juneau; Mendenhall Valley area, AK | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.01 | 0.01 | 0.01 |
| Kern County (Eastern Kern), CA | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| King County; Kent, WA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.01 | 0.03 | 0.03 | 0.04 |
| King County; Seattle, WA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.01 | 0.01 | 0.01 |
| Klamath County; Klamath Falls, OR | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.04 | 0.12 | 0.12 | 0.14 |
| Klamath Falls Area, OR | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.04 | 0.12 | 0.12 | 0.14 |
| Klamath Falls, OR | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.05 | 0.12 | 0.12 | 0.15 |

Table A1-4

Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Direct and Indirect Impacts

Particulate Matter (PM2.5) 2050

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Knoxville, TN | Ozone (2008 8-hour) | Maintenance, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Knoxville-Sevierville-La Follette, TN | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.48 | 1.28 | 1.27 | 1.59 |
| La Porte County: (part), IN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lake County (part); Lakeview, OR | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.01 | 0.02 | 0.02 | 0.03 |
| Lake County, OH | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.13 | 0.35 | 0.35 | 0.43 |
| Lake County: (part), IN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lake County; (part) Eastlake, Timberlake, Lakeline, Willoughby, Mentor, OH | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lake County; Cities of East Chicago, Hammond, Whiting, and Gary, IN | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 11.72 | 34.57 | 28.09 | 40.58 |
| Lake County; Polson, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lake County; Ronan, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lake Tahoe Nevada Area, NV | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.01 | 0.02 | 0.02 | 0.02 |
| Lake Tahoe North Shore Area, CA | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.01 | 0.01 | 0.01 |
| Lake Tahoe South Shore Area, CA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.01 | 0.02 | 0.02 | 0.03 |
| Lancaster, PA | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lancaster, PA | PM2.5 (2006 24-hour) | Maintenance, Moderate | 100 | 0 | 0.25 | 0.67 | 0.66 | 0.83 |
| Lane County (part); Oakridge, OR | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lane County; Eugene/Springfield, OR | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.12 | 0.31 | 0.30 | 0.38 |
| Las Vegas Area, NV | CO (1971 8-hour) | Maintenance, Serious | 100 | 0 | 0.94 | 2.54 | 2.43 | 3.12 |
| LaSalle County; Oglesby, IL | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.02 | 0.05 | 0.05 | 0.06 |
| Laurel Area, MT | SO ₂ (1971 24-hour/Annual) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lebanon County, PA | PM2.5 (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 0.09 | 0.23 | 0.23 | 0.29 |
| Lemont, IL | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 15.88 | 46.83 | 38.04 | 54.96 |
| Liberty-Clairton, PA | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.04 | 0.12 | 0.09 | 0.14 |

Appendix A Air Quality Non-Attainment Area Results

Table A1-4

Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Direct and Indirect Impacts

Particulate Matter (PM2.5) 2050

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Lincoln County; Libby and vicinity, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.01 | 0.01 | 0.01 |
| Logan, UT-ID | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.04 | 0.12 | 0.12 | 0.15 |
| Longmont Area, CO | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.04 | 0.10 | 0.10 | 0.12 |
| Lorain County (part), OH | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Los Angeles, CA | PM2.5 (2006 24-hour) | Nonattainment, Serious | 100 | 0 | 57.87 | 168.55 | 140.32 | 199.11 |
| Los Angeles-San Bernardino Counties (West Mojave Desert), CA | Ozone (2008 8-hour) | Nonattainment, Severe 15 | 25 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Los Angeles-South Coast Air Basin Area, CA | CO (1971 8-hour) | Maintenance, Serious | 100 | 0 | 57.87 | 168.56 | 140.33 | 199.13 |
| Los Angeles-South Coast Air Basin Area, CA | NO ₂ (1971 Annual) | Maintenance, -- | 100 | 0 | 57.87 | 168.56 | 140.33 | 199.13 |
| Los Angeles-South Coast Air Basin, CA | Ozone (2008 8-hour) | Nonattainment, Extreme | 10 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Los Angeles-South Coast Air Basin, CA | PM2.5 (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 57.86 | 168.52 | 140.29 | 199.08 |
| Lowell Area, MA | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.05 | 0.14 | 0.14 | 0.17 |
| Lucas County (part), OH | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Madison County; Granite City Township and Nameoki Township, IL | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 7.94 | 23.41 | 19.01 | 27.48 |
| Manchester Area, NH | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.04 | 0.11 | 0.10 | 0.13 |
| Maricopa and Pinal Counties; Phoenix planning area, AZ | PM10 (1987 24-hour) | Nonattainment, Serious | 70 | 0 | 1.75 | 4.64 | 4.61 | 5.77 |
| Marion County; Lawrence, Washington, and Warrant Townships, IN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Mariposa County, CA | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Marshall, WV | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 5.79 | 17.08 | 13.87 | 20.04 |
| Medford Area, OR | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.05 | 0.13 | 0.13 | 0.17 |
| Memphis Area, TN | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 6.11 | 17.90 | 14.73 | 21.08 |

Table A1-4
Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Direct and Indirect Impacts
Particulate Matter (PM2.5) 2050

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|---|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Memphis, TN-MS-AR | Ozone (2008 8-hour) | Nonattainment TN & Maintenance MS/AR, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Miami, AZ | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.01 | 0.01 | 0.01 |
| Miami, AZ | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Miami, AZ | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.01 | 0.01 | 0.01 |
| Milwaukee-Racine, WI | PM2.5 (2006 24-hour) | Maintenance, -- | 100 | 0 | 0.69 | 1.87 | 1.80 | 2.30 |
| Minneapolis-St. Paul Area, MN | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 15.22 | 44.45 | 36.79 | 52.43 |
| Missoula Area, MT | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 1.77 | 5.20 | 4.24 | 6.11 |
| Missoula county; Missoula and vicinity, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 1.76 | 5.19 | 4.24 | 6.10 |
| Modesto Area, CA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.10 | 0.27 | 0.26 | 0.33 |
| Mohave County (part); Bullhead City, AZ | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.05 | 0.13 | 0.13 | 0.16 |
| Mono County; Mammoth Lake planning area, CA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.02 | 0.05 | 0.05 | 0.06 |
| Mono County; Mono Basin, CA | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Morenci, AZ | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Morgan County, IN | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.02 | 0.04 | 0.04 | 0.05 |
| Morongo Band of Mission Indians | Ozone (2008 8-hour) | Nonattainment, Serious | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Morristown Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.06 | 0.18 | 0.16 | 0.22 |
| Muscatine County; (part), IA | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Muscatine, IA | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.01 | 0.03 | 0.03 | 0.03 |
| Muskingum River, OH | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.01 | 0.01 | 0.02 |
| Nashua Area, NH | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.04 | 0.10 | 0.10 | 0.13 |
| Nassau County, FL | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.01 |
| Nevada County (Western part), CA | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| New Haven County, CT | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.01 | 0.02 | 0.02 | 0.03 |

Appendix A Air Quality Non-Attainment Area Results

Table A1-4

Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Direct and Indirect Impacts

Particulate Matter (PM_{2.5}) 2050

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| New Haven-Meriden-Waterbury Area, CT | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.42 | 1.10 | 1.10 | 1.37 |
| New Manchester-Grant magisterial district in Hancock County, WV | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| New York County, NY | PM ₁₀ (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.27 | 0.73 | 0.72 | 0.90 |
| New York, NY-NJ-CT | PM _{2.5} (2006 24-hour) | Maintenance, -- | 100 | 0 | 15.10 | 42.24 | 37.97 | 50.97 |
| New York-N. New Jersey-Long Island Area, NY-NJ-CT | CO (1971 8-hour) | Maintenance, Moderate > 12.7ppm | 100 | 0 | 10.18 | 28.75 | 25.38 | 34.51 |
| New York-N. New Jersey-Long Island, NY-NJ-CT | Ozone (2008 8-hour) | Nonattainment, Moderate | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| NJ portion of the Northeast Pennsylvania-Upper Delaware Valley Interstate AQCR: (part), NJ | SO ₂ (1971 24-hour/Annual) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Nogales, AZ | PM _{2.5} (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.02 | 0.06 | 0.06 | 0.08 |
| Oakridge, OR | PM _{2.5} (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Ogden Area, UT | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.03 | 0.07 | 0.07 | 0.09 |
| Ogden Area, UT | PM ₁₀ (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.03 | 0.07 | 0.07 | 0.09 |
| Olmsted County; (part), MN | PM ₁₀ (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.01 | 0.03 | 0.03 | 0.04 |
| Olmsted; City of Rochester, MN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |

Table A1-4
Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Direct and Indirect Impacts
Particulate Matter (PM2.5) 2050

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Pechanga Band of Luiseno Mission Indians of the Pechanga Reservation | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Pekin, IL | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.02 | 0.05 | 0.05 | 0.07 |
| Penns Grove Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Peoria County: Hollis Twp, IL | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Peoria County: Peoria, IL | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Perth Amboy Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 1.52 | 4.46 | 3.65 | 5.24 |
| Philadelphia-Camden County Area, PA-NJ | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 14.21 | 41.81 | 34.15 | 49.14 |
| Philadelphia-Wilmington, PA-NJ-DE | PM2.5 (2006 24-hour) | Maintenance, Moderate for PA and DE Subject to Former Subpart 1 for NJ | 100 | 0 | 51.79 | 152.21 | 124.52 | 178.98 |
| Philadelphia-Wilmington-Atlantic City, PA-NJ-MD-DE | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Phoenix Area, AZ | CO (1971 8-hour) | Maintenance, Serious | 100 | 0 | 1.68 | 4.44 | 4.40 | 5.51 |
| Phoenix-Mesa, AZ | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Pierce County; Tacoma, WA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.14 | 0.40 | 0.33 | 0.47 |
| Pima County; Ajo planning area, AZ | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Pima County; Rillito planning area, AZ | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.03 | 0.09 | 0.09 | 0.11 |
| Pinal and Gila Counties; Payson, AZ | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.02 | 0.04 | 0.04 | 0.06 |
| Pinal County (part); West Pinal, AZ | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.20 | 0.53 | 0.53 | 0.66 |
| Pitkin County; Aspen, CO | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.01 | 0.03 | 0.03 | 0.04 |
| Pittsburgh Area, PA | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.12 | 0.32 | 0.30 | 0.39 |
| Pittsburgh-Beaver Valley, PA | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Pittsburgh-Beaver Valley, PA | PM2.5 (2006 24-hour) | Maintenance, Moderate | 100 | 0 | 1.70 | 4.75 | 4.27 | 5.73 |
| Plumas County, CA | PM2.5 (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Polk County, TN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |

Appendix A Air Quality Non-Attainment Area Results

Table A1-4

Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Direct and Indirect Impacts

Particulate Matter (PM2.5) 2050

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|-------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Portland Area: Portland Metro Service District Boundary, OR | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.57 | 1.52 | 1.51 | 1.89 |
| Power-Bannock Counties; Fort Hall Indian Reservation, ID | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Power-Bannock Counties; Portneuf Valley Area, ID | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.05 | 0.12 | 0.12 | 0.15 |
| Provo Area, UT | CO (1971 8-hour) | Maintenance, Moderate > 12.7ppm | 100 | 0 | 0.03 | 0.09 | 0.09 | 0.11 |
| Provo, UT | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.19 | 0.51 | 0.51 | 0.63 |
| Prowers County; Lamar, CO | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Raleigh-Durham Area, NC | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.66 | 1.76 | 1.75 | 2.18 |
| Ramsey County; (part), MN | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Reading, PA | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Reno Area, NV | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.15 | 0.40 | 0.40 | 0.50 |
| Rhinelander, WI | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.02 | 0.06 | 0.06 | 0.08 |
| Riverside County (Coachella Valley), CA | Ozone (2008 8-hour) | Nonattainment, Severe 15 | 25 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Riverside County; Coachella Valley planning area, CA | PM10 (1987 24-hour) | Nonattainment, Serious | 70 | 0 | 0.24 | 0.64 | 0.63 | 0.79 |
| Riverside, Los Angeles, Orange, and San Bernardino Counties; South Coast Air Basin, CA | PM10 (1987 24-hour) | Maintenance, Serious | 100 | 0 | 57.84 | 168.47 | 140.24 | 199.01 |
| Rosebud County; Lame Deer, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.02 | 0.04 | 0.04 | 0.05 |
| Routt County (part); Steamboat Springs, CO | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.28 | 0.83 | 0.68 | 0.97 |
| Sacramento Area, CA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.61 | 1.63 | 1.62 | 2.02 |
| Sacramento County, CA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.59 | 1.57 | 1.56 | 1.95 |
| Sacramento Metro, CA | Ozone (2008 8-hour) | Nonattainment, Severe 15 | 25 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Sacramento, CA | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 5.19 | 14.97 | 12.69 | 17.77 |
| Salem Area, OR | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.12 | 0.33 | 0.32 | 0.41 |
| Salt Lake City Area, UT | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 2.87 | 8.44 | 6.88 | 9.92 |
| Salt Lake City, UT | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 4.20 | 12.15 | 10.23 | 14.40 |

Table A1-4
Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Direct and Indirect Impacts
Particulate Matter (PM2.5) 2050

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|---|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Salt Lake County, UT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 3.25 | 9.45 | 7.89 | 11.17 |
| Salt Lake County, UT | SO ₂ (1971 24-hour/Annual) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| San Bernardino County (part); excluding Searles Valley Planning area and South Coast Air Basin, CA | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.25 | 0.67 | 0.67 | 0.84 |
| San Diego Area, CA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 1.61 | 4.26 | 4.23 | 5.29 |
| San Diego County, CA | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| San Francisco Bay Area, CA | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| San Francisco Bay Area, CA | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 64.36 | 188.97 | 154.88 | 222.31 |
| San Francisco-Oakland-San Jose Area, CA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 64.08 | 188.25 | 154.17 | 221.41 |
| San Joaquin Valley Air Basin; Fresno, Kern, Kings, Madera, Merced, San Joaquin, Stanislaus, Tulare Counties, CA | PM10 (1987 24-hour) | Maintenance, Serious | 100 | 0 | 4.11 | 11.49 | 10.34 | 13.87 |
| San Joaquin Valley, CA | Ozone (2008 8-hour) | Nonattainment, Extreme | 10 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| San Joaquin Valley, CA | PM2.5 (2006 24-hour) | Nonattainment, Serious | 100 | 0 | 4.11 | 11.49 | 10.34 | 13.87 |
| San Joaquin Valley, CA | PM2.5 (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 4.11 | 11.49 | 10.34 | 13.87 |
| San Luis Obispo (Eastern San Luis Obispo), CA | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| San Manuel, AZ | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| San Miguel County; Telluride, CO | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.01 | 0.01 | 0.02 |
| Sanders County (part); Thompson Falls and vicinity, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Santa Cruz County; Nogales planning area, AZ | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.02 | 0.06 | 0.06 | 0.08 |
| Seaford, DE | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Seattle-Tacoma Area, WA | CO (1971 8-hour) | Maintenance, Moderate > 12.7ppm | 100 | 0 | 1.45 | 3.89 | 3.79 | 4.81 |
| Seattle-Tacoma, WA | PM2.5 (2006 24-hour) | Maintenance, Moderate | 100 | 0 | 0.34 | 0.95 | 0.87 | 1.16 |
| Sheboygan County, WI | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |

Appendix A Air Quality Non-Attainment Area Results

Table A1-4

Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Direct and Indirect Impacts

Particulate Matter (PM2.5) 2050

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|---|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Sheridan County; City of Sheridan, WY | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.01 | 0.03 | 0.03 | 0.04 |
| Shoshone County (part); excluding Pinehurst, ID | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.02 | 0.05 | 0.05 | 0.07 |
| Shoshone County; City of Pinehurst, ID | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Silver Bow County; Butte, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.02 | 0.05 | 0.05 | 0.07 |
| Somerville Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.01 | 0.02 | 0.02 | 0.02 |
| Southwest Indiana, IN | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.01 | 0.02 | 0.02 | 0.02 |
| Spokane Area, WA | CO (1971 8-hour) | Maintenance, Serious | 100 | 0 | 0.14 | 0.36 | 0.36 | 0.45 |
| Spokane County; (part), WA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.14 | 0.37 | 0.37 | 0.46 |
| Springfield Area, MA | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.08 | 0.22 | 0.22 | 0.27 |
| St. Bernard Parish, LA | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 26.76 | 78.96 | 64.09 | 92.66 |
| St. Louis Area, MO | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.41 | 1.08 | 1.07 | 1.34 |
| St. Louis-St. Charles-Farmington, MO-IL | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Steubenville, OH-WV | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.03 | 0.09 | 0.09 | 0.11 |
| Steubenville-Weirton, OH-WV | PM2.5 (2006 24-hour) | Maintenance, -- | 100 | 0 | 0.11 | 0.32 | 0.29 | 0.38 |
| Stockton Area, CA | CO (1971 8-hour) | Maintenance, Moderate ≤ 12.7ppm | 100 | 0 | 0.21 | 0.58 | 0.55 | 0.71 |
| Sullivan County, TN | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.02 | 0.07 | 0.06 | 0.08 |
| Syracuse Area; Onondaga County, NY | CO (1971 8-hour) | Maintenance, Moderate ≤ 12.7ppm | 100 | 0 | 0.27 | 0.71 | 0.70 | 0.88 |
| Tazewell County; Groveland Twp, IL | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Terre Haute, IN | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.50 | 1.46 | 1.20 | 1.72 |

Table A1-4
Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Direct and Indirect Impacts
Particulate Matter (PM2.5) 2050

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|---|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Thurston County; Cities of Olympia, Tumwater, and Lacey, WA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.05 | 0.12 | 0.12 | 0.15 |
| Toms River Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.01 | 0.01 | 0.01 |
| Tooele County (part), UT | SO ₂ (1971 24-hour/Annual) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Trenton Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.04 | 0.11 | 0.11 | 0.14 |
| Trona, CA | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Tucson Area, AZ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.41 | 1.08 | 1.07 | 1.34 |
| Tuscan Buttes, CA | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Union County; LaGrande, OR | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.02 | 0.05 | 0.05 | 0.06 |
| Upper Green River Basin Area, WY | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Utah County, UT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.19 | 0.51 | 0.51 | 0.63 |
| Vancouver Area: Clark County (part), WA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.13 | 0.34 | 0.34 | 0.42 |
| Ventura County, CA | Ozone (2008 8-hour) | Nonattainment, Serious | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Vermillion County; Part of Clinton Township, IN | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Vigo County, IN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Walla Walla County; Wallula, WA | PM10 (1987 24-hour) | Maintenance, Serious | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.01 |
| Waltham Area, MA | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.03 | 0.07 | 0.07 | 0.09 |
| Warren County: Conewago Twp, PA | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Warren County: Warren Boro, Pleasant Twp, Glade Twp, PA | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Warren, PA | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 3.59 | 10.58 | 8.59 | 12.42 |
| Washington Area, DC-MD-VA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.32 | 0.84 | 0.83 | 1.04 |
| Washington, DC-MD-VA | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Washoe County; Reno planning area, NV | PM10 (1987 24-hour) | Nonattainment, Serious | 70 | 0 | 0.15 | 0.40 | 0.40 | 0.50 |

Appendix A Air Quality Non-Attainment Area Results

Table A1-4

Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Direct and Indirect Impacts

Particulate Matter (PM2.5) 2050

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|---|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Wayne County: Boston, Center, Franklin, Wayne & Webster Townships, IN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Wayne County; (part), MI | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 2.33 | 6.85 | 5.58 | 8.04 |
| West Central Pinal County, AZ | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.04 | 0.11 | 0.11 | 0.14 |
| West Silver Valley, ID | PM2.5 (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 0.01 | 0.03 | 0.03 | 0.04 |
| Winston-Salem Area, NC | CO (1971 8-hour) | Maintenance, Moderate ≤ 12.7ppm | 100 | 0 | 0.18 | 0.47 | 0.46 | 0.58 |
| Worcester Area, MA | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.12 | 0.31 | 0.31 | 0.38 |
| Yakima Area, WA | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.02 | 0.06 | 0.06 | 0.07 |
| Yakima County; (part), WA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.06 | 0.15 | 0.15 | 0.18 |
| Yuba City-Marysville, CA | PM2.5 (2006 24-hour) | Maintenance, Moderate | 100 | 0 | 0.09 | 0.24 | 0.24 | 0.30 |
| Yuma County; Yuma planning area, AZ | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.08 | 0.21 | 0.20 | 0.26 |

^a Reductions are shown as positive values. Negative values are emissions increases. Values of less than 0.005 tons per year are rounded to zero.

^b Nonattainment or maintenance status as of 5/13/2016. Source: U.S. EPA, The Green Book Nonattainment Areas for Criteria Pollutants; <http://www.epa.gov/airquality/greenbook/>. "--" indicates that no severity classification has been established for the NAAQS pollutant.

^c Emissions thresholds in tons per year. Where the threshold differs by precursor pollutant, the smallest of the precursor thresholds is shown. These thresholds are provided for information only; a general conformity determination is not required for the Proposed Action. Source: 40 CFR 93.853.

Notes: CO = carbon monoxide; NAAQS = National Ambient Air Quality Standards; NO₂ = nitrogen dioxide; PM = particulate matter; SO₂ = sulfur dioxide

Table A1-5
Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Direct and Indirect Impacts
Sulfur Dioxide (SO₂) 2018

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Ada County; Boise, ID | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Adams, Denver, and Boulder Counties; Denver Metropolitan area, CO | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.01 | 0.01 | 0.01 | 0.02 |
| Ajo, AZ | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Albuquerque Area, NM | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.01 | 0.01 | 0.01 |
| Allegheny County Air Basin: Hazelwood monitor, PA | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Allegheny County, PA | PM2.5 (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.01 | 0.01 | 0.01 |
| Allegheny County; The area including Liberty, Lincoln, Port Vue, and Glassport Boroughs and the City of Clairton, PA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Allegheny, PA | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Allentown, PA | PM2.5 (2006 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.01 | 0.01 | 0.01 |
| Allentown-Bethlehem-Easton, PA | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Anchorage Area, AK | CO (1971 8-hour) | Maintenance, Serious | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Anchorage; Eagle River, AK | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| AQCR 012: Portions of Grant County, NM | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| AQCR 109-Millinocket, ME | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| AQCR 131: Anoka, Carver, Dakota, Hennepin, Ramsey, Scott, and Washington counties (Minneapolis-St. Paul), MN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| AQCR 237: Brown County: Green Bay sub-city area, WI | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| AQCR 238: Marathon County: Rothschild Sub-city area, Rib Mountain, Weston, WI | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| AQCR 238: Oneida County: Rhinelander Sub-city area, WI | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| AQCR 239: Milwaukee County: Milwaukee sub-city area, WI | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |

Appendix A Air Quality Non-Attainment Area Results

Table A1-5

Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Direct and Indirect Impacts

Sulfur Dioxide (SO₂) 2018

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| AQCR 240: Dane County: Madison sub-city area, WI | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Archuleta County; Pagosa Springs, CO | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Armstrong County: Madison Twp, Mahoning Twp, Boggs Twp, Washington Twp, Pine Twp, PA | SO ₂ (1971 24-hour/Annual) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Aroostock County; City of Presque Isle, ME | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Atlanta, GA | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Atlantic City Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Bakersfield Area, CA | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.12 | 0.17 | 0.20 | 0.24 |
| Baltimore Area, MD | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Baltimore, MD | Ozone (2008 8-hour) | Nonattainment, Moderate | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Baton Rouge, LA | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Beaver, PA | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Benton County; (part) TVA Johnsonville, TN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Billings Area, MT | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 1.10 | 1.62 | 1.86 | 2.21 |
| Billings, MT | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 1.10 | 1.62 | 1.85 | 2.21 |
| Birmingham, AL | PM2.5 (2006 24-hour) | Maintenance, -- | 100 | 0 | 0.01 | 0.01 | 0.01 | 0.02 |
| Boise-Northern Ada County Area, ID | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Bonner County; The Sandpoint Area, ID | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Boston Area, MA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.03 | 0.05 | 0.05 | 0.06 |
| Boyd County (part), KY | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Brooke; Follansbee area, WV | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Burlington Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Calaveras County, CA | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Campbell-Clermont Counties, KY-OH | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |

Table A1-5
Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Direct and Indirect Impacts
Sulfur Dioxide (SO₂) 2018

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|---|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Canton-Massillon, OH | PM2.5 (2006 24-hour) | Maintenance, -- | 100 | 0 | 0.10 | 0.15 | 0.18 | 0.21 |
| Central New Hampshire, NH | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Central Steptoe Valley, NV | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Charleston, WV | PM2.5 (2006 24-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Charlotte Area, NC | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.01 | 0.01 | 0.01 | 0.02 |
| Charlotte-Rock Hill, NC-SC | Ozone (2008 8-hour) | Maintenance, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Chicago-Naperville, IL-IN-WI | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Chico (Butte County), CA | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Chico Area, CA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Chico, CA | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Cincinnati, OH-KY-IN | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Clark County; Las Vegas planning area, NV | PM10 (1987 24-hour) | Maintenance, Serious | 100 | 0 | 0.01 | 0.02 | 0.01 | 0.02 |
| Cleveland Area, OH | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.07 | 0.10 | 0.12 | 0.14 |
| Cleveland, OH | PM2.5 (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 0.07 | 0.11 | 0.12 | 0.14 |
| Cleveland-Akron-Lorain, OH | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Cleveland-Akron-Lorain, OH | PM2.5 (2006 24-hour) | Maintenance, -- | 100 | 0 | 0.08 | 0.12 | 0.13 | 0.16 |
| Cochise County; Paul Spur/Douglas planning area, AZ | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Colorado Springs Area, CO | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.01 | 0.01 | 0.01 |
| Columbus, OH | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Cook County; Lyons Township, IL | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Cook County; Southeast Chicago, IL | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Coshocton County; Franklin Township, OH | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Coso Junction, CA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Cuyahoga County (part), OH | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Cuyahoga County, OH | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.07 | 0.10 | 0.12 | 0.14 |

Appendix A Air Quality Non-Attainment Area Results

Table A1-5

Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Direct and Indirect Impacts

Sulfur Dioxide (SO₂) 2018

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Dallas-Fort Worth, TX | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Delaware County, PA | PM2.5 (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 2.45 | 3.60 | 4.12 | 4.90 |
| Denver-Boulder Area, CO | CO (1971 8-hour) | Maintenance, Serious | 100 | 0 | 0.15 | 0.23 | 0.26 | 0.32 |
| Denver-Boulder-Greeley-Ft Collins-Loveland, CO | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Detroit Area, MI | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.11 | 0.16 | 0.18 | 0.22 |
| Detroit, MI | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.10 | 0.15 | 0.17 | 0.20 |
| Detroit-Ann Arbor, MI | PM2.5 (2006 24-hour) | Maintenance, -- | 100 | 0 | 0.12 | 0.20 | 0.21 | 0.26 |
| Dona Ana County; Anthony, NM | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Douglas, AZ | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Dukes County, MA | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Duluth Area, MN | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| East Chicago Area, IN | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.47 | 0.69 | 0.79 | 0.94 |
| East Helena Area, MT | SO ₂ (1971 24-hour/Annual) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| East Kern County Area, CA | PM10 (1987 24-hour) | Nonattainment, Serious | 70 | 0 | 0.12 | 0.17 | 0.19 | 0.23 |
| El Paso County, TX | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.06 | 0.10 | 0.11 | 0.13 |
| El Paso, TX | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.06 | 0.09 | 0.10 | 0.12 |
| Eugene-Springfield Area, OR | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Fairbanks Area, AK | CO (1971 8-hour) | Maintenance, Serious | 100 | 0 | 0.01 | 0.01 | 0.01 | 0.01 |
| Fairbanks, AK | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.01 | 0.01 | 0.01 | 0.01 |

Table A1-5

Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Direct and Indirect Impacts

Sulfur Dioxide (SO₂) 2018

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|---|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Flathead County; Columbia Falls and vicinity, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Flathead County; Kalispell and vicinity, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Flathead County; Whitefish and vicinity, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Fort Collins Area, CO | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Freehold Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Fremont County; Canon City Area, CO | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Fresno Area, CA | CO (1971 8-hour) | Maintenance, Moderate > 12.7ppm | 100 | 0 | 0.00 | 0.01 | 0.01 | 0.01 |
| Grants Pass Area, OR | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Great Falls Area, MT | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.01 | 0.01 | 0.01 | 0.01 |
| Greater Connecticut, CT | Ozone (2008 8-hour) | Nonattainment, Moderate | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Greeley Area, CO | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.01 | 0.01 | 0.01 |
| Hancock and Brooke Counties (Part); The city of Weirton, WV | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Hancock County (Part) The city of Weirton, including Butler and Clay: Magisterial Districts, WV | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Harrisburg-Lebanon-Carlisle-York, PA | PM2.5 (2006 24-hour) | Maintenance, Moderate | 100 | 0 | 0.01 | 0.01 | 0.01 | 0.02 |
| Hartford-New Britain-Middletown Area, CT | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.01 | 0.01 | 0.01 | 0.01 |
| Hayden, AZ | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Hayden, AZ | SO ₂ (1971 24-hour/Annual) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Hayden, AZ | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Hillsborough County, FL | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Houston-Galveston-Brazoria, TX | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Humphreys County; (part) TVA Johnsonville, TN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Imperial Co, CA | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |

Appendix A Air Quality Non-Attainment Area Results

Table A1-5

Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Direct and Indirect Impacts

Sulfur Dioxide (SO₂) 2018

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Imperial County, CA | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Imperial County, CA | PM2.5 (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Imperial County; Imperial Valley planning area, CA | PM10 (1987 24-hour) | Nonattainment, Serious | 70 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Indian Wells, CA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.12 | 0.17 | 0.19 | 0.23 |
| Indiana, PA | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Indianapolis Area, IN | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Indianapolis, IN | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.01 |
| Inyo County; Owens Valley planning area, CA | PM10 (1987 24-hour) | Nonattainment, Serious | 70 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Jackson County, MO | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Jackson County; Medford-Ashland (including White City), OR | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Jamestown, NY | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Jefferson County, KY | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Jefferson County, MO | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Jefferson County; (part) Steubenville & Mingo Junction, OH | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Jefferson County; (part), OH | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Johnstown, PA | PM2.5 (2006 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Josephine County; Grants Pass, OR | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Juneau; Mendenhall Valley area, AK | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Kern County (Eastern Kern), CA | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| King County; Kent, WA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| King County; Seattle, WA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Klamath County; Klamath Falls, OR | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Klamath Falls Area, OR | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Klamath Falls, OR | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |

Table A1-5
Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Direct and Indirect Impacts
Sulfur Dioxide (SO₂) 2018

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Knoxville, TN | Ozone (2008 8-hour) | Maintenance, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Knoxville-Sevierville-La Follette, TN | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.01 | 0.01 | 0.01 |
| La Porte County: (part), IN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lake County (part); Lakeview, OR | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lake County, OH | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lake County: (part), IN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lake County; (part) Eastlake, Timberlake, Lakeline, Willoughby, Mentor, OH | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lake County; Cities of East Chicago, Hammond, Whiting, and Gary, IN | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.47 | 0.69 | 0.79 | 0.94 |
| Lake County; Polson, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lake County; Ronan, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lake Tahoe Nevada Area, NV | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lake Tahoe North Shore Area, CA | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lake Tahoe South Shore Area, CA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lancaster, PA | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lancaster, PA | PM2.5 (2006 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.01 | 0.00 | 0.01 |
| Lane County (part); Oakridge, OR | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lane County; Eugene/Springfield, OR | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Las Vegas Area, NV | CO (1971 8-hour) | Maintenance, Serious | 100 | 0 | 0.01 | 0.02 | 0.01 | 0.02 |
| LaSalle County; Oglesby, IL | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Laurel Area, MT | SO ₂ (1971 24-hour/Annual) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lebanon County, PA | PM2.5 (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lemont, IL | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 1.79 | 2.63 | 3.01 | 3.58 |
| Liberty-Clairton, PA | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |

Appendix A Air Quality Non-Attainment Area Results

Table A1-5

Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Direct and Indirect Impacts

Sulfur Dioxide (SO₂) 2018

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Lincoln County; Libby and vicinity, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Logan, UT-ID | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Longmont Area, CO | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lorain County (part), OH | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Los Angeles, CA | PM2.5 (2006 24-hour) | Nonattainment, Serious | 100 | 0 | 1.34 | 2.02 | 2.28 | 2.73 |
| Los Angeles-San Bernardino Counties (West Mojave Desert), CA | Ozone (2008 8-hour) | Nonattainment, Severe 15 | 25 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Los Angeles-South Coast Air Basin Area, CA | CO (1971 8-hour) | Maintenance, Serious | 100 | 0 | 1.34 | 2.02 | 2.28 | 2.73 |
| Los Angeles-South Coast Air Basin Area, CA | NO ₂ (1971 Annual) | Maintenance, -- | 100 | 0 | 1.34 | 2.02 | 2.28 | 2.73 |
| Los Angeles-South Coast Air Basin, CA | Ozone (2008 8-hour) | Nonattainment, Extreme | 10 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Los Angeles-South Coast Air Basin, CA | PM2.5 (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 1.34 | 2.02 | 2.28 | 2.73 |
| Lowell Area, MA | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lucas County (part), OH | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Madison County; Granite City Township and Nameoki Township, IL | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 1.33 | 1.95 | 2.23 | 2.66 |
| Manchester Area, NH | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Maricopa and Pinal Counties; Phoenix planning area, AZ | PM10 (1987 24-hour) | Nonattainment, Serious | 70 | 0 | 0.02 | 0.04 | 0.03 | 0.04 |
| Marion County; Lawrence, Washington, and Warrant Townships, IN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Mariposa County, CA | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Marshall, WV | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 6.99 | 10.27 | 11.75 | 13.98 |
| Medford Area, OR | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Memphis Area, TN | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.03 | 0.05 | 0.05 | 0.06 |

Table A1-5
Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Direct and Indirect Impacts
Sulfur Dioxide (SO₂) 2018

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|---|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Memphis, TN-MS-AR | Ozone (2008 8-hour) | Nonattainment TN & Maintenance MS/AR, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Miami, AZ | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Miami, AZ | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Miami, AZ | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Milwaukee-Racine, WI | PM2.5 (2006 24-hour) | Maintenance, -- | 100 | 0 | 0.01 | 0.01 | 0.01 | 0.01 |
| Minneapolis-St. Paul Area, MN | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.16 | 0.25 | 0.28 | 0.33 |
| Missoula Area, MT | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Missoula county; Missoula and vicinity, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Modesto Area, CA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Mohave County (part); Bullhead City, AZ | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Mono County; Mammoth Lake planning area, CA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Mono County; Mono Basin, CA | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Morenci, AZ | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Morgan County, IN | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Morongo Band of Mission Indians | Ozone (2008 8-hour) | Nonattainment, Serious | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Morristown Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Muscatine County; (part), IA | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Muscatine, IA | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Muskingum River, OH | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Nashua Area, NH | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Nassau County, FL | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Nevada County (Western part), CA | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| New Haven County, CT | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |

Appendix A Air Quality Non-Attainment Area Results

Table A1-5

Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Direct and Indirect Impacts

Sulfur Dioxide (SO₂) 2018

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| New Haven-Meriden-Waterbury Area, CT | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.01 | 0.01 | 0.01 |
| New Manchester-Grant magisterial district in Hancock County, WV | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| New York County, NY | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.01 | 0.01 | 0.01 |
| New York, NY-NJ-CT | PM2.5 (2006 24-hour) | Maintenance, -- | 100 | 0 | 0.25 | 0.41 | 0.44 | 0.54 |
| New York-N. New Jersey-Long Island Area, NY-NJ-CT | CO (1971 8-hour) | Maintenance, Moderate > 12.7ppm | 100 | 0 | 0.08 | 0.14 | 0.14 | 0.18 |
| New York-N. New Jersey-Long Island, NY-NJ-CT | Ozone (2008 8-hour) | Nonattainment, Moderate | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| NJ portion of the Northeast Pennsylvania-Upper Delaware Valley Interstate AQCR: (part), NJ | SO ₂ (1971 24-hour/Annual) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Nogales, AZ | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Oakridge, OR | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Ogden Area, UT | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Ogden Area, UT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Olmsted County; (part), MN | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Olmsted; City of Rochester, MN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |

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Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Direct and Indirect Impacts
Sulfur Dioxide (SO₂) 2018

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Pechanga Band of Luiseno Mission Indians of the Pechanga Reservation | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Pekin, IL | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Penns Grove Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Peoria County: Hollis Twp, IL | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Peoria County: Peoria, IL | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Perth Amboy Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.14 | 0.20 | 0.23 | 0.28 |
| Philadelphia-Camden County Area, PA-NJ | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.28 | 0.41 | 0.47 | 0.56 |
| Philadelphia-Wilmington, PA-NJ-DE | PM2.5 (2006 24-hour) | Maintenance, Moderate for PA and DE Subject to Former Subpart 1 for NJ | 100 | 0 | 2.92 | 4.30 | 4.92 | 5.85 |
| Philadelphia-Wilmington-Atlantic City, PA-NJ-MD-DE | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Phoenix Area, AZ | CO (1971 8-hour) | Maintenance, Serious | 100 | 0 | 0.02 | 0.03 | 0.03 | 0.04 |
| Phoenix-Mesa, AZ | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Pierce County; Tacoma, WA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Pima County; Ajo planning area, AZ | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Pima County; Rillito planning area, AZ | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Pinal and Gila Counties; Payson, AZ | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Pinal County (part); West Pinal, AZ | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Pitkin County; Aspen, CO | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Pittsburgh Area, PA | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Pittsburgh-Beaver Valley, PA | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Pittsburgh-Beaver Valley, PA | PM2.5 (2006 24-hour) | Maintenance, Moderate | 100 | 0 | 0.09 | 0.14 | 0.16 | 0.19 |
| Plumas County, CA | PM2.5 (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Polk County, TN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |

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Sulfur Dioxide (SO₂) 2018

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|-------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Portland Area: Portland Metro Service District Boundary, OR | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.01 | 0.01 | 0.01 | 0.01 |
| Power-Bannock Counties; Fort Hall Indian Reservation, ID | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Power-Bannock Counties; Portneuf Valley Area, ID | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Provo Area, UT | CO (1971 8-hour) | Maintenance, Moderate > 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Provo, UT | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Prowers County; Lamar, CO | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Raleigh-Durham Area, NC | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.01 | 0.01 | 0.01 | 0.02 |
| Ramsey County; (part), MN | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Reading, PA | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Reno Area, NV | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Rhinelander, WI | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Riverside County (Coachella Valley), CA | Ozone (2008 8-hour) | Nonattainment, Severe 15 | 25 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Riverside County; Coachella Valley planning area, CA | PM10 (1987 24-hour) | Nonattainment, Serious | 70 | 0 | 0.00 | 0.01 | 0.01 | 0.01 |
| Riverside, Los Angeles, Orange, and San Bernardino Counties; South Coast Air Basin, CA | PM10 (1987 24-hour) | Maintenance, Serious | 100 | 0 | 1.34 | 2.01 | 2.28 | 2.72 |
| Rosebud County; Lame Deer, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Routt County (part); Steamboat Springs, CO | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Sacramento Area, CA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.01 | 0.01 | 0.01 | 0.02 |
| Sacramento County, CA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.01 | 0.01 | 0.01 | 0.01 |
| Sacramento Metro, CA | Ozone (2008 8-hour) | Nonattainment, Severe 15 | 25 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Sacramento, CA | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 1.35 | 1.99 | 2.28 | 2.71 |
| Salem Area, OR | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Salt Lake City Area, UT | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.93 | 1.36 | 1.56 | 1.85 |
| Salt Lake City, UT | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 1.09 | 1.60 | 1.83 | 2.18 |

Table A1-5

Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Direct and Indirect Impacts

Sulfur Dioxide (SO₂) 2018

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|---|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Salt Lake County, UT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.93 | 1.37 | 1.57 | 1.86 |
| Salt Lake County, UT | SO ₂ (1971 24-hour/Annual) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| San Bernardino County (part); excluding Searles Valley Planning area and South Coast Air Basin, CA | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.01 | 0.01 | 0.01 |
| San Diego Area, CA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.02 | 0.03 | 0.03 | 0.04 |
| San Diego County, CA | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| San Francisco Bay Area, CA | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| San Francisco Bay Area, CA | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 1.88 | 2.78 | 3.17 | 3.78 |
| San Francisco-Oakland-San Jose Area, CA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 1.88 | 2.77 | 3.17 | 3.77 |
| San Joaquin Valley Air Basin; Fresno, Kern, Kings, Madera, Merced, San Joaquin, Stanislaus, Tulare Counties, CA | PM10 (1987 24-hour) | Maintenance, Serious | 100 | 0 | 0.14 | 0.21 | 0.24 | 0.28 |
| San Joaquin Valley, CA | Ozone (2008 8-hour) | Nonattainment, Extreme | 10 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| San Joaquin Valley, CA | PM2.5 (2006 24-hour) | Nonattainment, Serious | 100 | 0 | 0.14 | 0.21 | 0.24 | 0.28 |
| San Joaquin Valley, CA | PM2.5 (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 0.14 | 0.21 | 0.24 | 0.28 |
| San Luis Obispo (Eastern San Luis Obispo), CA | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| San Manuel, AZ | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| San Miguel County; Telluride, CO | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Sanders County (part); Thompson Falls and vicinity, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Santa Cruz County; Nogales planning area, AZ | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Seaford, DE | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Seattle-Tacoma Area, WA | CO (1971 8-hour) | Maintenance, Moderate > 12.7ppm | 100 | 0 | 0.01 | 0.03 | 0.03 | 0.03 |
| Seattle-Tacoma, WA | PM2.5 (2006 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.01 |
| Sheboygan County, WI | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |

Appendix A Air Quality Non-Attainment Area Results

Table A1-5

Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Direct and Indirect Impacts

Sulfur Dioxide (SO₂) 2018

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|---|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Sheridan County; City of Sheridan, WY | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Shoshone County (part); excluding Pinehurst, ID | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Shoshone County; City of Pinehurst, ID | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Silver Bow County; Butte, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Somerville Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Southwest Indiana, IN | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Spokane Area, WA | CO (1971 8-hour) | Maintenance, Serious | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Spokane County; (part), WA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Springfield Area, MA | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| St. Bernard Parish, LA | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.24 | 0.35 | 0.40 | 0.48 |
| St. Louis Area, MO | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.01 | 0.01 | 0.01 |
| St. Louis-St. Charles-Farmington, MO-IL | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Steubenville, OH-WV | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Steubenville-Weirton, OH-WV | PM2.5 (2006 24-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Stockton Area, CA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Sullivan County, TN | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.01 | 0.02 | 0.02 | 0.02 |
| Syracuse Area; Onondaga County, NY | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.01 | 0.01 | 0.01 |
| Tazewell County; Groveland Twp, IL | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Terre Haute, IN | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |

Table A1-5
Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Direct and Indirect Impacts
Sulfur Dioxide (SO₂) 2018

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|---|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Thurston County; Cities of Olympia, Tumwater, and Lacey, WA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Toms River Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Tooele County (part), UT | SO ₂ (1971 24-hour/Annual) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Trenton Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Trona, CA | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Tucson Area, AZ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.01 | 0.01 | 0.01 |
| Tuscan Buttes, CA | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Union County; LaGrande, OR | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Upper Green River Basin Area, WY | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Utah County, UT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Vancouver Area: Clark County (part), WA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Ventura County, CA | Ozone (2008 8-hour) | Nonattainment, Serious | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Vermillion County; Part of Clinton Township, IN | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Vigo County, IN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Walla Walla County; Wallula, WA | PM10 (1987 24-hour) | Maintenance, Serious | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Waltham Area, MA | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Warren County: Conewago Twp, PA | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Warren County: Warren Boro, Pleasant Twp, Glade Twp, PA | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Warren, PA | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 1.14 | 1.67 | 1.92 | 2.28 |
| Washington Area, DC-MD-VA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.01 | 0.01 | 0.01 |
| Washington, DC-MD-VA | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Washoe County; Reno planning area, NV | PM10 (1987 24-hour) | Nonattainment, Serious | 70 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |

Appendix A Air Quality Non-Attainment Area Results

Table A1-5

Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Direct and Indirect Impacts

Sulfur Dioxide (SO₂) 2018

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|---|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Wayne County: Boston, Center, Franklin, Wayne & Webster Townships, IN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Wayne County; (part), MI | PM ₁₀ (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.10 | 0.15 | 0.17 | 0.20 |
| West Central Pinal County, AZ | PM _{2.5} (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| West Silver Valley, ID | PM _{2.5} (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Winston-Salem Area, NC | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Worcester Area, MA | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Yakima Area, WA | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Yakima County; (part), WA | PM ₁₀ (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Yuba City-Marysville, CA | PM _{2.5} (2006 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Yuma County; Yuma planning area, AZ | PM ₁₀ (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |

^a Reductions are shown as positive values. Negative values are emissions increases. Values of less than 0.005 tons per year are rounded to zero.

^b Nonattainment or maintenance status as of 5/13/2016. Source: U.S. EPA, The Green Book Nonattainment Areas for Criteria Pollutants; <http://www.epa.gov/airquality/greenbook/>. "--" indicates that no severity classification has been established for the NAAQS pollutant.

^c Emissions thresholds in tons per year. Where the threshold differs by precursor pollutant, the smallest of the precursor thresholds is shown. These thresholds are provided for information only; a general conformity determination is not required for the Proposed Action. Source: 40 CFR 93.853.

Notes: CO = carbon monoxide; NAAQS = National Ambient Air Quality Standards; NO₂ = nitrogen dioxide; PM = particulate matter; SO₂ = sulfur dioxide

Table A1-6

Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Direct and Indirect Impacts

Sulfur Dioxide (SO₂) 2025

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Ada County; Boise, ID | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.07 | 0.17 | 0.19 | 0.29 |
| Adams, Denver, and Boulder Counties; Denver Metropolitan area, CO | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.36 | 0.84 | 0.91 | 1.42 |
| Ajo, AZ | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Albuquerque Area, NM | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.16 | 0.38 | 0.41 | 0.64 |
| Allegheny County Air Basin: Hazelwood monitor, PA | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Allegheny County, PA | PM2.5 (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 0.20 | 0.46 | 0.50 | 0.77 |
| Allegheny County; The area including Liberty, Lincoln, Port Vue, and Glassport Boroughs and the City of Clairton, PA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.01 | 0.01 | 0.01 |
| Allegheny, PA | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.02 | 0.04 | 0.04 | 0.07 |
| Allentown, PA | PM2.5 (2006 24-hour) | Maintenance, Moderate | 100 | 0 | 0.13 | 0.31 | 0.34 | 0.52 |
| Allentown-Bethlehem-Easton, PA | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Anchorage Area, AK | CO (1971 8-hour) | Maintenance, Serious | 100 | 0 | 0.03 | 0.06 | 0.07 | 0.10 |
| Anchorage; Eagle River, AK | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.01 |
| AQCR 012: Portions of Grant County, NM | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| AQCR 109-Millinocket, ME | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| AQCR 131: Anoka, Carver, Dakota, Hennepin, Ramsey, Scott, and Washington counties (Minneapolis-St. Paul), MN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| AQCR 237: Brown County: Green Bay sub-city area, WI | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| AQCR 238: Marathon County: Rothschild Sub-city area, Rib Mountain, Weston, WI | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| AQCR 238: Oneida County: Rhinelander Sub-city area, WI | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| AQCR 239: Milwaukee County: Milwaukee sub-city area, WI | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |

Appendix A Air Quality Non-Attainment Area Results

Table A1-6

Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Direct and Indirect Impacts

Sulfur Dioxide (SO₂) 2025

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| AQCR 240: Dane County: Madison sub-city area, WI | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Archuleta County; Pagosa Springs, CO | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.01 | 0.01 | 0.01 | 0.02 |
| Armstrong County: Madison Twp, Mahoning Twp, Boggs Twp, Washington Twp, Pine Twp, PA | SO ₂ (1971 24-hour/Annual) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Aroostock County; City of Presque Isle, ME | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.01 | 0.01 | 0.01 |
| Atlanta, GA | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Atlantic City Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.01 | 0.03 | 0.03 | 0.05 |
| Bakersfield Area, CA | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 2.15 | 4.76 | 5.22 | 7.77 |
| Baltimore Area, MD | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.01 | 0.01 | 0.01 |
| Baltimore, MD | Ozone (2008 8-hour) | Nonattainment, Moderate | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Baton Rouge, LA | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Beaver, PA | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.01 | 0.01 | 0.01 |
| Benton County; (part) TVA Johnsonville, TN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Billings Area, MT | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 19.41 | 42.87 | 47.04 | 69.82 |
| Billings, MT | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 19.39 | 42.82 | 46.98 | 69.74 |
| Birmingham, AL | PM2.5 (2006 24-hour) | Maintenance, -- | 100 | 0 | 0.32 | 0.75 | 0.81 | 1.26 |
| Boise-Northern Ada County Area, ID | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.07 | 0.17 | 0.19 | 0.29 |
| Bonner County; The Sandpoint Area, ID | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.01 | 0.01 | 0.01 |
| Boston Area, MA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.66 | 1.49 | 1.62 | 2.45 |
| Boyd County (part), KY | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Brooke; Follansbee area, WV | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Burlington Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.01 | 0.01 |
| Calaveras County, CA | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Campbell-Clermont Counties, KY-OH | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.01 | 0.02 | 0.02 | 0.03 |

Table A1-6
Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Direct and Indirect Impacts
Sulfur Dioxide (SO₂) 2025

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|---|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Canton-Massillon, OH | PM2.5 (2006 24-hour) | Maintenance, -- | 100 | 0 | 1.90 | 4.21 | 4.62 | 6.87 |
| Central New Hampshire, NH | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.05 | 0.12 | 0.13 | 0.20 |
| Central Steptoe Valley, NV | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Charleston, WV | PM2.5 (2006 24-hour) | Maintenance, -- | 100 | 0 | 0.09 | 0.20 | 0.22 | 0.34 |
| Charlotte Area, NC | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.30 | 0.71 | 0.76 | 1.19 |
| Charlotte-Rock Hill, NC-SC | Ozone (2008 8-hour) | Maintenance, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Chicago-Naperville, IL-IN-WI | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Chico (Butte County), CA | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Chico Area, CA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.02 | 0.05 | 0.05 | 0.08 |
| Chico, CA | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.05 | 0.11 | 0.12 | 0.18 |
| Cincinnati, OH-KY-IN | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Clark County; Las Vegas planning area, NV | PM10 (1987 24-hour) | Maintenance, Serious | 100 | 0 | 0.37 | 0.88 | 0.95 | 1.48 |
| Cleveland Area, OH | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 1.36 | 3.03 | 3.32 | 4.97 |
| Cleveland, OH | PM2.5 (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 1.43 | 3.19 | 3.49 | 5.24 |
| Cleveland-Akron-Lorain, OH | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Cleveland-Akron-Lorain, OH | PM2.5 (2006 24-hour) | Maintenance, -- | 100 | 0 | 1.78 | 4.01 | 4.37 | 6.62 |
| Cochise County; Paul Spur/Douglas planning area, AZ | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.01 | 0.02 | 0.02 | 0.04 |
| Colorado Springs Area, CO | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.13 | 0.30 | 0.32 | 0.50 |
| Columbus, OH | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Cook County; Lyons Township, IL | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.02 | 0.04 | 0.04 | 0.07 |
| Cook County; Southeast Chicago, IL | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.02 | 0.05 | 0.05 | 0.08 |
| Coshocton County; Franklin Township, OH | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Coso Junction, CA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Cuyahoga County (part), OH | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Cuyahoga County, OH | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 1.36 | 3.03 | 3.32 | 4.96 |

Appendix A Air Quality Non-Attainment Area Results

Table A1-6

Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Direct and Indirect Impacts

Sulfur Dioxide (SO₂) 2025

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Dallas-Fort Worth, TX | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Delaware County, PA | PM2.5 (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 43.10 | 95.17 | 104.42 | 155.01 |
| Denver-Boulder Area, CO | CO (1971 8-hour) | Maintenance, Serious | 100 | 0 | 3.11 | 6.95 | 7.60 | 11.40 |
| Denver-Boulder-Greeley-Ft Collins-Loveland, CO | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Detroit Area, MI | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 2.14 | 4.78 | 5.23 | 7.84 |
| Detroit, MI | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 1.82 | 4.03 | 4.42 | 6.57 |
| Detroit-Ann Arbor, MI | PM2.5 (2006 24-hour) | Maintenance, -- | 100 | 0 | 2.94 | 6.64 | 7.24 | 10.98 |
| Dona Ana County; Anthony, NM | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.01 | 0.01 | 0.01 |
| Douglas, AZ | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Dukes County, MA | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Duluth Area, MN | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.03 | 0.06 | 0.07 | 0.10 |
| East Chicago Area, IN | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 8.29 | 18.31 | 20.09 | 29.82 |
| East Helena Area, MT | SO ₂ (1971 24-hour/Annual) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| East Kern County Area, CA | PM10 (1987 24-hour) | Nonattainment, Serious | 70 | 0 | 2.04 | 4.50 | 4.94 | 7.33 |
| El Paso County, TX | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 1.19 | 2.65 | 2.90 | 4.32 |
| El Paso, TX | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 1.09 | 2.42 | 2.65 | 3.94 |
| Eugene-Springfield Area, OR | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.05 | 0.13 | 0.14 | 0.21 |
| Fairbanks Area, AK | CO (1971 8-hour) | Maintenance, Serious | 100 | 0 | 0.11 | 0.25 | 0.27 | 0.40 |
| Fairbanks, AK | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.12 | 0.26 | 0.28 | 0.42 |

Table A1-6
Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Direct and Indirect Impacts
Sulfur Dioxide (SO₂) 2025

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|---|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Flathead County; Columbia Falls and vicinity, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Flathead County; Kalispell and vicinity, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.01 | 0.02 | 0.02 | 0.03 |
| Flathead County; Whitefish and vicinity, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Fort Collins Area, CO | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.03 | 0.07 | 0.07 | 0.11 |
| Freehold Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.01 | 0.01 | 0.01 | 0.02 |
| Fremont County; Canon City Area, CO | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.01 | 0.02 | 0.02 | 0.04 |
| Fresno Area, CA | CO (1971 8-hour) | Maintenance, Moderate > 12.7ppm | 100 | 0 | 0.14 | 0.32 | 0.35 | 0.54 |
| Grants Pass Area, OR | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.01 | 0.02 | 0.03 | 0.04 |
| Great Falls Area, MT | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.11 | 0.24 | 0.26 | 0.39 |
| Greater Connecticut, CT | Ozone (2008 8-hour) | Nonattainment, Moderate | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Greeley Area, CO | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.11 | 0.26 | 0.29 | 0.44 |
| Hancock and Brooke Counties (Part); The city of Weirton, WV | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.02 | 0.05 | 0.05 | 0.08 |
| Hancock County (Part) The city of Weirton, including Butler and Clay: Magisterial Districts, WV | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Harrisburg-Lebanon-Carlisle-York, PA | PM2.5 (2006 24-hour) | Maintenance, Moderate | 100 | 0 | 0.30 | 0.71 | 0.77 | 1.20 |
| Hartford-New Britain-Middletown Area, CT | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.27 | 0.63 | 0.68 | 1.06 |
| Hayden, AZ | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Hayden, AZ | SO ₂ (1971 24-hour/Annual) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Hayden, AZ | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Hillsborough County, FL | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.01 | 0.01 | 0.01 |
| Houston-Galveston-Brazoria, TX | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Humphreys County; (part) TVA Johnsonville, TN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Imperial Co, CA | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.05 | 0.12 | 0.13 | 0.20 |

Appendix A Air Quality Non-Attainment Area Results

Table A1-6

Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Direct and Indirect Impacts

Sulfur Dioxide (SO₂) 2025

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Imperial County, CA | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Imperial County, CA | PM2.5 (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 0.05 | 0.12 | 0.13 | 0.20 |
| Imperial County; Imperial Valley planning area, CA | PM10 (1987 24-hour) | Nonattainment, Serious | 70 | 0 | 0.06 | 0.14 | 0.15 | 0.24 |
| Indian Wells, CA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 2.04 | 4.50 | 4.94 | 7.33 |
| Indiana, PA | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.02 | 0.05 | 0.06 | 0.09 |
| Indianapolis Area, IN | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Indianapolis, IN | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.12 | 0.27 | 0.29 | 0.46 |
| Inyo County; Owens Valley planning area, CA | PM10 (1987 24-hour) | Nonattainment, Serious | 70 | 0 | 0.00 | 0.00 | 0.00 | 0.01 |
| Jackson County, MO | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.01 | 0.03 | 0.03 | 0.05 |
| Jackson County; Medford-Ashland (including White City), OR | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.04 | 0.10 | 0.11 | 0.17 |
| Jamestown, NY | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Jefferson County, KY | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Jefferson County, MO | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.01 | 0.03 | 0.03 | 0.05 |
| Jefferson County; (part) Steubenville & Mingo Junction, OH | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Jefferson County; (part), OH | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Johnstown, PA | PM2.5 (2006 24-hour) | Maintenance, Moderate | 100 | 0 | 0.03 | 0.07 | 0.07 | 0.12 |
| Josephine County; Grants Pass, OR | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.01 | 0.02 | 0.03 | 0.04 |
| Juneau; Mendenhall Valley area, AK | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.01 | 0.01 |
| Kern County (Eastern Kern), CA | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| King County; Kent, WA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.01 | 0.01 | 0.01 | 0.02 |
| King County; Seattle, WA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.01 | 0.01 | 0.01 |
| Klamath County; Klamath Falls, OR | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.02 | 0.04 | 0.04 | 0.06 |
| Klamath Falls Area, OR | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.02 | 0.04 | 0.04 | 0.06 |
| Klamath Falls, OR | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.02 | 0.04 | 0.04 | 0.07 |

Table A1-6
Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Direct and Indirect Impacts
Sulfur Dioxide (SO₂) 2025

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Knoxville, TN | Ozone (2008 8-hour) | Maintenance, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Knoxville-Sevierville-La Follette, TN | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.24 | 0.55 | 0.60 | 0.93 |
| La Porte County: (part), IN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lake County (part); Lakeview, OR | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.01 |
| Lake County, OH | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.06 | 0.15 | 0.16 | 0.26 |
| Lake County: (part), IN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lake County; (part) Eastlake, Timberlake, Lakeline, Willoughby, Mentor, OH | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lake County; Cities of East Chicago, Hammond, Whiting, and Gary, IN | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 8.33 | 18.40 | 20.19 | 29.97 |
| Lake County; Polson, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lake County; Ronan, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lake Tahoe Nevada Area, NV | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.01 | 0.01 | 0.02 |
| Lake Tahoe North Shore Area, CA | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.01 | 0.01 | 0.01 |
| Lake Tahoe South Shore Area, CA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.01 | 0.02 | 0.02 | 0.03 |
| Lancaster, PA | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lancaster, PA | PM2.5 (2006 24-hour) | Maintenance, Moderate | 100 | 0 | 0.12 | 0.29 | 0.31 | 0.49 |
| Lane County (part); Oakridge, OR | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lane County; Eugene/Springfield, OR | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.05 | 0.13 | 0.14 | 0.21 |
| Las Vegas Area, NV | CO (1971 8-hour) | Maintenance, Serious | 100 | 0 | 0.37 | 0.88 | 0.95 | 1.48 |
| LaSalle County; Oglesby, IL | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.01 | 0.02 | 0.02 | 0.03 |
| Laurel Area, MT | SO ₂ (1971 24-hour/Annual) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lebanon County, PA | PM2.5 (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 0.04 | 0.10 | 0.11 | 0.17 |
| Lemont, IL | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 31.48 | 69.52 | 76.27 | 113.22 |
| Liberty-Clairton, PA | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.01 | 0.01 | 0.01 |

Appendix A Air Quality Non-Attainment Area Results

Table A1-6

Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Direct and Indirect Impacts

Sulfur Dioxide (SO₂) 2025

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Lincoln County; Libby and vicinity, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.01 |
| Logan, UT-ID | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.02 | 0.05 | 0.06 | 0.09 |
| Longmont Area, CO | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.02 | 0.04 | 0.04 | 0.07 |
| Lorain County (part), OH | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Los Angeles, CA | PM2.5 (2006 24-hour) | Nonattainment, Serious | 100 | 0 | 25.95 | 57.77 | 63.25 | 94.57 |
| Los Angeles-San Bernardino Counties (West Mojave Desert), CA | Ozone (2008 8-hour) | Nonattainment, Severe 15 | 25 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Los Angeles-South Coast Air Basin Area, CA | CO (1971 8-hour) | Maintenance, Serious | 100 | 0 | 25.95 | 57.78 | 63.26 | 94.58 |
| Los Angeles-South Coast Air Basin Area, CA | NO ₂ (1971 Annual) | Maintenance, -- | 100 | 0 | 25.95 | 57.78 | 63.26 | 94.58 |
| Los Angeles-South Coast Air Basin, CA | Ozone (2008 8-hour) | Nonattainment, Extreme | 10 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Los Angeles-South Coast Air Basin, CA | PM2.5 (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 25.94 | 57.76 | 63.24 | 94.56 |
| Lowell Area, MA | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.02 | 0.06 | 0.06 | 0.10 |
| Lucas County (part), OH | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Madison County; Granite City Township and Nameoki Township, IL | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 23.36 | 51.58 | 56.59 | 84.01 |
| Manchester Area, NH | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.02 | 0.05 | 0.05 | 0.08 |
| Maricopa and Pinal Counties; Phoenix planning area, AZ | PM10 (1987 24-hour) | Nonattainment, Serious | 70 | 0 | 0.86 | 2.02 | 2.18 | 3.40 |
| Marion County; Lawrence, Washington, and Warrant Townships, IN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Mariposa County, CA | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Marshall, WV | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 122.92 | 271.40 | 297.77 | 442.01 |
| Medford Area, OR | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.02 | 0.05 | 0.06 | 0.09 |
| Memphis Area, TN | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.69 | 1.55 | 1.69 | 2.55 |

Table A1-6
Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Direct and Indirect Impacts
Sulfur Dioxide (SO₂) 2025

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|---|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Memphis, TN-MS-AR | Ozone (2008 8-hour) | Nonattainment TN & Maintenance MS/AR, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Miami, AZ | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.01 | 0.01 | 0.01 |
| Miami, AZ | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Miami, AZ | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.01 | 0.01 | 0.01 |
| Milwaukee-Racine, WI | PM2.5 (2006 24-hour) | Maintenance, -- | 100 | 0 | 0.28 | 0.66 | 0.72 | 1.12 |
| Minneapolis-St. Paul Area, MN | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 3.31 | 7.42 | 8.11 | 12.18 |
| Missoula Area, MT | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.02 | 0.05 | 0.05 | 0.08 |
| Missoula county; Missoula and vicinity, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.02 | 0.05 | 0.05 | 0.08 |
| Modesto Area, CA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.05 | 0.11 | 0.12 | 0.19 |
| Mohave County (part); Bullhead City, AZ | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.02 | 0.05 | 0.06 | 0.09 |
| Mono County; Mammoth Lake planning area, CA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.01 | 0.02 | 0.02 | 0.03 |
| Mono County; Mono Basin, CA | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Morenci, AZ | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Morgan County, IN | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.01 | 0.02 | 0.02 | 0.03 |
| Morongo Band of Mission Indians | Ozone (2008 8-hour) | Nonattainment, Serious | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Morristown Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.01 | 0.02 | 0.02 | 0.04 |
| Muscatine County; (part), IA | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Muscatine, IA | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.01 | 0.01 | 0.02 |
| Muskingum River, OH | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.01 |
| Nashua Area, NH | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.02 | 0.04 | 0.05 | 0.07 |
| Nassau County, FL | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.01 |
| Nevada County (Western part), CA | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| New Haven County, CT | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.01 | 0.01 | 0.02 |

Appendix A Air Quality Non-Attainment Area Results

Table A1-6

Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Direct and Indirect Impacts

Sulfur Dioxide (SO₂) 2025

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| New Haven-Meriden-Waterbury Area, CT | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.20 | 0.48 | 0.52 | 0.81 |
| New Manchester-Grant magisterial district in Hancock County, WV | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| New York County, NY | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.13 | 0.32 | 0.34 | 0.53 |
| New York, NY-NJ-CT | PM2.5 (2006 24-hour) | Maintenance, -- | 100 | 0 | 6.82 | 15.56 | 16.94 | 25.86 |
| New York-N. New Jersey-Long Island Area, NY-NJ-CT | CO (1971 8-hour) | Maintenance, Moderate > 12.7ppm | 100 | 0 | 2.72 | 6.28 | 6.81 | 10.51 |
| New York-N. New Jersey-Long Island, NY-NJ-CT | Ozone (2008 8-hour) | Nonattainment, Moderate | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| NJ portion of the Northeast Pennsylvania-Upper Delaware Valley Interstate AQCR: (part), NJ | SO ₂ (1971 24-hour/Annual) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Nogales, AZ | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.01 | 0.03 | 0.03 | 0.04 |
| Oakridge, OR | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Ogden Area, UT | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.01 | 0.03 | 0.03 | 0.05 |
| Ogden Area, UT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.01 | 0.03 | 0.03 | 0.05 |
| Olmsted County; (part), MN | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.01 | 0.02 | 0.02 | 0.03 |
| Olmsted; City of Rochester, MN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |

Table A1-6
Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Direct and Indirect Impacts
Sulfur Dioxide (SO₂) 2025

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Pechanga Band of Luiseno Mission Indians of the Pechanga Reservation | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Pekin, IL | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.01 | 0.02 | 0.02 | 0.04 |
| Penns Grove Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Peoria County: Hollis Twp, IL | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Peoria County: Peoria, IL | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Perth Amboy Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 2.45 | 5.42 | 5.95 | 8.83 |
| Philadelphia-Camden County Area, PA-NJ | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 5.03 | 11.14 | 12.21 | 18.17 |
| Philadelphia-Wilmington, PA-NJ-DE | PM _{2.5} (2006 24-hour) | Maintenance, Moderate for PA and DE Subject to Former Subpart 1 for NJ | 100 | 0 | 52.00 | 114.96 | 126.09 | 187.35 |
| Philadelphia-Wilmington-Atlantic City, PA-NJ-MD-DE | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Phoenix Area, AZ | CO (1971 8-hour) | Maintenance, Serious | 100 | 0 | 0.82 | 1.93 | 2.09 | 3.26 |
| Phoenix-Mesa, AZ | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Pierce County; Tacoma, WA | PM ₁₀ (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Pima County; Ajo planning area, AZ | PM ₁₀ (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Pima County; Rillito planning area, AZ | PM ₁₀ (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.01 | 0.03 | 0.04 | 0.06 |
| Pinal and Gila Counties; Payson, AZ | PM ₁₀ (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.01 | 0.02 | 0.02 | 0.03 |
| Pinal County (part); West Pinal, AZ | PM ₁₀ (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.09 | 0.22 | 0.24 | 0.37 |
| Pitkin County; Aspen, CO | PM ₁₀ (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.01 | 0.01 | 0.02 | 0.02 |
| Pittsburgh Area, PA | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.05 | 0.11 | 0.12 | 0.18 |
| Pittsburgh-Beaver Valley, PA | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Pittsburgh-Beaver Valley, PA | PM _{2.5} (2006 24-hour) | Maintenance, Moderate | 100 | 0 | 1.87 | 4.19 | 4.59 | 6.89 |
| Plumas County, CA | PM _{2.5} (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.01 |
| Polk County, TN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |

Appendix A Air Quality Non-Attainment Area Results

Table A1-6

Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Direct and Indirect Impacts

Sulfur Dioxide (SO₂) 2025

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|-------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Portland Area: Portland Metro Service District Boundary, OR | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.28 | 0.66 | 0.72 | 1.12 |
| Power-Bannock Counties; Fort Hall Indian Reservation, ID | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Power-Bannock Counties; Portneuf Valley Area, ID | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.02 | 0.05 | 0.05 | 0.08 |
| Provo Area, UT | CO (1971 8-hour) | Maintenance, Moderate > 12.7ppm | 100 | 0 | 0.02 | 0.04 | 0.04 | 0.07 |
| Provo, UT | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.09 | 0.22 | 0.24 | 0.37 |
| Prowers County; Lamar, CO | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.01 | 0.01 | 0.02 |
| Raleigh-Durham Area, NC | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.33 | 0.76 | 0.82 | 1.29 |
| Ramsey County; (part), MN | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Reading, PA | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Reno Area, NV | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.08 | 0.18 | 0.20 | 0.31 |
| Rhinelander, WI | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.01 | 0.02 | 0.02 | 0.03 |
| Riverside County (Coachella Valley), CA | Ozone (2008 8-hour) | Nonattainment, Severe 15 | 25 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Riverside County; Coachella Valley planning area, CA | PM10 (1987 24-hour) | Nonattainment, Serious | 70 | 0 | 0.12 | 0.29 | 0.32 | 0.49 |
| Riverside, Los Angeles, Orange, and San Bernardino Counties; South Coast Air Basin, CA | PM10 (1987 24-hour) | Maintenance, Serious | 100 | 0 | 25.93 | 57.73 | 63.21 | 94.51 |
| Rosebud County; Lame Deer, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.01 | 0.01 | 0.01 |
| Routt County (part); Steamboat Springs, CO | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.01 | 0.02 | 0.02 | 0.03 |
| Sacramento Area, CA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.32 | 0.74 | 0.80 | 1.25 |
| Sacramento County, CA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.29 | 0.68 | 0.74 | 1.15 |
| Sacramento Metro, CA | Ozone (2008 8-hour) | Nonattainment, Severe 15 | 25 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Sacramento, CA | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 24.13 | 53.36 | 58.52 | 86.97 |
| Salem Area, OR | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.06 | 0.14 | 0.15 | 0.23 |
| Salt Lake City Area, UT | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 16.33 | 36.06 | 39.57 | 58.74 |
| Salt Lake City, UT | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 19.38 | 42.84 | 46.98 | 69.81 |

Table A1-6
Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Direct and Indirect Impacts
Sulfur Dioxide (SO₂) 2025

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|---|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Salt Lake County, UT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 16.51 | 36.49 | 40.03 | 59.46 |
| Salt Lake County, UT | SO ₂ (1971 24-hour/Annual) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| San Bernardino County (part); excluding Searles Valley Planning area and South Coast Air Basin, CA | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.14 | 0.34 | 0.36 | 0.57 |
| San Diego Area, CA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.79 | 1.85 | 2.00 | 3.11 |
| San Diego County, CA | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| San Francisco Bay Area, CA | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| San Francisco Bay Area, CA | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 34.06 | 75.42 | 82.69 | 123.04 |
| San Francisco-Oakland-San Jose Area, CA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 33.93 | 75.11 | 82.36 | 122.52 |
| San Joaquin Valley Air Basin; Fresno, Kern, Kings, Madera, Merced, San Joaquin, Stanislaus, Tulare Counties, CA | PM10 (1987 24-hour) | Maintenance, Serious | 100 | 0 | 3.08 | 6.93 | 7.56 | 11.43 |
| San Joaquin Valley, CA | Ozone (2008 8-hour) | Nonattainment, Extreme | 10 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| San Joaquin Valley, CA | PM2.5 (2006 24-hour) | Nonattainment, Serious | 100 | 0 | 3.08 | 6.93 | 7.56 | 11.43 |
| San Joaquin Valley, CA | PM2.5 (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 3.08 | 6.93 | 7.56 | 11.43 |
| San Luis Obispo (Eastern San Luis Obispo), CA | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| San Manuel, AZ | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| San Miguel County; Telluride, CO | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.01 | 0.01 | 0.01 |
| Sanders County (part); Thompson Falls and vicinity, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Santa Cruz County; Nogales planning area, AZ | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.01 | 0.03 | 0.03 | 0.04 |
| Seaford, DE | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Seattle-Tacoma Area, WA | CO (1971 8-hour) | Maintenance, Moderate > 12.7ppm | 100 | 0 | 0.65 | 1.52 | 1.64 | 2.56 |
| Seattle-Tacoma, WA | PM2.5 (2006 24-hour) | Maintenance, Moderate | 100 | 0 | 0.11 | 0.25 | 0.27 | 0.41 |
| Sheboygan County, WI | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |

Appendix A Air Quality Non-Attainment Area Results

Table A1-6

Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Direct and Indirect Impacts

Sulfur Dioxide (SO₂) 2025

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|---|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Sheridan County; City of Sheridan, WY | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.01 | 0.01 | 0.02 | 0.02 |
| Shoshone County (part); excluding Pinehurst, ID | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.01 | 0.02 | 0.03 | 0.04 |
| Shoshone County; City of Pinehurst, ID | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Silver Bow County; Butte, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.01 | 0.02 | 0.02 | 0.04 |
| Somerville Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.01 | 0.01 | 0.02 |
| Southwest Indiana, IN | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.01 | 0.01 | 0.01 |
| Spokane Area, WA | CO (1971 8-hour) | Maintenance, Serious | 100 | 0 | 0.07 | 0.16 | 0.17 | 0.27 |
| Spokane County; (part), WA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.07 | 0.17 | 0.18 | 0.28 |
| Springfield Area, MA | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.04 | 0.09 | 0.10 | 0.15 |
| St. Bernard Parish, LA | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 4.20 | 9.27 | 10.17 | 15.10 |
| St. Louis Area, MO | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.21 | 0.49 | 0.52 | 0.82 |
| St. Louis-St. Charles-Farmington, MO-IL | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Steubenville, OH-WV | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.02 | 0.04 | 0.04 | 0.06 |
| Steubenville-Weirton, OH-WV | PM2.5 (2006 24-hour) | Maintenance, -- | 100 | 0 | 0.05 | 0.11 | 0.12 | 0.18 |
| Stockton Area, CA | CO (1971 8-hour) | Maintenance, Moderate ≤ 12.7ppm | 100 | 0 | 0.09 | 0.21 | 0.23 | 0.36 |
| Sullivan County, TN | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.22 | 0.49 | 0.54 | 0.80 |
| Syracuse Area; Onondaga County, NY | CO (1971 8-hour) | Maintenance, Moderate ≤ 12.7ppm | 100 | 0 | 0.13 | 0.30 | 0.32 | 0.50 |
| Tazewell County; Groveland Twp, IL | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Terre Haute, IN | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.01 | 0.03 | 0.03 | 0.05 |

Table A1-6
Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Direct and Indirect Impacts
Sulfur Dioxide (SO₂) 2025

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|---|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Thurston County; Cities of Olympia, Tumwater, and Lacey, WA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.02 | 0.06 | 0.06 | 0.09 |
| Toms River Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Tooele County (part), UT | SO ₂ (1971 24-hour/Annual) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Trenton Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.02 | 0.05 | 0.05 | 0.08 |
| Trona, CA | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Tucson Area, AZ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.20 | 0.47 | 0.50 | 0.79 |
| Tuscan Buttes, CA | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Union County; LaGrande, OR | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.01 | 0.02 | 0.02 | 0.03 |
| Upper Green River Basin Area, WY | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Utah County, UT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.09 | 0.22 | 0.24 | 0.37 |
| Vancouver Area: Clark County (part), WA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.06 | 0.15 | 0.16 | 0.25 |
| Ventura County, CA | Ozone (2008 8-hour) | Nonattainment, Serious | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Vermillion County; Part of Clinton Township, IN | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.01 | 0.01 | 0.02 |
| Vigo County, IN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Walla Walla County; Wallula, WA | PM10 (1987 24-hour) | Maintenance, Serious | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Waltham Area, MA | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.01 | 0.03 | 0.03 | 0.05 |
| Warren County: Conewago Twp, PA | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Warren County: Warren Boro, Pleasant Twp, Glade Twp, PA | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Warren, PA | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 20.04 | 44.25 | 48.55 | 72.06 |
| Washington Area, DC-MD-VA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.15 | 0.36 | 0.39 | 0.61 |
| Washington, DC-MD-VA | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Washoe County; Reno planning area, NV | PM10 (1987 24-hour) | Nonattainment, Serious | 70 | 0 | 0.08 | 0.18 | 0.20 | 0.30 |

Appendix A Air Quality Non-Attainment Area Results

Table A1-6

Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Direct and Indirect Impacts

Sulfur Dioxide (SO₂) 2025

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|---|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Wayne County: Boston, Center, Franklin, Wayne & Webster Townships, IN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Wayne County; (part), MI | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 1.77 | 3.91 | 4.29 | 6.37 |
| West Central Pinal County, AZ | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.02 | 0.05 | 0.05 | 0.08 |
| West Silver Valley, ID | PM2.5 (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 0.01 | 0.01 | 0.01 | 0.02 |
| Winston-Salem Area, NC | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.09 | 0.20 | 0.22 | 0.34 |
| Worcester Area, MA | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.05 | 0.12 | 0.13 | 0.21 |
| Yakima Area, WA | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.01 | 0.02 | 0.02 | 0.04 |
| Yakima County; (part), WA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.03 | 0.06 | 0.07 | 0.11 |
| Yuba City-Marysville, CA | PM2.5 (2006 24-hour) | Maintenance, Moderate | 100 | 0 | 0.04 | 0.10 | 0.11 | 0.18 |
| Yuma County; Yuma planning area, AZ | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.04 | 0.09 | 0.10 | 0.15 |

^a Reductions are shown as positive values. Negative values are emissions increases. Values of less than 0.005 tons per year are rounded to zero.

^b Nonattainment or maintenance status as of 5/13/2016. Source: U.S. EPA, The Green Book Nonattainment Areas for Criteria Pollutants; <http://www.epa.gov/airquality/greenbook/>. "--" indicates that no severity classification has been established for the NAAQS pollutant.

^c Emissions thresholds in tons per year. Where the threshold differs by precursor pollutant, the smallest of the precursor thresholds is shown. These thresholds are provided for information only; a general conformity determination is not required for the Proposed Action. Source: 40 CFR 93.853.

Notes: CO = carbon monoxide; NAAQS =National Ambient Air Quality Standards; NO₂ = nitrogen dioxide; PM = particulate matter; SO₂ = sulfur dioxide

Table A1-7
Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Direct and Indirect Impacts
Sulfur Dioxide (SO₂) 2040

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Ada County; Boise, ID | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.24 | 0.73 | 0.59 | 0.87 |
| Adams, Denver, and Boulder Counties; Denver Metropolitan area, CO | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 1.18 | 3.52 | 2.85 | 4.20 |
| Ajo, AZ | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Albuquerque Area, NM | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.53 | 1.57 | 1.28 | 1.88 |
| Allegheny County Air Basin: Hazelwood monitor, PA | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Allegheny County, PA | PM2.5 (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 0.64 | 1.92 | 1.55 | 2.29 |
| Allegheny County; The area including Liberty, Lincoln, Port Vue, and Glassport Boroughs and the City of Clairton, PA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.01 | 0.02 | 0.02 | 0.02 |
| Allegheny, PA | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.04 | 0.13 | 0.10 | 0.15 |
| Allentown, PA | PM2.5 (2006 24-hour) | Maintenance, Moderate | 100 | 0 | 0.43 | 1.30 | 1.05 | 1.55 |
| Allentown-Bethlehem-Easton, PA | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Anchorage Area, AK | CO (1971 8-hour) | Maintenance, Serious | 100 | 0 | 0.08 | 0.25 | 0.20 | 0.30 |
| Anchorage; Eagle River, AK | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.01 | 0.01 | 0.02 |
| AQCR 012: Portions of Grant County, NM | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| AQCR 109-Millinocket, ME | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| AQCR 131: Anoka, Carver, Dakota, Hennepin, Ramsey, Scott, and Washington counties (Minneapolis-St. Paul), MN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| AQCR 237: Brown County: Green Bay sub-city area, WI | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| AQCR 238: Marathon County: Rothschild Sub-city area, Rib Mountain, Weston, WI | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| AQCR 238: Oneida County: Rhinelander Sub-city area, WI | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| AQCR 239: Milwaukee County: Milwaukee sub-city area, WI | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |

Appendix A Air Quality Non-Attainment Area Results

Table A1-7

Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Direct and Indirect Impacts

Sulfur Dioxide (SO₂) 2040

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| AQCR 240: Dane County: Madison sub-city area, WI | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Archuleta County; Pagosa Springs, CO | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.02 | 0.05 | 0.04 | 0.07 |
| Armstrong County: Madison Twp, Mahoning Twp, Boggs Twp, Washington Twp, Pine Twp, PA | SO ₂ (1971 24-hour/Annual) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Aroostock County; City of Presque Isle, ME | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.01 | 0.04 | 0.03 | 0.04 |
| Atlanta, GA | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Atlantic City Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.04 | 0.13 | 0.10 | 0.15 |
| Bakersfield Area, CA | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 6.56 | 18.77 | 15.62 | 22.53 |
| Baltimore Area, MD | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.01 | 0.03 | 0.02 | 0.03 |
| Baltimore, MD | Ozone (2008 8-hour) | Nonattainment, Moderate | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Baton Rouge, LA | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Beaver, PA | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.01 | 0.04 | 0.03 | 0.04 |
| Benton County; (part) TVA Johnsonville, TN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Billings Area, MT | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 59.01 | 168.28 | 140.31 | 202.15 |
| Billings, MT | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 58.94 | 168.08 | 140.15 | 201.92 |
| Birmingham, AL | PM2.5 (2006 24-hour) | Maintenance, -- | 100 | 0 | 1.05 | 3.12 | 2.53 | 3.72 |
| Boise-Northern Ada County Area, ID | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.24 | 0.73 | 0.59 | 0.87 |
| Bonner County; The Sandpoint Area, ID | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.01 | 0.03 | 0.02 | 0.03 |
| Boston Area, MA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 2.06 | 5.96 | 4.93 | 7.15 |
| Boyd County (part), KY | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Brooke; Follansbee area, WV | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Burlington Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.01 | 0.02 | 0.01 | 0.02 |
| Calaveras County, CA | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Campbell-Clermont Counties, KY-OH | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.03 | 0.09 | 0.07 | 0.10 |

Table A1-7
Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Direct and Indirect Impacts
Sulfur Dioxide (SO₂) 2040

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|---|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Canton-Massillon, OH | PM2.5 (2006 24-hour) | Maintenance, -- | 100 | 0 | 5.80 | 16.59 | 13.81 | 19.92 |
| Central New Hampshire, NH | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.17 | 0.51 | 0.41 | 0.60 |
| Central Steptoe Valley, NV | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Charleston, WV | PM2.5 (2006 24-hour) | Maintenance, -- | 100 | 0 | 0.29 | 0.85 | 0.69 | 1.02 |
| Charlotte Area, NC | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.99 | 2.95 | 2.39 | 3.52 |
| Charlotte-Rock Hill, NC-SC | Ozone (2008 8-hour) | Maintenance, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Chicago-Naperville, IL-IN-WI | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Chico (Butte County), CA | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Chico Area, CA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.07 | 0.22 | 0.18 | 0.26 |
| Chico, CA | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.15 | 0.45 | 0.37 | 0.54 |
| Cincinnati, OH-KY-IN | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Clark County; Las Vegas planning area, NV | PM10 (1987 24-hour) | Maintenance, Serious | 100 | 0 | 1.23 | 3.68 | 2.98 | 4.39 |
| Cleveland Area, OH | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 4.19 | 12.04 | 9.98 | 14.44 |
| Cleveland, OH | PM2.5 (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 4.41 | 12.71 | 10.53 | 15.24 |
| Cleveland-Akron-Lorain, OH | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Cleveland-Akron-Lorain, OH | PM2.5 (2006 24-hour) | Maintenance, -- | 100 | 0 | 5.56 | 16.13 | 13.29 | 19.32 |
| Cochise County; Paul Spur/Douglas planning area, AZ | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.03 | 0.09 | 0.08 | 0.11 |
| Colorado Springs Area, CO | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.42 | 1.26 | 1.02 | 1.50 |
| Columbus, OH | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Cook County; Lyons Township, IL | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.06 | 0.17 | 0.13 | 0.20 |
| Cook County; Southeast Chicago, IL | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.06 | 0.18 | 0.15 | 0.21 |
| Coshocton County; Franklin Township, OH | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Coso Junction, CA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Cuyahoga County (part), OH | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Cuyahoga County, OH | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 4.18 | 12.03 | 9.97 | 14.43 |

Appendix A Air Quality Non-Attainment Area Results

Table A1-7

Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Direct and Indirect Impacts

Sulfur Dioxide (SO₂) 2040

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Dallas-Fort Worth, TX | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Delaware County, PA | PM2.5 (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 131.00 | 373.60 | 311.49 | 448.81 |
| Denver-Boulder Area, CO | CO (1971 8-hour) | Maintenance, Serious | 100 | 0 | 9.60 | 27.64 | 22.90 | 33.15 |
| Denver-Boulder-Greeley-Ft Collins-Loveland, CO | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Detroit Area, MI | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 6.47 | 18.59 | 15.42 | 22.31 |
| Detroit, MI | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 5.60 | 15.99 | 13.32 | 19.21 |
| Detroit-Ann Arbor, MI | PM2.5 (2006 24-hour) | Maintenance, -- | 100 | 0 | 9.21 | 26.79 | 22.05 | 32.08 |
| Dona Ana County; Anthony, NM | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.01 | 0.03 | 0.02 | 0.03 |
| Douglas, AZ | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Dukes County, MA | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Duluth Area, MN | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.10 | 0.29 | 0.23 | 0.34 |
| East Chicago Area, IN | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 25.20 | 71.87 | 59.92 | 86.34 |
| East Helena Area, MT | SO ₂ (1971 24-hour/Annual) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| East Kern County Area, CA | PM10 (1987 24-hour) | Nonattainment, Serious | 70 | 0 | 6.19 | 17.65 | 14.71 | 21.20 |
| El Paso County, TX | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 3.64 | 10.41 | 8.66 | 12.50 |
| El Paso, TX | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 3.32 | 9.48 | 7.91 | 11.39 |
| Eugene-Springfield Area, OR | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.18 | 0.54 | 0.44 | 0.65 |
| Fairbanks Area, AK | CO (1971 8-hour) | Maintenance, Serious | 100 | 0 | 0.34 | 0.96 | 0.80 | 1.16 |
| Fairbanks, AK | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.36 | 1.02 | 0.85 | 1.22 |

Table A1-7

Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Direct and Indirect Impacts

Sulfur Dioxide (SO₂) 2040

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|---|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Flathead County; Columbia Falls and vicinity, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Flathead County; Kalispell and vicinity, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.03 | 0.09 | 0.07 | 0.10 |
| Flathead County; Whitefish and vicinity, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.01 | 0.01 | 0.01 |
| Fort Collins Area, CO | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.09 | 0.27 | 0.22 | 0.33 |
| Freehold Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.02 | 0.06 | 0.05 | 0.07 |
| Fremont County; Canon City Area, CO | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.03 | 0.09 | 0.07 | 0.11 |
| Fresno Area, CA | CO (1971 8-hour) | Maintenance, Moderate > 12.7ppm | 100 | 0 | 0.44 | 1.31 | 1.06 | 1.57 |
| Grants Pass Area, OR | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.04 | 0.11 | 0.09 | 0.13 |
| Great Falls Area, MT | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.33 | 0.94 | 0.78 | 1.13 |
| Greater Connecticut, CT | Ozone (2008 8-hour) | Nonattainment, Moderate | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Greeley Area, CO | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.37 | 1.09 | 0.88 | 1.30 |
| Hancock and Brooke Counties (Part); The city of Weirton, WV | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.07 | 0.19 | 0.16 | 0.23 |
| Hancock County (Part) The city of Weirton, including Butler and Clay: Magisterial Districts, WV | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Harrisburg-Lebanon-Carlisle-York, PA | PM2.5 (2006 24-hour) | Maintenance, Moderate | 100 | 0 | 1.00 | 2.98 | 2.41 | 3.55 |
| Hartford-New Britain-Middletown Area, CT | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.88 | 2.63 | 2.13 | 3.13 |
| Hayden, AZ | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.01 | 0.00 | 0.01 |
| Hayden, AZ | SO ₂ (1971 24-hour/Annual) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Hayden, AZ | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.01 | 0.00 | 0.01 |
| Hillsborough County, FL | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.01 | 0.04 | 0.03 | 0.04 |
| Houston-Galveston-Brazoria, TX | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Humphreys County; (part) TVA Johnsonville, TN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Imperial Co, CA | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.16 | 0.49 | 0.40 | 0.59 |

Appendix A Air Quality Non-Attainment Area Results

Table A1-7

Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Direct and Indirect Impacts

Sulfur Dioxide (SO₂) 2040

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Imperial County, CA | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Imperial County, CA | PM2.5 (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 0.16 | 0.49 | 0.40 | 0.59 |
| Imperial County; Imperial Valley planning area, CA | PM10 (1987 24-hour) | Nonattainment, Serious | 70 | 0 | 0.20 | 0.59 | 0.48 | 0.71 |
| Indian Wells, CA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 6.19 | 17.64 | 14.71 | 21.20 |
| Indiana, PA | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.07 | 0.22 | 0.18 | 0.26 |
| Indianapolis Area, IN | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Indianapolis, IN | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.37 | 1.09 | 0.89 | 1.30 |
| Inyo County; Owens Valley planning area, CA | PM10 (1987 24-hour) | Nonattainment, Serious | 70 | 0 | 0.01 | 0.02 | 0.02 | 0.02 |
| Jackson County, MO | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.04 | 0.13 | 0.10 | 0.15 |
| Jackson County; Medford-Ashland (including White City), OR | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.15 | 0.45 | 0.36 | 0.53 |
| Jamestown, NY | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Jefferson County, KY | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Jefferson County, MO | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.04 | 0.12 | 0.10 | 0.15 |
| Jefferson County; (part) Steubenville & Mingo Junction, OH | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Jefferson County; (part), OH | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.01 | 0.01 | 0.01 |
| Johnstown, PA | PM2.5 (2006 24-hour) | Maintenance, Moderate | 100 | 0 | 0.10 | 0.29 | 0.23 | 0.34 |
| Josephine County; Grants Pass, OR | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.04 | 0.11 | 0.09 | 0.13 |
| Juneau; Mendenhall Valley area, AK | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.01 | 0.02 | 0.02 | 0.02 |
| Kern County (Eastern Kern), CA | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| King County; Kent, WA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.02 | 0.06 | 0.04 | 0.07 |
| King County; Seattle, WA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.01 | 0.02 | 0.02 | 0.02 |
| Klamath County; Klamath Falls, OR | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.06 | 0.18 | 0.15 | 0.22 |
| Klamath Falls Area, OR | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.06 | 0.18 | 0.15 | 0.22 |
| Klamath Falls, OR | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.07 | 0.20 | 0.16 | 0.24 |

Table A1-7
Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Direct and Indirect Impacts
Sulfur Dioxide (SO₂) 2040

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Knoxville, TN | Ozone (2008 8-hour) | Maintenance, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Knoxville-Sevierville-La Follette, TN | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.78 | 2.31 | 1.87 | 2.76 |
| La Porte County: (part), IN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lake County (part); Lakeview, OR | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.01 | 0.02 | 0.01 | 0.02 |
| Lake County, OH | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.21 | 0.63 | 0.51 | 0.75 |
| Lake County: (part), IN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lake County; (part) Eastlake, Timberlake, Lakeline, Willoughby, Mentor, OH | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lake County; Cities of East Chicago, Hammond, Whiting, and Gary, IN | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 25.31 | 72.20 | 60.19 | 86.73 |
| Lake County; Polson, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.01 |
| Lake County; Ronan, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lake Tahoe Nevada Area, NV | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.01 | 0.04 | 0.03 | 0.04 |
| Lake Tahoe North Shore Area, CA | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.01 | 0.02 | 0.02 | 0.02 |
| Lake Tahoe South Shore Area, CA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.02 | 0.05 | 0.04 | 0.06 |
| Lancaster, PA | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lancaster, PA | PM2.5 (2006 24-hour) | Maintenance, Moderate | 100 | 0 | 0.41 | 1.21 | 0.98 | 1.45 |
| Lane County (part); Oakridge, OR | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lane County; Eugene/Springfield, OR | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.18 | 0.54 | 0.44 | 0.65 |
| Las Vegas Area, NV | CO (1971 8-hour) | Maintenance, Serious | 100 | 0 | 1.23 | 3.67 | 2.97 | 4.38 |
| LaSalle County; Oglesby, IL | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.03 | 0.08 | 0.07 | 0.10 |
| Laurel Area, MT | SO ₂ (1971 24-hour/Annual) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lebanon County, PA | PM2.5 (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 0.14 | 0.42 | 0.34 | 0.50 |
| Lemont, IL | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 95.69 | 272.88 | 227.52 | 327.81 |
| Liberty-Clairton, PA | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.01 | 0.02 | 0.02 | 0.02 |

Appendix A Air Quality Non-Attainment Area Results

Table A1-7

Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Direct and Indirect Impacts

Sulfur Dioxide (SO₂) 2040

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|---------------------------------------|--|---|---|--------|--------------------|--------|----------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Lincoln County; Libby and vicinity, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.01 | 0.01 | 0.01 |
| Logan, UT-ID | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.07 | 0.21 | 0.17 | 0.26 |
| Longmont Area, CO | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.06 | 0.18 | 0.14 | 0.21 |
| Lorain County (part), OH | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Los Angeles, CA | PM2.5 (2006 24-hour) | Nonattainment, Serious | 100 | 0 | 79.78 | 229.05 | 190.12 | 274.85 |
| Los Angeles-San Bernardino Counties (West Mojave Desert), CA | Ozone (2008 8-hour) | Nonattainment, Severe 15 | 25 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Los Angeles-South Coast Air Basin Area, CA | CO (1971 8-hour) | Maintenance, Serious | 100 | 0 | 79.78 | 229.06 | 190.14 | 274.88 |
| Los Angeles-South Coast Air Basin Area, CA | NO ₂ (1971 Annual) | Maintenance, -- | 100 | 0 | 79.78 | 229.07 | 190.14 | 274.88 |
| Los Angeles-South Coast Air Basin, CA | Ozone (2008 8-hour) | Nonattainment, Extreme | 10 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Los Angeles-South Coast Air Basin, CA | PM2.5 (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 79.76 | 229.00 | 190.08 | 274.79 |
| Lowell Area, MA | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.08 | 0.24 | 0.20 | 0.29 |
| Lucas County (part), OH | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Madison County; Granite City Township and Nameoki Township, IL | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 71.00 | 202.46 | 168.81 | 243.22 |
| Manchester Area, NH | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.07 | 0.20 | 0.16 | 0.23 |
| Maricopa and Pinal Counties; Phoenix planning area, AZ | PM10 (1987 24-hour) | Nonattainment, Serious | 70 | 0 | 2.82 | 8.43 | 6.82 | 10.05 |
| Marion County; Lawrence, Washington, and Warrant Townships, IN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Mariposa County, CA | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Marshall, WV | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 373.57 | 1,065.26 | 888.23 | 1,279.72 |
| Medford Area, OR | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.08 | 0.24 | 0.19 | 0.28 |
| Memphis Area, TN | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 2.14 | 6.20 | 5.12 | 7.43 |

Table A1-7
Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Direct and Indirect Impacts
Sulfur Dioxide (SO₂) 2040

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|---|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Memphis, TN-MS-AR | Ozone (2008 8-hour) | Nonattainment TN & Maintenance MS/AR, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Miami, AZ | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.01 | 0.02 | 0.02 | 0.02 |
| Miami, AZ | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Miami, AZ | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.01 | 0.02 | 0.02 | 0.02 |
| Milwaukee-Racine, WI | PM2.5 (2006 24-hour) | Maintenance, -- | 100 | 0 | 0.93 | 2.78 | 2.25 | 3.31 |
| Minneapolis-St. Paul Area, MN | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 10.26 | 29.56 | 24.48 | 35.45 |
| Missoula Area, MT | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.07 | 0.21 | 0.17 | 0.25 |
| Missoula county; Missoula and vicinity, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.07 | 0.20 | 0.16 | 0.24 |
| Modesto Area, CA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.15 | 0.45 | 0.36 | 0.53 |
| Mohave County (part); Bullhead City, AZ | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.08 | 0.23 | 0.19 | 0.28 |
| Mono County; Mammoth Lake planning area, CA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.03 | 0.08 | 0.07 | 0.10 |
| Mono County; Mono Basin, CA | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Morenci, AZ | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Morgan County, IN | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.03 | 0.08 | 0.06 | 0.09 |
| Morongo Band of Mission Indians | Ozone (2008 8-hour) | Nonattainment, Serious | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Morristown Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.03 | 0.10 | 0.08 | 0.12 |
| Muscatine County; (part), IA | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Muscatine, IA | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.02 | 0.05 | 0.04 | 0.06 |
| Muskingum River, OH | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.01 | 0.02 | 0.02 | 0.02 |
| Nashua Area, NH | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.06 | 0.18 | 0.15 | 0.22 |
| Nassau County, FL | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.01 | 0.01 | 0.01 |
| Nevada County (Western part), CA | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| New Haven County, CT | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.01 | 0.04 | 0.04 | 0.05 |

Appendix A Air Quality Non-Attainment Area Results

Table A1-7

Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Direct and Indirect Impacts

Sulfur Dioxide (SO₂) 2040

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| New Haven-Meriden-Waterbury Area, CT | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.67 | 2.00 | 1.62 | 2.39 |
| New Manchester-Grant magisterial district in Hancock County, WV | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| New York County, NY | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.44 | 1.32 | 1.07 | 1.57 |
| New York, NY-NJ-CT | PM2.5 (2006 24-hour) | Maintenance, -- | 100 | 0 | 21.65 | 63.38 | 51.94 | 75.82 |
| New York-N. New Jersey-Long Island Area, NY-NJ-CT | CO (1971 8-hour) | Maintenance, Moderate > 12.7ppm | 100 | 0 | 8.78 | 25.94 | 21.13 | 30.99 |
| New York-N. New Jersey-Long Island, NY-NJ-CT | Ozone (2008 8-hour) | Nonattainment, Moderate | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| NJ portion of the Northeast Pennsylvania-Upper Delaware Valley Interstate AQCR: (part), NJ | SO ₂ (1971 24-hour/Annual) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Nogales, AZ | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.04 | 0.11 | 0.09 | 0.13 |
| Oakridge, OR | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Ogden Area, UT | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.04 | 0.13 | 0.10 | 0.15 |
| Ogden Area, UT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.04 | 0.13 | 0.10 | 0.15 |
| Olmsted County; (part), MN | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.02 | 0.06 | 0.05 | 0.07 |
| Olmsted; City of Rochester, MN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |

Table A1-7
Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Direct and Indirect Impacts
Sulfur Dioxide (SO₂) 2040

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Pechanga Band of Luiseno Mission Indians of the Pechanga Reservation | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Pekin, IL | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.03 | 0.09 | 0.08 | 0.11 |
| Penns Grove Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Peoria County: Hollis Twp, IL | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Peoria County: Peoria, IL | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Perth Amboy Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 7.48 | 21.33 | 17.78 | 25.62 |
| Philadelphia-Camden County Area, PA-NJ | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 15.35 | 43.86 | 36.52 | 52.67 |
| Philadelphia-Wilmington, PA-NJ-DE | PM _{2.5} (2006 24-hour) | Maintenance, Moderate for PA and DE Subject to Former Subpart 1 for NJ | 100 | 0 | 158.29 | 451.81 | 376.48 | 542.68 |
| Philadelphia-Wilmington-Atlantic City, PA-NJ-MD-DE | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Phoenix Area, AZ | CO (1971 8-hour) | Maintenance, Serious | 100 | 0 | 2.70 | 8.06 | 6.52 | 9.61 |
| Phoenix-Mesa, AZ | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Pierce County; Tacoma, WA | PM ₁₀ (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Pima County; Ajo planning area, AZ | PM ₁₀ (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Pima County; Rillito planning area, AZ | PM ₁₀ (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.05 | 0.15 | 0.12 | 0.18 |
| Pinal and Gila Counties; Payson, AZ | PM ₁₀ (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.02 | 0.07 | 0.06 | 0.09 |
| Pinal County (part); West Pinal, AZ | PM ₁₀ (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.32 | 0.96 | 0.77 | 1.14 |
| Pitkin County; Aspen, CO | PM ₁₀ (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.02 | 0.06 | 0.05 | 0.07 |
| Pittsburgh Area, PA | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.14 | 0.42 | 0.34 | 0.50 |
| Pittsburgh-Beaver Valley, PA | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Pittsburgh-Beaver Valley, PA | PM _{2.5} (2006 24-hour) | Maintenance, Moderate | 100 | 0 | 5.80 | 16.72 | 13.84 | 20.05 |
| Plumas County, CA | PM _{2.5} (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Polk County, TN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |

Appendix A Air Quality Non-Attainment Area Results

Table A1-7

Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Direct and Indirect Impacts

Sulfur Dioxide (SO₂) 2040

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|-------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Portland Area: Portland Metro Service District Boundary, OR | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.93 | 2.78 | 2.25 | 3.31 |
| Power-Bannock Counties; Fort Hall Indian Reservation, ID | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Power-Bannock Counties; Portneuf Valley Area, ID | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.07 | 0.22 | 0.18 | 0.26 |
| Provo Area, UT | CO (1971 8-hour) | Maintenance, Moderate > 12.7ppm | 100 | 0 | 0.05 | 0.16 | 0.13 | 0.19 |
| Provo, UT | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.31 | 0.92 | 0.74 | 1.09 |
| Prowers County; Lamar, CO | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Raleigh-Durham Area, NC | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 1.07 | 3.19 | 2.58 | 3.80 |
| Ramsey County; (part), MN | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.01 | 0.01 | 0.01 |
| Reading, PA | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Reno Area, NV | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.25 | 0.74 | 0.60 | 0.88 |
| Rhinelander, WI | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.03 | 0.10 | 0.08 | 0.12 |
| Riverside County (Coachella Valley), CA | Ozone (2008 8-hour) | Nonattainment, Severe 15 | 25 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Riverside County; Coachella Valley planning area, CA | PM10 (1987 24-hour) | Nonattainment, Serious | 70 | 0 | 0.39 | 1.18 | 0.95 | 1.40 |
| Riverside, Los Angeles, Orange, and San Bernardino Counties; South Coast Air Basin, CA | PM10 (1987 24-hour) | Maintenance, Serious | 100 | 0 | 79.73 | 228.90 | 190.00 | 274.68 |
| Rosebud County; Lame Deer, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.02 | 0.07 | 0.05 | 0.08 |
| Routt County (part); Steamboat Springs, CO | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.02 | 0.07 | 0.06 | 0.08 |
| Sacramento Area, CA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 1.01 | 3.01 | 2.44 | 3.59 |
| Sacramento County, CA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.96 | 2.85 | 2.31 | 3.40 |
| Sacramento Metro, CA | Ozone (2008 8-hour) | Nonattainment, Severe 15 | 25 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Sacramento, CA | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 73.49 | 209.79 | 174.80 | 251.98 |
| Salem Area, OR | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.20 | 0.59 | 0.47 | 0.70 |
| Salt Lake City Area, UT | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 49.63 | 141.55 | 118.02 | 170.04 |
| Salt Lake City, UT | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 58.99 | 168.36 | 140.29 | 202.23 |

Table A1-7
Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Direct and Indirect Impacts
Sulfur Dioxide (SO₂) 2040

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|---|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Salt Lake County, UT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 50.24 | 143.37 | 119.49 | 172.21 |
| Salt Lake County, UT | SO ₂ (1971 24-hour/Annual) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| San Bernardino County (part); excluding Searles Valley Planning area and South Coast Air Basin, CA | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.43 | 1.29 | 1.04 | 1.54 |
| San Diego Area, CA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 2.59 | 7.72 | 6.25 | 9.21 |
| San Diego County, CA | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| San Francisco Bay Area, CA | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| San Francisco Bay Area, CA | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 103.91 | 296.98 | 247.26 | 356.64 |
| San Francisco-Oakland-San Jose Area, CA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 103.47 | 295.68 | 246.20 | 355.08 |
| San Joaquin Valley Air Basin; Fresno, Kern, Kings, Madera, Merced, San Joaquin, Stanislaus, Tulare Counties, CA | PM10 (1987 24-hour) | Maintenance, Serious | 100 | 0 | 9.62 | 27.88 | 23.00 | 33.41 |
| San Joaquin Valley, CA | Ozone (2008 8-hour) | Nonattainment, Extreme | 10 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| San Joaquin Valley, CA | PM2.5 (2006 24-hour) | Nonattainment, Serious | 100 | 0 | 9.62 | 27.88 | 23.00 | 33.40 |
| San Joaquin Valley, CA | PM2.5 (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 9.62 | 27.88 | 23.00 | 33.40 |
| San Luis Obispo (Eastern San Luis Obispo), CA | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| San Manuel, AZ | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| San Miguel County; Telluride, CO | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.01 | 0.02 | 0.02 | 0.03 |
| Sanders County (part); Thompson Falls and vicinity, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Santa Cruz County; Nogales planning area, AZ | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.04 | 0.11 | 0.09 | 0.13 |
| Seaford, DE | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Seattle-Tacoma Area, WA | CO (1971 8-hour) | Maintenance, Moderate > 12.7ppm | 100 | 0 | 2.12 | 6.34 | 5.13 | 7.56 |
| Seattle-Tacoma, WA | PM2.5 (2006 24-hour) | Maintenance, Moderate | 100 | 0 | 0.34 | 1.01 | 0.82 | 1.21 |
| Sheboygan County, WI | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |

Appendix A Air Quality Non-Attainment Area Results

Table A1-7

Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Direct and Indirect Impacts

Sulfur Dioxide (SO₂) 2040

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|---|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Sheridan County; City of Sheridan, WY | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.02 | 0.06 | 0.05 | 0.07 |
| Shoshone County (part); excluding Pinehurst, ID | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.03 | 0.10 | 0.08 | 0.12 |
| Shoshone County; City of Pinehurst, ID | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Silver Bow County; Butte, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.03 | 0.10 | 0.08 | 0.12 |
| Somerville Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.01 | 0.04 | 0.03 | 0.05 |
| Southwest Indiana, IN | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.01 | 0.03 | 0.02 | 0.03 |
| Spokane Area, WA | CO (1971 8-hour) | Maintenance, Serious | 100 | 0 | 0.22 | 0.66 | 0.53 | 0.79 |
| Spokane County; (part), WA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.23 | 0.68 | 0.55 | 0.81 |
| Springfield Area, MA | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.13 | 0.39 | 0.31 | 0.46 |
| St. Bernard Parish, LA | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 12.76 | 36.39 | 30.34 | 43.72 |
| St. Louis Area, MO | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.67 | 1.99 | 1.61 | 2.37 |
| St. Louis-St. Charles-Farmington, MO-IL | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Steubenville, OH-WV | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.05 | 0.15 | 0.12 | 0.18 |
| Steubenville-Weirton, OH-WV | PM2.5 (2006 24-hour) | Maintenance, -- | 100 | 0 | 0.15 | 0.45 | 0.37 | 0.54 |
| Stockton Area, CA | CO (1971 8-hour) | Maintenance, Moderate ≤ 12.7ppm | 100 | 0 | 0.29 | 0.86 | 0.70 | 1.03 |
| Sullivan County, TN | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.67 | 1.91 | 1.59 | 2.30 |
| Syracuse Area; Onondaga County, NY | CO (1971 8-hour) | Maintenance, Moderate ≤ 12.7ppm | 100 | 0 | 0.42 | 1.25 | 1.01 | 1.49 |
| Tazewell County; Groveland Twp, IL | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Terre Haute, IN | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.03 | 0.10 | 0.08 | 0.12 |

Table A1-7
Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Direct and Indirect Impacts
Sulfur Dioxide (SO₂) 2040

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|---|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Thurston County; Cities of Olympia, Tumwater, and Lacey, WA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.08 | 0.23 | 0.18 | 0.27 |
| Toms River Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.01 | 0.01 | 0.01 |
| Tooele County (part), UT | SO ₂ (1971 24-hour/Annual) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Trenton Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.07 | 0.20 | 0.16 | 0.24 |
| Trona, CA | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Tucson Area, AZ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.65 | 1.95 | 1.58 | 2.33 |
| Tuscan Buttes, CA | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Union County; LaGrande, OR | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.03 | 0.08 | 0.06 | 0.10 |
| Upper Green River Basin Area, WY | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Utah County, UT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.31 | 0.92 | 0.74 | 1.09 |
| Vancouver Area: Clark County (part), WA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.21 | 0.62 | 0.50 | 0.74 |
| Ventura County, CA | Ozone (2008 8-hour) | Nonattainment, Serious | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Vermillion County; Part of Clinton Township, IN | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.03 | 0.09 | 0.08 | 0.11 |
| Vigo County, IN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Walla Walla County; Wallula, WA | PM10 (1987 24-hour) | Maintenance, Serious | 100 | 0 | 0.00 | 0.01 | 0.01 | 0.01 |
| Waltham Area, MA | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.04 | 0.13 | 0.10 | 0.15 |
| Warren County: Conewago Twp, PA | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Warren County: Warren Boro, Pleasant Twp, Glade Twp, PA | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Warren, PA | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 60.90 | 173.67 | 144.81 | 208.64 |
| Washington Area, DC-MD-VA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.51 | 1.52 | 1.23 | 1.81 |
| Washington, DC-MD-VA | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Washoe County; Reno planning area, NV | PM10 (1987 24-hour) | Nonattainment, Serious | 70 | 0 | 0.25 | 0.73 | 0.59 | 0.88 |

Appendix A Air Quality Non-Attainment Area Results

Table A1-7

Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Direct and Indirect Impacts

Sulfur Dioxide (SO₂) 2040

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|---|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Wayne County: Boston, Center, Franklin, Wayne & Webster Townships, IN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Wayne County; (part), MI | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 5.39 | 15.39 | 12.83 | 18.49 |
| West Central Pinal County, AZ | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.07 | 0.20 | 0.16 | 0.24 |
| West Silver Valley, ID | PM2.5 (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 0.02 | 0.05 | 0.04 | 0.06 |
| Winston-Salem Area, NC | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.28 | 0.85 | 0.69 | 1.01 |
| Worcester Area, MA | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.18 | 0.54 | 0.44 | 0.65 |
| Yakima Area, WA | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.03 | 0.10 | 0.08 | 0.12 |
| Yakima County; (part), WA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.09 | 0.26 | 0.21 | 0.32 |
| Yuba City-Marysville, CA | PM2.5 (2006 24-hour) | Maintenance, Moderate | 100 | 0 | 0.15 | 0.44 | 0.36 | 0.52 |
| Yuma County; Yuma planning area, AZ | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.13 | 0.37 | 0.30 | 0.45 |

^a Reductions are shown as positive values. Negative values are emissions increases. Values of less than 0.005 tons per year are rounded to zero.

^b Nonattainment or maintenance status as of 5/13/2016. Source: U.S. EPA, The Green Book Nonattainment Areas for Criteria Pollutants; <http://www.epa.gov/airquality/greenbook/>. "--" indicates that no severity classification has been established for the NAAQS pollutant.

^c Emissions thresholds in tons per year. Where the threshold differs by precursor pollutant, the smallest of the precursor thresholds is shown. These thresholds are provided for information only; a general conformity determination is not required for the Proposed Action. Source: 40 CFR 93.853.

Notes: CO = carbon monoxide; NAAQS =National Ambient Air Quality Standards; NO₂ = nitrogen dioxide; PM = particulate matter; SO₂ = sulfur dioxide

Table A1-8
Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Direct and Indirect Impacts
Sulfur Dioxide (SO₂) 2050

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Ada County; Boise, ID | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.29 | 0.88 | 0.70 | 1.03 |
| Adams, Denver, and Boulder Counties; Denver Metropolitan area, CO | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 1.40 | 4.25 | 3.37 | 4.95 |
| Ajo, AZ | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Albuquerque Area, NM | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.63 | 1.90 | 1.51 | 2.22 |
| Allegheny County Air Basin: Hazelwood monitor, PA | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Allegheny County, PA | PM2.5 (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 0.76 | 2.32 | 1.83 | 2.70 |
| Allegheny County; The area including Liberty, Lincoln, Port Vue, and Glassport Boroughs and the City of Clairton, PA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.01 | 0.02 | 0.01 | 0.02 |
| Allegheny, PA | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.04 | 0.12 | 0.09 | 0.14 |
| Allentown, PA | PM2.5 (2006 24-hour) | Maintenance, Moderate | 100 | 0 | 0.51 | 1.57 | 1.24 | 1.83 |
| Allentown-Bethlehem-Easton, PA | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Anchorage Area, AK | CO (1971 8-hour) | Maintenance, Serious | 100 | 0 | 0.10 | 0.30 | 0.24 | 0.35 |
| Anchorage; Eagle River, AK | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.01 | 0.02 | 0.01 | 0.02 |
| AQCR 012: Portions of Grant County, NM | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| AQCR 109-Millinocket, ME | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| AQCR 131: Anoka, Carver, Dakota, Hennepin, Ramsey, Scott, and Washington counties (Minneapolis-St. Paul), MN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| AQCR 237: Brown County: Green Bay sub-city area, WI | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| AQCR 238: Marathon County: Rothschild Sub-city area, Rib Mountain, Weston, WI | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| AQCR 238: Oneida County: Rhinelander Sub-city area, WI | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| AQCR 239: Milwaukee County: Milwaukee sub-city area, WI | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |

Appendix A Air Quality Non-Attainment Area Results

Table A1-8

Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Direct and Indirect Impacts

Sulfur Dioxide (SO₂) 2050

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| AQCR 240: Dane County: Madison sub-city area, WI | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Archuleta County; Pagosa Springs, CO | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.02 | 0.07 | 0.05 | 0.08 |
| Armstrong County: Madison Twp, Mahoning Twp, Boggs Twp, Washington Twp, Pine Twp, PA | SO ₂ (1971 24-hour/Annual) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Aroostock County; City of Presque Isle, ME | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.02 | 0.05 | 0.04 | 0.06 |
| Atlanta, GA | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Atlantic City Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.05 | 0.15 | 0.12 | 0.18 |
| Bakersfield Area, CA | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 7.68 | 22.53 | 18.34 | 26.45 |
| Baltimore Area, MD | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.01 | 0.04 | 0.03 | 0.04 |
| Baltimore, MD | Ozone (2008 8-hour) | Nonattainment, Moderate | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Baton Rouge, LA | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Beaver, PA | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.01 | 0.04 | 0.04 | 0.05 |
| Benton County; (part) TVA Johnsonville, TN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Billings Area, MT | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 68.98 | 201.92 | 164.61 | 237.19 |
| Billings, MT | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 68.91 | 201.69 | 164.43 | 236.93 |
| Birmingham, AL | PM2.5 (2006 24-hour) | Maintenance, -- | 100 | 0 | 1.24 | 3.77 | 2.99 | 4.39 |
| Boise-Northern Ada County Area, ID | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.29 | 0.88 | 0.70 | 1.03 |
| Bonner County; The Sandpoint Area, ID | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.01 | 0.03 | 0.03 | 0.04 |
| Boston Area, MA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 2.43 | 7.19 | 5.81 | 8.42 |
| Boyd County (part), KY | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Brooke; Follansbee area, WV | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Burlington Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.01 | 0.02 | 0.01 | 0.02 |
| Calaveras County, CA | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Campbell-Clermont Counties, KY-OH | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.03 | 0.10 | 0.08 | 0.12 |

Table A1-8
Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Direct and Indirect Impacts
Sulfur Dioxide (SO₂) 2050

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|---|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Canton-Massillon, OH | PM2.5 (2006 24-hour) | Maintenance, -- | 100 | 0 | 6.79 | 19.91 | 16.21 | 23.38 |
| Central New Hampshire, NH | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.20 | 0.61 | 0.48 | 0.71 |
| Central Steptoe Valley, NV | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Charleston, WV | PM2.5 (2006 24-hour) | Maintenance, -- | 100 | 0 | 0.34 | 1.03 | 0.82 | 1.20 |
| Charlotte Area, NC | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 1.17 | 3.57 | 2.82 | 4.15 |
| Charlotte-Rock Hill, NC-SC | Ozone (2008 8-hour) | Maintenance, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Chicago-Naperville, IL-IN-WI | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Chico (Butte County), CA | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Chico Area, CA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.09 | 0.28 | 0.22 | 0.32 |
| Chico, CA | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.18 | 0.55 | 0.44 | 0.64 |
| Cincinnati, OH-KY-IN | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Clark County; Las Vegas planning area, NV | PM10 (1987 24-hour) | Maintenance, Serious | 100 | 0 | 1.46 | 4.45 | 3.53 | 5.19 |
| Cleveland Area, OH | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 4.91 | 14.47 | 11.73 | 16.97 |
| Cleveland, OH | PM2.5 (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 5.17 | 15.27 | 12.37 | 17.91 |
| Cleveland-Akron-Lorain, OH | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Cleveland-Akron-Lorain, OH | PM2.5 (2006 24-hour) | Maintenance, -- | 100 | 0 | 6.53 | 19.41 | 15.64 | 22.72 |
| Cochise County; Paul Spur/Douglas planning area, AZ | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.04 | 0.11 | 0.09 | 0.13 |
| Colorado Springs Area, CO | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.50 | 1.52 | 1.21 | 1.77 |
| Columbus, OH | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Cook County; Lyons Township, IL | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.07 | 0.20 | 0.16 | 0.23 |
| Cook County; Southeast Chicago, IL | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.07 | 0.20 | 0.16 | 0.23 |
| Coshocton County; Franklin Township, OH | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Coso Junction, CA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Cuyahoga County (part), OH | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Cuyahoga County, OH | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 4.90 | 14.45 | 11.72 | 16.95 |

Appendix A Air Quality Non-Attainment Area Results

Table A1-8

Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Direct and Indirect Impacts

Sulfur Dioxide (SO₂) 2050

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Dallas-Fort Worth, TX | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Delaware County, PA | PM2.5 (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 153.15 | 448.30 | 365.45 | 526.61 |
| Denver-Boulder Area, CO | CO (1971 8-hour) | Maintenance, Serious | 100 | 0 | 11.25 | 33.21 | 26.91 | 38.95 |
| Denver-Boulder-Greeley-Ft Collins-Loveland, CO | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Detroit Area, MI | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 7.43 | 21.89 | 17.76 | 25.68 |
| Detroit, MI | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 6.60 | 19.36 | 15.75 | 22.73 |
| Detroit-Ann Arbor, MI | PM2.5 (2006 24-hour) | Maintenance, -- | 100 | 0 | 10.82 | 32.24 | 25.95 | 37.73 |
| Dona Ana County; Anthony, NM | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.01 | 0.03 | 0.02 | 0.04 |
| Douglas, AZ | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Dukes County, MA | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Duluth Area, MN | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.12 | 0.37 | 0.29 | 0.43 |
| East Chicago Area, IN | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 29.46 | 86.24 | 70.31 | 101.31 |
| East Helena Area, MT | SO ₂ (1971 24-hour/Annual) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| East Kern County Area, CA | PM10 (1987 24-hour) | Nonattainment, Serious | 70 | 0 | 7.23 | 21.17 | 17.26 | 24.87 |
| El Paso County, TX | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 4.25 | 12.48 | 10.15 | 14.65 |
| El Paso, TX | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 3.89 | 11.38 | 9.27 | 13.36 |
| Eugene-Springfield Area, OR | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.22 | 0.67 | 0.53 | 0.78 |
| Fairbanks Area, AK | CO (1971 8-hour) | Maintenance, Serious | 100 | 0 | 0.39 | 1.15 | 0.94 | 1.35 |
| Fairbanks, AK | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.42 | 1.22 | 0.99 | 1.44 |

Table A1-8
Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Direct and Indirect Impacts
Sulfur Dioxide (SO₂) 2050

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|---|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Flathead County; Columbia Falls and vicinity, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Flathead County; Kalispell and vicinity, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.03 | 0.11 | 0.08 | 0.12 |
| Flathead County; Whitefish and vicinity, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.01 | 0.01 | 0.01 |
| Fort Collins Area, CO | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.11 | 0.33 | 0.26 | 0.38 |
| Freehold Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.03 | 0.08 | 0.06 | 0.09 |
| Fremont County; Canon City Area, CO | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.04 | 0.11 | 0.09 | 0.13 |
| Fresno Area, CA | CO (1971 8-hour) | Maintenance, Moderate > 12.7ppm | 100 | 0 | 0.52 | 1.58 | 1.25 | 1.84 |
| Grants Pass Area, OR | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.04 | 0.13 | 0.11 | 0.16 |
| Great Falls Area, MT | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.39 | 1.13 | 0.92 | 1.32 |
| Greater Connecticut, CT | Ozone (2008 8-hour) | Nonattainment, Moderate | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Greeley Area, CO | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.43 | 1.31 | 1.04 | 1.53 |
| Hancock and Brooke Counties (Part); The city of Weirton, WV | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.08 | 0.23 | 0.19 | 0.27 |
| Hancock County (Part) The city of Weirton, including Butler and Clay: Magisterial Districts, WV | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Harrisburg-Lebanon-Carlisle-York, PA | PM2.5 (2006 24-hour) | Maintenance, Moderate | 100 | 0 | 1.18 | 3.60 | 2.85 | 4.19 |
| Hartford-New Britain-Middletown Area, CT | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 1.04 | 3.18 | 2.52 | 3.70 |
| Hayden, AZ | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.01 | 0.01 | 0.01 |
| Hayden, AZ | SO ₂ (1971 24-hour/Annual) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Hayden, AZ | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.01 | 0.01 | 0.01 |
| Hillsborough County, FL | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.01 | 0.05 | 0.04 | 0.05 |
| Houston-Galveston-Brazoria, TX | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Humphreys County; (part) TVA Johnsonville, TN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Imperial Co, CA | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.20 | 0.60 | 0.47 | 0.69 |

Appendix A Air Quality Non-Attainment Area Results

Table A1-8

Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Direct and Indirect Impacts

Sulfur Dioxide (SO₂) 2050

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Imperial County, CA | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Imperial County, CA | PM2.5 (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 0.20 | 0.60 | 0.47 | 0.69 |
| Imperial County; Imperial Valley planning area, CA | PM10 (1987 24-hour) | Nonattainment, Serious | 70 | 0 | 0.24 | 0.72 | 0.57 | 0.84 |
| Indian Wells, CA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 7.23 | 21.16 | 17.25 | 24.86 |
| Indiana, PA | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.09 | 0.26 | 0.21 | 0.31 |
| Indianapolis Area, IN | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Indianapolis, IN | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.43 | 1.30 | 1.03 | 1.51 |
| Inyo County; Owens Valley planning area, CA | PM10 (1987 24-hour) | Nonattainment, Serious | 70 | 0 | 0.01 | 0.03 | 0.02 | 0.03 |
| Jackson County, MO | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.05 | 0.15 | 0.12 | 0.18 |
| Jackson County; Medford-Ashland (including White City), OR | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.18 | 0.55 | 0.44 | 0.64 |
| Jamestown, NY | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Jefferson County, KY | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Jefferson County, MO | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.05 | 0.15 | 0.12 | 0.17 |
| Jefferson County; (part) Steubenville & Mingo Junction, OH | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Jefferson County; (part), OH | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.01 | 0.01 | 0.01 |
| Johnstown, PA | PM2.5 (2006 24-hour) | Maintenance, Moderate | 100 | 0 | 0.11 | 0.35 | 0.27 | 0.40 |
| Josephine County; Grants Pass, OR | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.04 | 0.13 | 0.11 | 0.16 |
| Juneau; Mendenhall Valley area, AK | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.01 | 0.02 | 0.02 | 0.03 |
| Kern County (Eastern Kern), CA | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| King County; Kent, WA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.02 | 0.07 | 0.06 | 0.08 |
| King County; Seattle, WA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.01 | 0.02 | 0.02 | 0.03 |
| Klamath County; Klamath Falls, OR | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.08 | 0.26 | 0.20 | 0.30 |
| Klamath Falls Area, OR | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.08 | 0.26 | 0.20 | 0.30 |
| Klamath Falls, OR | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.09 | 0.27 | 0.21 | 0.31 |

Table A1-8
Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Direct and Indirect Impacts
Sulfur Dioxide (SO₂) 2050

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Knoxville, TN | Ozone (2008 8-hour) | Maintenance, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Knoxville-Sevierville-La Follette, TN | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.92 | 2.80 | 2.21 | 3.26 |
| La Porte County: (part), IN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lake County (part); Lakeview, OR | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.02 | 0.05 | 0.04 | 0.06 |
| Lake County, OH | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.25 | 0.76 | 0.61 | 0.89 |
| Lake County: (part), IN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lake County; (part) Eastlake, Timberlake, Lakeline, Willoughby, Mentor, OH | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lake County; Cities of East Chicago, Hammond, Whiting, and Gary, IN | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 29.58 | 86.60 | 70.59 | 101.72 |
| Lake County; Polson, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.01 | 0.00 | 0.01 |
| Lake County; Ronan, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lake Tahoe Nevada Area, NV | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.01 | 0.04 | 0.03 | 0.05 |
| Lake Tahoe North Shore Area, CA | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.01 | 0.02 | 0.02 | 0.03 |
| Lake Tahoe South Shore Area, CA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.02 | 0.05 | 0.04 | 0.06 |
| Lancaster, PA | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lancaster, PA | PM2.5 (2006 24-hour) | Maintenance, Moderate | 100 | 0 | 0.48 | 1.47 | 1.16 | 1.71 |
| Lane County (part); Oakridge, OR | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lane County; Eugene/Springfield, OR | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.22 | 0.67 | 0.53 | 0.78 |
| Las Vegas Area, NV | CO (1971 8-hour) | Maintenance, Serious | 100 | 0 | 1.46 | 4.44 | 3.52 | 5.18 |
| LaSalle County; Oglesby, IL | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.03 | 0.10 | 0.08 | 0.12 |
| Laurel Area, MT | SO ₂ (1971 24-hour/Annual) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lebanon County, PA | PM2.5 (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 0.17 | 0.51 | 0.40 | 0.59 |
| Lemont, IL | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 111.86 | 327.44 | 266.94 | 384.65 |
| Liberty-Clairton, PA | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.01 | 0.02 | 0.01 | 0.02 |

Appendix A Air Quality Non-Attainment Area Results

Table A1-8

Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Direct and Indirect Impacts

Sulfur Dioxide (SO₂) 2050

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|---------------------------------------|--|---|---|--------|--------------------|----------|----------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Lincoln County; Libby and vicinity, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.01 | 0.01 | 0.01 |
| Logan, UT-ID | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.09 | 0.26 | 0.21 | 0.30 |
| Longmont Area, CO | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.07 | 0.22 | 0.17 | 0.26 |
| Lorain County (part), OH | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Los Angeles, CA | PM2.5 (2006 24-hour) | Nonattainment, Serious | 100 | 0 | 93.45 | 275.20 | 223.36 | 322.87 |
| Los Angeles-San Bernardino Counties (West Mojave Desert), CA | Ozone (2008 8-hour) | Nonattainment, Severe 15 | 25 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Los Angeles-South Coast Air Basin Area, CA | CO (1971 8-hour) | Maintenance, Serious | 100 | 0 | 93.45 | 275.22 | 223.38 | 322.90 |
| Los Angeles-South Coast Air Basin Area, CA | NO ₂ (1971 Annual) | Maintenance, -- | 100 | 0 | 93.46 | 275.22 | 223.38 | 322.90 |
| Los Angeles-South Coast Air Basin, CA | Ozone (2008 8-hour) | Nonattainment, Extreme | 10 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Los Angeles-South Coast Air Basin, CA | PM2.5 (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 93.43 | 275.13 | 223.31 | 322.79 |
| Lowell Area, MA | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.10 | 0.30 | 0.24 | 0.35 |
| Lucas County (part), OH | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Madison County; Granite City Township and Nameoki Township, IL | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 83.00 | 242.94 | 198.05 | 285.38 |
| Manchester Area, NH | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.08 | 0.23 | 0.18 | 0.27 |
| Maricopa and Pinal Counties; Phoenix planning area, AZ | PM10 (1987 24-hour) | Nonattainment, Serious | 70 | 0 | 3.34 | 10.17 | 8.06 | 11.86 |
| Marion County; Lawrence, Washington, and Warrant Townships, IN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Mariposa County, CA | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Marshall, WV | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 436.70 | 1,278.25 | 1,042.08 | 1,501.56 |
| Medford Area, OR | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.10 | 0.29 | 0.23 | 0.34 |
| Memphis Area, TN | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 2.51 | 7.45 | 6.02 | 8.73 |

Table A1-8

Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Direct and Indirect Impacts

Sulfur Dioxide (SO₂) 2050

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|---|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Memphis, TN-MS-AR | Ozone (2008 8-hour) | Nonattainment TN & Maintenance MS/AR, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Miami, AZ | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.01 | 0.02 | 0.01 | 0.02 |
| Miami, AZ | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Miami, AZ | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.01 | 0.02 | 0.01 | 0.02 |
| Milwaukee-Racine, WI | PM2.5 (2006 24-hour) | Maintenance, -- | 100 | 0 | 1.10 | 3.35 | 2.66 | 3.91 |
| Minneapolis-St. Paul Area, MN | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 12.02 | 35.54 | 28.77 | 41.66 |
| Missoula Area, MT | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.08 | 0.26 | 0.20 | 0.30 |
| Missoula county; Missoula and vicinity, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.08 | 0.24 | 0.19 | 0.28 |
| Modesto Area, CA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.17 | 0.52 | 0.41 | 0.60 |
| Mohave County (part); Bullhead City, AZ | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.09 | 0.29 | 0.23 | 0.34 |
| Mono County; Mammoth Lake planning area, CA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.04 | 0.11 | 0.09 | 0.13 |
| Mono County; Mono Basin, CA | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Morenci, AZ | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Morgan County, IN | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.03 | 0.09 | 0.07 | 0.11 |
| Morongo Band of Mission Indians | Ozone (2008 8-hour) | Nonattainment, Serious | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Morristown Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.04 | 0.12 | 0.10 | 0.14 |
| Muscatine County; (part), IA | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Muscatine, IA | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.02 | 0.06 | 0.05 | 0.07 |
| Muskingum River, OH | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.01 | 0.03 | 0.02 | 0.03 |
| Nashua Area, NH | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.07 | 0.22 | 0.18 | 0.26 |
| Nassau County, FL | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.01 | 0.01 | 0.01 |
| Nevada County (Western part), CA | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| New Haven County, CT | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.02 | 0.05 | 0.04 | 0.06 |

Appendix A Air Quality Non-Attainment Area Results

Table A1-8

Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Direct and Indirect Impacts

Sulfur Dioxide (SO₂) 2050

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| New Haven-Meriden-Waterbury Area, CT | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.79 | 2.42 | 1.92 | 2.82 |
| New Manchester-Grant magisterial district in Hancock County, WV | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| New York County, NY | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.52 | 1.59 | 1.26 | 1.86 |
| New York, NY-NJ-CT | PM2.5 (2006 24-hour) | Maintenance, -- | 100 | 0 | 25.49 | 76.36 | 61.21 | 89.27 |
| New York-N. New Jersey-Long Island Area, NY-NJ-CT | CO (1971 8-hour) | Maintenance, Moderate > 12.7ppm | 100 | 0 | 10.37 | 31.32 | 24.96 | 36.56 |
| New York-N. New Jersey-Long Island, NY-NJ-CT | Ozone (2008 8-hour) | Nonattainment, Moderate | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| NJ portion of the Northeast Pennsylvania-Upper Delaware Valley Interstate AQCR: (part), NJ | SO ₂ (1971 24-hour/Annual) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Nogales, AZ | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.04 | 0.14 | 0.11 | 0.16 |
| Oakridge, OR | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Ogden Area, UT | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.05 | 0.15 | 0.12 | 0.18 |
| Ogden Area, UT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.05 | 0.15 | 0.12 | 0.18 |
| Olmsted County; (part), MN | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.02 | 0.07 | 0.05 | 0.08 |
| Olmsted; City of Rochester, MN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |

Table A1-8
Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Direct and Indirect Impacts
Sulfur Dioxide (SO₂) 2050

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Pechanga Band of Luiseno Mission Indians of the Pechanga Reservation | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Pekin, IL | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.04 | 0.12 | 0.09 | 0.13 |
| Penns Grove Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Peoria County: Hollis Twp, IL | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Peoria County: Peoria, IL | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Perth Amboy Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 8.75 | 25.62 | 20.88 | 30.09 |
| Philadelphia-Camden County Area, PA-NJ | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 17.95 | 52.64 | 42.86 | 61.82 |
| Philadelphia-Wilmington, PA-NJ-DE | PM2.5 (2006 24-hour) | Maintenance, Moderate for PA and DE Subject to Former Subpart 1 for NJ | 100 | 0 | 185.09 | 542.22 | 441.76 | 636.83 |
| Philadelphia-Wilmington-Atlantic City, PA-NJ-MD-DE | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Phoenix Area, AZ | CO (1971 8-hour) | Maintenance, Serious | 100 | 0 | 3.19 | 9.72 | 7.70 | 11.33 |
| Phoenix-Mesa, AZ | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Pierce County; Tacoma, WA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Pima County; Ajo planning area, AZ | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Pima County; Rillito planning area, AZ | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.06 | 0.19 | 0.15 | 0.22 |
| Pinal and Gila Counties; Payson, AZ | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.03 | 0.10 | 0.08 | 0.11 |
| Pinal County (part); West Pinal, AZ | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.38 | 1.17 | 0.93 | 1.36 |
| Pitkin County; Aspen, CO | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.02 | 0.07 | 0.06 | 0.08 |
| Pittsburgh Area, PA | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.15 | 0.47 | 0.37 | 0.55 |
| Pittsburgh-Beaver Valley, PA | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Pittsburgh-Beaver Valley, PA | PM2.5 (2006 24-hour) | Maintenance, Moderate | 100 | 0 | 6.80 | 20.10 | 16.27 | 23.56 |
| Plumas County, CA | PM2.5 (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Polk County, TN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |

Appendix A Air Quality Non-Attainment Area Results

Table A1-8

Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Direct and Indirect Impacts

Sulfur Dioxide (SO₂) 2050

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|-------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Portland Area: Portland Metro Service District Boundary, OR | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 1.10 | 3.36 | 2.67 | 3.92 |
| Power-Bannock Counties; Fort Hall Indian Reservation, ID | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Power-Bannock Counties; Portneuf Valley Area, ID | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.09 | 0.27 | 0.21 | 0.31 |
| Provo Area, UT | CO (1971 8-hour) | Maintenance, Moderate > 12.7ppm | 100 | 0 | 0.06 | 0.19 | 0.15 | 0.22 |
| Provo, UT | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.36 | 1.11 | 0.88 | 1.29 |
| Prowers County; Lamar, CO | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Raleigh-Durham Area, NC | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 1.26 | 3.85 | 3.05 | 4.49 |
| Ramsey County; (part), MN | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.01 | 0.01 | 0.01 |
| Reading, PA | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Reno Area, NV | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.29 | 0.88 | 0.70 | 1.03 |
| Rhinelander, WI | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.04 | 0.14 | 0.11 | 0.16 |
| Riverside County (Coachella Valley), CA | Ozone (2008 8-hour) | Nonattainment, Severe 15 | 25 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Riverside County; Coachella Valley planning area, CA | PM10 (1987 24-hour) | Nonattainment, Serious | 70 | 0 | 0.46 | 1.39 | 1.10 | 1.62 |
| Riverside, Los Angeles, Orange, and San Bernardino Counties; South Coast Air Basin, CA | PM10 (1987 24-hour) | Maintenance, Serious | 100 | 0 | 93.39 | 275.02 | 223.22 | 322.67 |
| Rosebud County; Lame Deer, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.03 | 0.09 | 0.07 | 0.10 |
| Routt County (part); Steamboat Springs, CO | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.03 | 0.08 | 0.07 | 0.10 |
| Sacramento Area, CA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 1.17 | 3.57 | 2.82 | 4.16 |
| Sacramento County, CA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 1.13 | 3.45 | 2.73 | 4.01 |
| Sacramento Metro, CA | Ozone (2008 8-hour) | Nonattainment, Severe 15 | 25 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Sacramento, CA | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 85.94 | 251.80 | 205.13 | 295.73 |
| Salem Area, OR | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.24 | 0.72 | 0.57 | 0.84 |
| Salt Lake City Area, UT | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 58.02 | 169.84 | 138.45 | 199.51 |
| Salt Lake City, UT | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 68.97 | 202.06 | 164.63 | 237.32 |

Table A1-8
Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Direct and Indirect Impacts
Sulfur Dioxide (SO₂) 2050

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|---|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Salt Lake County, UT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 58.74 | 172.05 | 140.20 | 202.08 |
| Salt Lake County, UT | SO ₂ (1971 24-hour/Annual) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| San Bernardino County (part); excluding Searles Valley Planning area and South Coast Air Basin, CA | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.48 | 1.48 | 1.17 | 1.72 |
| San Diego Area, CA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 3.06 | 9.33 | 7.39 | 10.88 |
| San Diego County, CA | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| San Francisco Bay Area, CA | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| San Francisco Bay Area, CA | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 121.55 | 356.50 | 290.21 | 418.61 |
| San Francisco-Oakland-San Jose Area, CA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 121.03 | 354.92 | 288.95 | 416.76 |
| San Joaquin Valley Air Basin; Fresno, Kern, Kings, Madera, Merced, San Joaquin, Stanislaus, Tulare Counties, CA | PM10 (1987 24-hour) | Maintenance, Serious | 100 | 0 | 11.30 | 33.57 | 27.08 | 39.32 |
| San Joaquin Valley, CA | Ozone (2008 8-hour) | Nonattainment, Extreme | 10 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| San Joaquin Valley, CA | PM2.5 (2006 24-hour) | Nonattainment, Serious | 100 | 0 | 11.30 | 33.57 | 27.08 | 39.31 |
| San Joaquin Valley, CA | PM2.5 (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 11.30 | 33.57 | 27.08 | 39.31 |
| San Luis Obispo (Eastern San Luis Obispo), CA | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| San Manuel, AZ | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| San Miguel County; Telluride, CO | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.01 | 0.03 | 0.02 | 0.03 |
| Sanders County (part); Thompson Falls and vicinity, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Santa Cruz County; Nogales planning area, AZ | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.04 | 0.14 | 0.11 | 0.16 |
| Seaford, DE | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Seattle-Tacoma Area, WA | CO (1971 8-hour) | Maintenance, Moderate > 12.7ppm | 100 | 0 | 2.51 | 7.65 | 6.06 | 8.91 |
| Seattle-Tacoma, WA | PM2.5 (2006 24-hour) | Maintenance, Moderate | 100 | 0 | 0.40 | 1.21 | 0.96 | 1.42 |
| Sheboygan County, WI | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |

Appendix A Air Quality Non-Attainment Area Results

Table A1-8

Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Direct and Indirect Impacts

Sulfur Dioxide (SO₂) 2050

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|---|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Sheridan County; City of Sheridan, WY | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.02 | 0.07 | 0.06 | 0.09 |
| Shoshone County (part); excluding Pinehurst, ID | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.04 | 0.12 | 0.09 | 0.14 |
| Shoshone County; City of Pinehurst, ID | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Silver Bow County; Butte, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.04 | 0.12 | 0.09 | 0.14 |
| Somerville Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.01 | 0.04 | 0.03 | 0.05 |
| Southwest Indiana, IN | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.01 | 0.03 | 0.03 | 0.04 |
| Spokane Area, WA | CO (1971 8-hour) | Maintenance, Serious | 100 | 0 | 0.26 | 0.79 | 0.62 | 0.92 |
| Spokane County; (part), WA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.27 | 0.81 | 0.64 | 0.95 |
| Springfield Area, MA | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.16 | 0.48 | 0.38 | 0.56 |
| St. Bernard Parish, LA | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 14.92 | 43.67 | 35.60 | 51.30 |
| St. Louis Area, MO | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.78 | 2.37 | 1.87 | 2.76 |
| St. Louis-St. Charles-Farmington, MO-IL | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Steubenville, OH-WV | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.06 | 0.19 | 0.15 | 0.22 |
| Steubenville-Weirton, OH-WV | PM2.5 (2006 24-hour) | Maintenance, -- | 100 | 0 | 0.18 | 0.54 | 0.43 | 0.63 |
| Stockton Area, CA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.34 | 1.02 | 0.81 | 1.19 |
| Sullivan County, TN | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.78 | 2.29 | 1.87 | 2.69 |
| Syracuse Area; Onondaga County, NY | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.50 | 1.51 | 1.20 | 1.76 |
| Tazewell County; Groveland Twp, IL | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Terre Haute, IN | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.03 | 0.09 | 0.07 | 0.11 |

Table A1-8
Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Direct and Indirect Impacts
Sulfur Dioxide (SO₂) 2050

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|---|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Thurston County; Cities of Olympia, Tumwater, and Lacey, WA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.09 | 0.27 | 0.22 | 0.32 |
| Toms River Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.01 | 0.01 | 0.02 |
| Tooele County (part), UT | SO ₂ (1971 24-hour/Annual) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Trenton Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.08 | 0.25 | 0.20 | 0.29 |
| Trona, CA | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Tucson Area, AZ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.77 | 2.36 | 1.87 | 2.75 |
| Tuscan Buttes, CA | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Union County; LaGrande, OR | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.04 | 0.11 | 0.09 | 0.13 |
| Upper Green River Basin Area, WY | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Utah County, UT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.36 | 1.11 | 0.88 | 1.29 |
| Vancouver Area: Clark County (part), WA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.25 | 0.75 | 0.59 | 0.87 |
| Ventura County, CA | Ozone (2008 8-hour) | Nonattainment, Serious | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Vermillion County; Part of Clinton Township, IN | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Vigo County, IN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Walla Walla County; Wallula, WA | PM10 (1987 24-hour) | Maintenance, Serious | 100 | 0 | 0.00 | 0.01 | 0.01 | 0.01 |
| Waltham Area, MA | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.05 | 0.15 | 0.12 | 0.18 |
| Warren County: Conewago Twp, PA | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Warren County: Warren Boro, Pleasant Twp, Glade Twp, PA | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Warren, PA | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 71.20 | 208.39 | 169.89 | 244.80 |
| Washington Area, DC-MD-VA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.60 | 1.83 | 1.45 | 2.13 |
| Washington, DC-MD-VA | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Washoe County; Reno planning area, NV | PM10 (1987 24-hour) | Nonattainment, Serious | 70 | 0 | 0.29 | 0.87 | 0.69 | 1.02 |

Appendix A Air Quality Non-Attainment Area Results

Table A1-8

Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Direct and Indirect Impacts

Sulfur Dioxide (SO₂) 2050

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|---|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Wayne County: Boston, Center, Franklin, Wayne & Webster Townships, IN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Wayne County; (part), MI | PM ₁₀ (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 6.32 | 18.52 | 15.09 | 21.76 |
| West Central Pinal County, AZ | PM _{2.5} (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.08 | 0.25 | 0.19 | 0.29 |
| West Silver Valley, ID | PM _{2.5} (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 0.02 | 0.07 | 0.06 | 0.08 |
| Winston-Salem Area, NC | CO (1971 8-hour) | Maintenance, Moderate ≤ 12.7ppm | 100 | 0 | 0.34 | 1.03 | 0.81 | 1.20 |
| Worcester Area, MA | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.22 | 0.67 | 0.53 | 0.78 |
| Yakima Area, WA | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.04 | 0.12 | 0.10 | 0.14 |
| Yakima County; (part), WA | PM ₁₀ (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.11 | 0.32 | 0.25 | 0.37 |
| Yuba City-Marysville, CA | PM _{2.5} (2006 24-hour) | Maintenance, Moderate | 100 | 0 | 0.17 | 0.53 | 0.42 | 0.62 |
| Yuma County; Yuma planning area, AZ | PM ₁₀ (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.15 | 0.45 | 0.36 | 0.52 |

^a Reductions are shown as positive values. Negative values are emissions increases. Values of less than 0.005 tons per year are rounded to zero.

^b Nonattainment or maintenance status as of 5/13/2016. Source: U.S. EPA, The Green Book Nonattainment Areas for Criteria Pollutants; <http://www.epa.gov/airquality/greenbook/>. "--" indicates that no severity classification has been established for the NAAQS pollutant.

^c Emissions thresholds in tons per year. Where the threshold differs by precursor pollutant, the smallest of the precursor thresholds is shown. These thresholds are provided for information only; a general conformity determination is not required for the Proposed Action. Source: 40 CFR 93.853.

Notes: CO = carbon monoxide; NAAQS =National Ambient Air Quality Standards; NO₂ = nitrogen dioxide; PM = particulate matter; SO₂ = sulfur dioxide

Table A1-9
Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Direct and Indirect Impacts
Nitrogen Oxides (NO_x) 2018

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Ada County; Boise, ID | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.02 | 0.05 | 0.01 | 0.10 |
| Adams, Denver, and Boulder Counties; Denver Metropolitan area, CO | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.05 | 0.17 | 0.00 | 0.40 |
| Ajo, AZ | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Albuquerque Area, NM | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.03 | 0.09 | 0.02 | 0.19 |
| Allegheny County Air Basin: Hazelwood monitor, PA | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Allegheny County, PA | PM2.5 (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 0.04 | 0.10 | 0.01 | 0.23 |
| Allegheny County; The area including Liberty, Lincoln, Port Vue, and Glassport Boroughs and the City of Clairton, PA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Allegheny, PA | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.01 | 0.00 | 0.02 |
| Allentown, PA | PM2.5 (2006 24-hour) | Maintenance, Moderate | 100 | 0 | 0.03 | 0.07 | 0.01 | 0.16 |
| Allentown-Bethlehem-Easton, PA | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Anchorage Area, AK | CO (1971 8-hour) | Maintenance, Serious | 100 | 0 | 0.01 | 0.02 | 0.00 | 0.03 |
| Anchorage; Eagle River, AK | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| AQCR 012: Portions of Grant County, NM | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| AQCR 109-Millinocket, ME | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| AQCR 131: Anoka, Carver, Dakota, Hennepin, Ramsey, Scott, and Washington counties (Minneapolis-St. Paul), MN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| AQCR 237: Brown County: Green Bay sub-city area, WI | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| AQCR 238: Marathon County: Rothschild Sub-city area, Rib Mountain, Weston, WI | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| AQCR 238: Oneida County: Rhinelander Sub-city area, WI | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| AQCR 239: Milwaukee County: Milwaukee sub-city area, WI | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |

Appendix A Air Quality Non-Attainment Area Results

Table A1-9

Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Direct and Indirect Impacts

Nitrogen Oxides (NO_x) 2018

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| AQCR 240: Dane County: Madison sub-city area, WI | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Archuleta County; Pagosa Springs, CO | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.01 |
| Armstrong County: Madison Twp, Mahoning Twp, Boggs Twp, Washington Twp, Pine Twp, PA | SO ₂ (1971 24-hour/Annual) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Aroostock County; City of Presque Isle, ME | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Atlanta, GA | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Atlantic City Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.01 | 0.00 | 0.01 |
| Bakersfield Area, CA | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.15 | 0.26 | 0.23 | 0.40 |
| Baltimore Area, MD | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Baltimore, MD | Ozone (2008 8-hour) | Nonattainment, Moderate | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Baton Rouge, LA | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Beaver, PA | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Benton County; (part) TVA Johnsonville, TN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Billings Area, MT | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 1.41 | 2.08 | 2.37 | 2.83 |
| Billings, MT | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 1.41 | 2.07 | 2.37 | 2.81 |
| Birmingham, AL | PM2.5 (2006 24-hour) | Maintenance, -- | 100 | 0 | 0.07 | 0.18 | 0.04 | 0.38 |
| Boise-Northern Ada County Area, ID | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.02 | 0.05 | 0.01 | 0.10 |
| Bonner County; The Sandpoint Area, ID | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Boston Area, MA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.03 | 0.10 | 0.01 | 0.21 |
| Boyd County (part), KY | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Brooke; Follansbee area, WV | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Burlington Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Calaveras County, CA | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Campbell-Clermont Counties, KY-OH | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.01 |

Table A1-9

Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Direct and Indirect Impacts

Nitrogen Oxides (NO_x) 2018

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|---|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Canton-Massillon, OH | PM2.5 (2006 24-hour) | Maintenance, -- | 100 | 0 | 0.40 | 0.61 | 0.65 | 0.87 |
| Central New Hampshire, NH | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.01 | 0.02 | 0.00 | 0.06 |
| Central Steptoe Valley, NV | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Charleston, WV | PM2.5 (2006 24-hour) | Maintenance, -- | 100 | 0 | 0.01 | 0.04 | 0.00 | 0.10 |
| Charlotte Area, NC | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.04 | 0.15 | 0.00 | 0.33 |
| Charlotte-Rock Hill, NC-SC | Ozone (2008 8-hour) | Maintenance, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Chicago-Naperville, IL-IN-WI | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Chico (Butte County), CA | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Chico Area, CA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.01 | 0.00 | 0.02 |
| Chico, CA | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.01 | 0.02 | 0.00 | 0.05 |
| Cincinnati, OH-KY-IN | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Clark County; Las Vegas planning area, NV | PM10 (1987 24-hour) | Maintenance, Serious | 100 | 0 | 0.05 | 0.18 | 0.00 | 0.41 |
| Cleveland Area, OH | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.03 | 0.11 | 0.00 | 0.25 |
| Cleveland, OH | PM2.5 (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 0.04 | 0.14 | 0.00 | 0.32 |
| Cleveland-Akron-Lorain, OH | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Cleveland-Akron-Lorain, OH | PM2.5 (2006 24-hour) | Maintenance, -- | 100 | 0 | 0.09 | 0.31 | 0.00 | 0.71 |
| Cochise County; Paul Spur/Douglas planning area, AZ | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.01 |
| Colorado Springs Area, CO | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.03 | 0.08 | 0.02 | 0.16 |
| Columbus, OH | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Cook County; Lyons Township, IL | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.01 | 0.02 | 0.02 | 0.04 |
| Cook County; Southeast Chicago, IL | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.01 | 0.02 | 0.02 | 0.04 |
| Coshocton County; Franklin Township, OH | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Coso Junction, CA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Cuyahoga County (part), OH | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Cuyahoga County, OH | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.03 | 0.11 | 0.00 | 0.25 |

Appendix A Air Quality Non-Attainment Area Results

Table A1-9

Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Direct and Indirect Impacts

Nitrogen Oxides (NO_x) 2018

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Dallas-Fort Worth, TX | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Delaware County, PA | PM2.5 (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 3.05 | 4.50 | 5.11 | 6.16 |
| Denver-Boulder Area, CO | CO (1971 8-hour) | Maintenance, Serious | 100 | 0 | 1.04 | 1.69 | 1.61 | 2.58 |
| Denver-Boulder-Greeley-Ft Collins-Loveland, CO | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Detroit Area, MI | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.23 | 0.45 | 0.30 | 0.80 |
| Detroit, MI | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.18 | 0.29 | 0.29 | 0.42 |
| Detroit-Ann Arbor, MI | PM2.5 (2006 24-hour) | Maintenance, -- | 100 | 0 | 0.35 | 0.83 | 0.31 | 1.66 |
| Dona Ana County; Anthony, NM | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Douglas, AZ | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Dukes County, MA | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Duluth Area, MN | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.01 | 0.00 | 0.03 |
| East Chicago Area, IN | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 2.26 | 3.33 | 3.81 | 4.53 |
| East Helena Area, MT | SO ₂ (1971 24-hour/Annual) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| East Kern County Area, CA | PM10 (1987 24-hour) | Nonattainment, Serious | 70 | 0 | 0.14 | 0.20 | 0.23 | 0.28 |
| El Paso County, TX | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.56 | 0.85 | 0.91 | 1.20 |
| El Paso, TX | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.54 | 0.79 | 0.91 | 1.08 |
| Eugene-Springfield Area, OR | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.01 | 0.03 | 0.00 | 0.06 |
| Fairbanks Area, AK | CO (1971 8-hour) | Maintenance, Serious | 100 | 0 | 0.20 | 0.29 | 0.33 | 0.39 |
| Fairbanks, AK | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.20 | 0.29 | 0.33 | 0.40 |

Table A1-9
Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Direct and Indirect Impacts
Nitrogen Oxides (NO_x) 2018

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|---|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Flathead County; Columbia Falls and vicinity, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Flathead County; Kalispell and vicinity, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.01 |
| Flathead County; Whitefish and vicinity, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Fort Collins Area, CO | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.01 | 0.00 | 0.03 |
| Freehold Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.01 |
| Fremont County; Canon City Area, CO | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.01 |
| Fresno Area, CA | CO (1971 8-hour) | Maintenance, Moderate > 12.7ppm | 100 | 0 | 0.03 | 0.07 | 0.01 | 0.16 |
| Grants Pass Area, OR | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.01 |
| Great Falls Area, MT | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.26 | 0.38 | 0.43 | 0.51 |
| Greater Connecticut, CT | Ozone (2008 8-hour) | Nonattainment, Moderate | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Greeley Area, CO | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.03 | 0.07 | 0.03 | 0.14 |
| Hancock and Brooke Counties (Part); The city of Weirton, WV | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.08 | 0.11 | 0.13 | 0.15 |
| Hancock County (Part) The city of Weirton, including Butler and Clay; Magisterial Districts, WV | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Harrisburg-Lebanon-Carlisle-York, PA | PM2.5 (2006 24-hour) | Maintenance, Moderate | 100 | 0 | 0.05 | 0.15 | 0.01 | 0.34 |
| Hartford-New Britain-Middletown Area, CT | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.04 | 0.13 | 0.00 | 0.30 |
| Hayden, AZ | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Hayden, AZ | SO ₂ (1971 24-hour/Annual) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Hayden, AZ | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Hillsborough County, FL | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Houston-Galveston-Brazoria, TX | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Humphreys County; (part) TVA Johnsonville, TN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Imperial Co, CA | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.01 | 0.02 | 0.00 | 0.05 |

Appendix A Air Quality Non-Attainment Area Results

Table A1-9

Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Direct and Indirect Impacts

Nitrogen Oxides (NO_x) 2018

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Imperial County, CA | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Imperial County, CA | PM2.5 (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 0.01 | 0.02 | 0.00 | 0.05 |
| Imperial County; Imperial Valley planning area, CA | PM10 (1987 24-hour) | Nonattainment, Serious | 70 | 0 | 0.01 | 0.03 | 0.00 | 0.07 |
| Indian Wells, CA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.14 | 0.20 | 0.23 | 0.28 |
| Indiana, PA | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.01 | 0.00 | 0.02 |
| Indianapolis Area, IN | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Indianapolis, IN | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.02 | 0.06 | 0.00 | 0.13 |
| Inyo County; Owens Valley planning area, CA | PM10 (1987 24-hour) | Nonattainment, Serious | 70 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Jackson County, MO | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.01 | 0.00 | 0.01 |
| Jackson County; Medford-Ashland (including White City), OR | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.01 | 0.02 | 0.00 | 0.05 |
| Jamestown, NY | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Jefferson County, KY | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Jefferson County, MO | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.01 | 0.00 | 0.01 |
| Jefferson County; (part) Steubenville & Mingo Junction, OH | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Jefferson County; (part), OH | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Johnstown, PA | PM2.5 (2006 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.01 | 0.00 | 0.03 |
| Josephine County; Grants Pass, OR | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.01 |
| Juneau; Mendenhall Valley area, AK | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Kern County (Eastern Kern), CA | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| King County; Kent, WA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.01 |
| King County; Seattle, WA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Klamath County; Klamath Falls, OR | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.01 | 0.00 | 0.02 |
| Klamath Falls Area, OR | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.01 | 0.00 | 0.02 |
| Klamath Falls, OR | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.01 | 0.00 | 0.02 |

Table A1-9
Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Direct and Indirect Impacts
Nitrogen Oxides (NO_x) 2018

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Knoxville, TN | Ozone (2008 8-hour) | Maintenance, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Knoxville-Sevierville-La Follette, TN | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.03 | 0.11 | 0.00 | 0.26 |
| La Porte County: (part), IN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lake County (part); Lakeview, OR | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lake County, OH | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.01 | 0.03 | 0.00 | 0.07 |
| Lake County: (part), IN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lake County; (part) Eastlake, Timberlake, Lakeline, Willoughby, Mentor, OH | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lake County; Cities of East Chicago, Hammond, Whiting, and Gary, IN | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 2.27 | 3.35 | 3.81 | 4.58 |
| Lake County; Polson, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lake County; Ronan, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lake Tahoe Nevada Area, NV | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.01 |
| Lake Tahoe North Shore Area, CA | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lake Tahoe South Shore Area, CA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.01 |
| Lancaster, PA | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lancaster, PA | PM2.5 (2006 24-hour) | Maintenance, Moderate | 100 | 0 | 0.02 | 0.06 | 0.00 | 0.14 |
| Lane County (part); Oakridge, OR | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lane County; Eugene/Springfield, OR | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.01 | 0.03 | 0.00 | 0.06 |
| Las Vegas Area, NV | CO (1971 8-hour) | Maintenance, Serious | 100 | 0 | 0.05 | 0.18 | 0.00 | 0.41 |
| LaSalle County; Oglesby, IL | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.01 |
| Laurel Area, MT | SO ₂ (1971 24-hour/Annual) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lebanon County, PA | PM2.5 (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 0.01 | 0.02 | 0.00 | 0.05 |
| Lemont, IL | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 3.05 | 4.49 | 5.12 | 6.12 |
| Liberty-Clairton, PA | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |

Appendix A Air Quality Non-Attainment Area Results

Table A1-9

Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Direct and Indirect Impacts

Nitrogen Oxides (NO_x) 2018

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Lincoln County; Libby and vicinity, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Logan, UT-ID | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.01 | 0.00 | 0.02 |
| Longmont Area, CO | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.01 | 0.00 | 0.02 |
| Lorain County (part), OH | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Los Angeles, CA | PM2.5 (2006 24-hour) | Nonattainment, Serious | 100 | 0 | 4.09 | 6.99 | 6.05 | 11.11 |
| Los Angeles-San Bernardino Counties (West Mojave Desert), CA | Ozone (2008 8-hour) | Nonattainment, Severe 15 | 25 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Los Angeles-South Coast Air Basin Area, CA | CO (1971 8-hour) | Maintenance, Serious | 100 | 0 | 4.09 | 6.99 | 6.05 | 11.12 |
| Los Angeles-South Coast Air Basin Area, CA | NO ₂ (1971 Annual) | Maintenance, -- | 100 | 0 | 4.09 | 6.99 | 6.05 | 11.12 |
| Los Angeles-South Coast Air Basin, CA | Ozone (2008 8-hour) | Nonattainment, Extreme | 10 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Los Angeles-South Coast Air Basin, CA | PM2.5 (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 4.09 | 6.99 | 6.05 | 11.11 |
| Lowell Area, MA | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.01 | 0.00 | 0.03 |
| Lucas County (part), OH | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Madison County; Granite City Township and Nameoki Township, IL | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 3.33 | 4.91 | 5.61 | 6.67 |
| Manchester Area, NH | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.01 | 0.00 | 0.02 |
| Maricopa and Pinal Counties; Phoenix planning area, AZ | PM10 (1987 24-hour) | Nonattainment, Serious | 70 | 0 | 0.12 | 0.42 | 0.01 | 0.95 |
| Marion County; Lawrence, Washington, and Warrant Townships, IN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Mariposa County, CA | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Marshall, WV | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.65 | 0.96 | 1.10 | 1.31 |
| Medford Area, OR | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.01 | 0.00 | 0.02 |
| Memphis Area, TN | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.43 | 0.69 | 0.67 | 1.03 |

Table A1-9
Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Direct and Indirect Impacts
Nitrogen Oxides (NO_x) 2018

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|---|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Memphis, TN-MS-AR | Ozone (2008 8-hour) | Nonattainment TN & Maintenance MS/AR, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Miami, AZ | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Miami, AZ | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Miami, AZ | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Milwaukee-Racine, WI | PM2.5 (2006 24-hour) | Maintenance, -- | 100 | 0 | 0.04 | 0.14 | 0.00 | 0.31 |
| Minneapolis-St. Paul Area, MN | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 2.93 | 4.50 | 4.75 | 6.45 |
| Missoula Area, MT | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.01 | 0.02 | 0.01 | 0.04 |
| Missoula county; Missoula and vicinity, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.01 | 0.02 | 0.01 | 0.04 |
| Modesto Area, CA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.01 | 0.02 | 0.00 | 0.05 |
| Mohave County (part); Bullhead City, AZ | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.01 | 0.00 | 0.02 |
| Mono County; Mammoth Lake planning area, CA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.01 |
| Mono County; Mono Basin, CA | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Morenci, AZ | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Morgan County, IN | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.01 |
| Morongo Band of Mission Indians | Ozone (2008 8-hour) | Nonattainment, Serious | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Morristown Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.01 | 0.00 | 0.01 |
| Muscatine County; (part), IA | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Muscatine, IA | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.01 |
| Muskingum River, OH | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Nashua Area, NH | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.01 | 0.00 | 0.02 |
| Nassau County, FL | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Nevada County (Western part), CA | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| New Haven County, CT | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.01 |

Appendix A Air Quality Non-Attainment Area Results

Table A1-9

Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Direct and Indirect Impacts

Nitrogen Oxides (NO_x) 2018

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| New Haven-Meriden-Waterbury Area, CT | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.04 | 0.11 | 0.01 | 0.24 |
| New Manchester-Grant magisterial district in Hancock County, WV | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| New York County, NY | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.02 | 0.06 | 0.00 | 0.15 |
| New York, NY-NJ-CT | PM2.5 (2006 24-hour) | Maintenance, -- | 100 | 0 | 1.93 | 3.86 | 2.36 | 6.95 |
| New York-N. New Jersey-Long Island Area, NY-NJ-CT | CO (1971 8-hour) | Maintenance, Moderate > 12.7ppm | 100 | 0 | 1.39 | 2.61 | 1.85 | 4.49 |
| New York-N. New Jersey-Long Island, NY-NJ-CT | Ozone (2008 8-hour) | Nonattainment, Moderate | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| NJ portion of the Northeast Pennsylvania-Upper Delaware Valley Interstate AQCR: (part), NJ | SO ₂ (1971 24-hour/Annual) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Nogales, AZ | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.01 | 0.00 | 0.01 |
| Oakridge, OR | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Ogden Area, UT | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.01 | 0.00 | 0.01 |
| Ogden Area, UT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.01 | 0.00 | 0.01 |
| Olmsted County; (part), MN | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.01 |
| Olmsted; City of Rochester, MN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |

Table A1-9
Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Direct and Indirect Impacts
Nitrogen Oxides (NO_x) 2018

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Pechanga Band of Luiseno Mission Indians of the Pechanga Reservation | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Pekin, IL | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.01 |
| Penns Grove Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Peoria County: Hollis Twp, IL | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Peoria County: Peoria, IL | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Perth Amboy Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.29 | 0.44 | 0.49 | 0.60 |
| Philadelphia-Camden County Area, PA-NJ | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 1.49 | 2.25 | 2.45 | 3.15 |
| Philadelphia-Wilmington, PA-NJ-DE | PM2.5 (2006 24-hour) | Maintenance, Moderate for PA and DE Subject to Former Subpart 1 for NJ | 100 | 0 | 5.20 | 7.92 | 8.52 | 11.22 |
| Philadelphia-Wilmington-Atlantic City, PA-NJ-MD-DE | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Phoenix Area, AZ | CO (1971 8-hour) | Maintenance, Serious | 100 | 0 | 0.12 | 0.40 | 0.00 | 0.91 |
| Phoenix-Mesa, AZ | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Pierce County; Tacoma, WA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Pima County; Ajo planning area, AZ | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Pima County; Rillito planning area, AZ | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.01 | 0.00 | 0.02 |
| Pinal and Gila Counties; Payson, AZ | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.01 |
| Pinal County (part); West Pinal, AZ | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.01 | 0.04 | 0.00 | 0.10 |
| Pitkin County; Aspen, CO | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.01 |
| Pittsburgh Area, PA | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.01 | 0.03 | 0.00 | 0.06 |
| Pittsburgh-Beaver Valley, PA | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Pittsburgh-Beaver Valley, PA | PM2.5 (2006 24-hour) | Maintenance, Moderate | 100 | 0 | 0.08 | 0.24 | 0.04 | 0.51 |
| Plumas County, CA | PM2.5 (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Polk County, TN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |

Appendix A Air Quality Non-Attainment Area Results

Table A1-9

Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Direct and Indirect Impacts

Nitrogen Oxides (NO_x) 2018

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|-------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Portland Area: Portland Metro Service District Boundary, OR | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.06 | 0.16 | 0.04 | 0.34 |
| Power-Bannock Counties; Fort Hall Indian Reservation, ID | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Power-Bannock Counties; Portneuf Valley Area, ID | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.01 | 0.00 | 0.02 |
| Provo Area, UT | CO (1971 8-hour) | Maintenance, Moderate > 12.7ppm | 100 | 0 | 0.00 | 0.01 | 0.00 | 0.02 |
| Provo, UT | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.01 | 0.05 | 0.00 | 0.10 |
| Prowers County; Lamar, CO | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Raleigh-Durham Area, NC | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.05 | 0.16 | 0.00 | 0.36 |
| Ramsey County; (part), MN | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Reading, PA | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Reno Area, NV | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.01 | 0.04 | 0.00 | 0.09 |
| Rhinelander, WI | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.01 |
| Riverside County (Coachella Valley), CA | Ozone (2008 8-hour) | Nonattainment, Severe 15 | 25 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Riverside County; Coachella Valley planning area, CA | PM10 (1987 24-hour) | Nonattainment, Serious | 70 | 0 | 0.02 | 0.06 | 0.00 | 0.14 |
| Riverside, Los Angeles, Orange, and San Bernardino Counties; South Coast Air Basin, CA | PM10 (1987 24-hour) | Maintenance, Serious | 100 | 0 | 4.09 | 6.98 | 6.05 | 11.10 |
| Rosebud County; Lame Deer, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Routt County (part); Steamboat Springs, CO | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.01 |
| Sacramento Area, CA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.05 | 0.16 | 0.01 | 0.37 |
| Sacramento County, CA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.04 | 0.14 | 0.01 | 0.33 |
| Sacramento Metro, CA | Ozone (2008 8-hour) | Nonattainment, Severe 15 | 25 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Sacramento, CA | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.65 | 1.10 | 0.96 | 1.75 |
| Salem Area, OR | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.01 | 0.03 | 0.00 | 0.06 |
| Salt Lake City Area, UT | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.58 | 0.86 | 0.96 | 1.18 |
| Salt Lake City, UT | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.99 | 1.56 | 1.58 | 2.29 |

Table A1-9

Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Direct and Indirect Impacts

Nitrogen Oxides (NO_x) 2018

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|---|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Salt Lake County, UT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.60 | 0.95 | 0.96 | 1.39 |
| Salt Lake County, UT | SO ₂ (1971 24-hour/Annual) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| San Bernardino County (part); excluding Searles Valley Planning area and South Coast Air Basin, CA | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.02 | 0.07 | 0.00 | 0.17 |
| San Diego Area, CA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.12 | 0.39 | 0.01 | 0.88 |
| San Diego County, CA | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| San Francisco Bay Area, CA | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| San Francisco Bay Area, CA | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 2.98 | 4.81 | 4.66 | 7.23 |
| San Francisco-Oakland-San Jose Area, CA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 2.96 | 4.74 | 4.66 | 7.08 |
| San Joaquin Valley Air Basin; Fresno, Kern, Kings, Madera, Merced, San Joaquin, Stanislaus, Tulare Counties, CA | PM10 (1987 24-hour) | Maintenance, Serious | 100 | 0 | 0.30 | 0.71 | 0.26 | 1.44 |
| San Joaquin Valley, CA | Ozone (2008 8-hour) | Nonattainment, Extreme | 10 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| San Joaquin Valley, CA | PM2.5 (2006 24-hour) | Nonattainment, Serious | 100 | 0 | 0.30 | 0.71 | 0.26 | 1.44 |
| San Joaquin Valley, CA | PM2.5 (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 0.30 | 0.71 | 0.26 | 1.44 |
| San Luis Obispo (Eastern San Luis Obispo), CA | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| San Manuel, AZ | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| San Miguel County; Telluride, CO | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Sanders County (part); Thompson Falls and vicinity, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Santa Cruz County; Nogales planning area, AZ | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.01 | 0.00 | 0.01 |
| Seaford, DE | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Seattle-Tacoma Area, WA | CO (1971 8-hour) | Maintenance, Moderate > 12.7ppm | 100 | 0 | 0.09 | 0.31 | 0.00 | 0.72 |
| Seattle-Tacoma, WA | PM2.5 (2006 24-hour) | Maintenance, Moderate | 100 | 0 | 0.02 | 0.05 | 0.00 | 0.12 |
| Sheboygan County, WI | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |

Appendix A Air Quality Non-Attainment Area Results

Table A1-9

Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Direct and Indirect Impacts

Nitrogen Oxides (NO_x) 2018

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|---|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Sheridan County; City of Sheridan, WY | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.01 |
| Shoshone County (part); excluding Pinehurst, ID | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.01 |
| Shoshone County; City of Pinehurst, ID | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Silver Bow County; Butte, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.01 |
| Somerville Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Southwest Indiana, IN | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Spokane Area, WA | CO (1971 8-hour) | Maintenance, Serious | 100 | 0 | 0.01 | 0.03 | 0.00 | 0.08 |
| Spokane County; (part), WA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.01 | 0.03 | 0.00 | 0.08 |
| Springfield Area, MA | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.01 | 0.02 | 0.00 | 0.04 |
| St. Bernard Parish, LA | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 2.31 | 3.40 | 3.88 | 4.62 |
| St. Louis Area, MO | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.03 | 0.10 | 0.00 | 0.23 |
| St. Louis-St. Charles-Farmington, MO-IL | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Steubenville, OH-WV | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.01 | 0.00 | 0.02 |
| Steubenville-Weirton, OH-WV | PM2.5 (2006 24-hour) | Maintenance, -- | 100 | 0 | 0.08 | 0.12 | 0.13 | 0.18 |
| Stockton Area, CA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.02 | 0.05 | 0.00 | 0.10 |
| Sullivan County, TN | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.02 | 0.03 | 0.03 | 0.04 |
| Syracuse Area; Onondaga County, NY | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.02 | 0.06 | 0.00 | 0.14 |
| Tazewell County; Groveland Twp, IL | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Terre Haute, IN | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.01 | 0.00 | 0.02 |

Table A1-9

Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Direct and Indirect Impacts

Nitrogen Oxides (NO_x) 2018

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|---|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Thurston County; Cities of Olympia, Tumwater, and Lacey, WA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.01 | 0.00 | 0.03 |
| Toms River Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Tooele County (part), UT | SO ₂ (1971 24-hour/Annual) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Trenton Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.01 | 0.00 | 0.02 |
| Trona, CA | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Tucson Area, AZ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.03 | 0.10 | 0.00 | 0.22 |
| Tuscan Buttes, CA | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Union County; LaGrande, OR | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.01 |
| Upper Green River Basin Area, WY | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Utah County, UT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.01 | 0.05 | 0.00 | 0.10 |
| Vancouver Area: Clark County (part), WA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.01 | 0.03 | 0.00 | 0.07 |
| Ventura County, CA | Ozone (2008 8-hour) | Nonattainment, Serious | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Vermillion County; Part of Clinton Township, IN | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.01 |
| Vigo County, IN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Walla Walla County; Wallula, WA | PM10 (1987 24-hour) | Maintenance, Serious | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Waltham Area, MA | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.01 | 0.00 | 0.01 |
| Warren County: Conewago Twp, PA | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Warren County: Warren Boro, Pleasant Twp, Glade Twp, PA | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Warren, PA | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.27 | 0.40 | 0.45 | 0.54 |
| Washington Area, DC-MD-VA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.02 | 0.07 | 0.00 | 0.17 |
| Washington, DC-MD-VA | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Washoe County; Reno planning area, NV | PM10 (1987 24-hour) | Nonattainment, Serious | 70 | 0 | 0.01 | 0.04 | 0.00 | 0.09 |

Appendix A Air Quality Non-Attainment Area Results

Table A1-9

Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Direct and Indirect Impacts

Nitrogen Oxides (NO_x) 2018

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|---|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Wayne County: Boston, Center, Franklin, Wayne & Webster Townships, IN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Wayne County; (part), MI | PM ₁₀ (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.18 | 0.26 | 0.29 | 0.37 |
| West Central Pinal County, AZ | PM _{2.5} (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.01 | 0.00 | 0.02 |
| West Silver Valley, ID | PM _{2.5} (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.01 |
| Winston-Salem Area, NC | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.01 | 0.04 | 0.00 | 0.10 |
| Worcester Area, MA | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.01 | 0.02 | 0.00 | 0.06 |
| Yakima Area, WA | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.01 |
| Yakima County; (part), WA | PM ₁₀ (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.01 | 0.00 | 0.03 |
| Yuba City-Marysville, CA | PM _{2.5} (2006 24-hour) | Maintenance, Moderate | 100 | 0 | 0.01 | 0.02 | 0.00 | 0.05 |
| Yuma County; Yuma planning area, AZ | PM ₁₀ (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.01 | 0.02 | 0.00 | 0.04 |

^a Reductions are shown as positive values. Negative values are emissions increases. Values of less than 0.005 tons per year are rounded to zero.

^b Nonattainment or maintenance status as of 5/13/2016. Source: U.S. EPA, The Green Book Nonattainment Areas for Criteria Pollutants; <http://www.epa.gov/airquality/greenbook/>. "--" indicates that no severity classification has been established for the NAAQS pollutant.

^c Emissions thresholds in tons per year. Where the threshold differs by precursor pollutant, the smallest of the precursor thresholds is shown. These thresholds are provided for information only; a general conformity determination is not required for the Proposed Action. Source: 40 CFR 93.853.

Notes: CO = carbon monoxide; NAAQS =National Ambient Air Quality Standards; NO₂ = nitrogen dioxide; PM = particulate matter; SO₂ = sulfur dioxide

Table A1-10
Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Direct and Indirect Impacts
Nitrogen Oxides (NO_x) 2025

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Ada County; Boise, ID | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 5.43 | 11.09 | 19.33 | 24.56 |
| Adams, Denver, and Boulder Counties; Denver Metropolitan area, CO | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 25.72 | 52.45 | 92.28 | 116.97 |
| Ajo, AZ | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Albuquerque Area, NM | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 10.88 | 22.23 | 38.77 | 49.27 |
| Allegheny County Air Basin: Hazelwood monitor, PA | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Allegheny County, PA | PM2.5 (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 14.12 | 28.82 | 50.51 | 64.09 |
| Allegheny County; The area including Liberty, Lincoln, Port Vue, and Glassport Boroughs and the City of Clairton, PA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.18 | 0.37 | 0.64 | 0.82 |
| Allegheny, PA | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 1.22 | 2.49 | 4.36 | 5.53 |
| Allentown, PA | PM2.5 (2006 24-hour) | Maintenance, Moderate | 100 | 0 | 9.59 | 19.59 | 34.28 | 43.52 |
| Allentown-Bethlehem-Easton, PA | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Anchorage Area, AK | CO (1971 8-hour) | Maintenance, Serious | 100 | 0 | 1.84 | 3.77 | 6.56 | 8.34 |
| Anchorage; Eagle River, AK | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.12 | 0.25 | 0.42 | 0.53 |
| AQCR 012: Portions of Grant County, NM | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| AQCR 109-Millinocket, ME | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| AQCR 131: Anoka, Carver, Dakota, Hennepin, Ramsey, Scott, and Washington counties (Minneapolis-St. Paul), MN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| AQCR 237: Brown County: Green Bay sub-city area, WI | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| AQCR 238: Marathon County: Rothschild Sub-city area, Rib Mountain, Weston, WI | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| AQCR 238: Oneida County: Rhinelander Sub-city area, WI | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| AQCR 239: Milwaukee County: Milwaukee sub-city area, WI | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |

Appendix A Air Quality Non-Attainment Area Results

Table A1-10

Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Direct and Indirect Impacts

Nitrogen Oxides (NO_x) 2025

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| AQCR 240: Dane County: Madison sub-city area, WI | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Archuleta County; Pagosa Springs, CO | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.40 | 0.82 | 1.43 | 1.82 |
| Armstrong County: Madison Twp, Mahoning Twp, Boggs Twp, Washington Twp, Pine Twp, PA | SO ₂ (1971 24-hour/Annual) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Aroostock County; City of Presque Isle, ME | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.24 | 0.49 | 0.86 | 1.09 |
| Atlanta, GA | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Atlantic City Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.92 | 1.88 | 3.31 | 4.19 |
| Bakersfield Area, CA | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 10.94 | 22.71 | 36.47 | 47.47 |
| Baltimore Area, MD | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.20 | 0.42 | 0.71 | 0.91 |
| Baltimore, MD | Ozone (2008 8-hour) | Nonattainment, Moderate | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Baton Rouge, LA | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Beaver, PA | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.25 | 0.50 | 0.89 | 1.12 |
| Benton County; (part) TVA Johnsonville, TN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Billings Area, MT | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 26.30 | 57.85 | 65.40 | 95.97 |
| Billings, MT | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 24.86 | 54.91 | 60.23 | 89.42 |
| Birmingham, AL | PM2.5 (2006 24-hour) | Maintenance, -- | 100 | 0 | 22.11 | 45.15 | 78.82 | 100.13 |
| Boise-Northern Ada County Area, ID | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 5.43 | 11.09 | 19.33 | 24.56 |
| Bonner County; The Sandpoint Area, ID | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.18 | 0.36 | 0.64 | 0.81 |
| Boston Area, MA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 12.68 | 25.89 | 45.33 | 57.53 |
| Boyd County (part), KY | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Brooke; Follansbee area, WV | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.01 | 0.03 | 0.04 | 0.06 |
| Burlington Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.15 | 0.30 | 0.52 | 0.66 |
| Calaveras County, CA | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Campbell-Clermont Counties, KY-OH | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.61 | 1.24 | 2.18 | 2.76 |

Table A1-10

Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Direct and Indirect Impacts

Nitrogen Oxides (NO_x) 2025

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|---|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Canton-Massillon, OH | PM2.5 (2006 24-hour) | Maintenance, -- | 100 | 0 | 13.38 | 28.43 | 40.04 | 54.34 |
| Central New Hampshire, NH | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 3.70 | 7.55 | 13.29 | 16.85 |
| Central Steptoe Valley, NV | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Charleston, WV | PM2.5 (2006 24-hour) | Maintenance, -- | 100 | 0 | 6.24 | 12.73 | 22.40 | 28.39 |
| Charlotte Area, NC | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 21.58 | 44.00 | 77.41 | 98.12 |
| Charlotte-Rock Hill, NC-SC | Ozone (2008 8-hour) | Maintenance, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Chicago-Naperville, IL-IN-WI | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Chico (Butte County), CA | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Chico Area, CA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 1.46 | 2.97 | 5.22 | 6.62 |
| Chico, CA | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 3.30 | 6.74 | 11.85 | 15.02 |
| Cincinnati, OH-KY-IN | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Clark County; Las Vegas planning area, NV | PM10 (1987 24-hour) | Maintenance, Serious | 100 | 0 | 26.83 | 54.72 | 96.27 | 122.02 |
| Cleveland Area, OH | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 16.08 | 32.79 | 57.69 | 73.12 |
| Cleveland, OH | PM2.5 (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 20.98 | 42.79 | 75.27 | 95.41 |
| Cleveland-Akron-Lorain, OH | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Cleveland-Akron-Lorain, OH | PM2.5 (2006 24-hour) | Maintenance, -- | 100 | 0 | 45.99 | 93.78 | 164.99 | 209.13 |
| Cochise County; Paul Spur/Douglas planning area, AZ | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.70 | 1.43 | 2.51 | 3.18 |
| Colorado Springs Area, CO | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 9.33 | 19.06 | 33.26 | 42.26 |
| Columbus, OH | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Cook County; Lyons Township, IL | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 1.38 | 2.85 | 4.76 | 6.13 |
| Cook County; Southeast Chicago, IL | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 1.66 | 3.40 | 5.74 | 7.37 |
| Coshocton County; Franklin Township, OH | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Coso Junction, CA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Cuyahoga County (part), OH | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Cuyahoga County, OH | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 16.01 | 32.66 | 57.45 | 72.83 |

Appendix A Air Quality Non-Attainment Area Results

Table A1-10

Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Direct and Indirect Impacts

Nitrogen Oxides (NO_x) 2025

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Dallas-Fort Worth, TX | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Delaware County, PA | PM2.5 (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 59.50 | 130.44 | 150.92 | 219.53 |
| Denver-Boulder Area, CO | CO (1971 8-hour) | Maintenance, Serious | 100 | 0 | 59.96 | 125.15 | 195.45 | 256.62 |
| Denver-Boulder-Greeley-Ft Collins-Loveland, CO | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Detroit Area, MI | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 30.98 | 63.70 | 107.52 | 137.92 |
| Detroit, MI | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 8.01 | 16.85 | 25.13 | 33.47 |
| Detroit-Ann Arbor, MI | PM2.5 (2006 24-hour) | Maintenance, -- | 100 | 0 | 87.87 | 179.73 | 311.60 | 396.62 |
| Dona Ana County; Anthony, NM | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.18 | 0.37 | 0.64 | 0.82 |
| Douglas, AZ | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Dukes County, MA | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Duluth Area, MN | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 1.88 | 3.82 | 6.73 | 8.53 |
| East Chicago Area, IN | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 40.28 | 88.91 | 97.88 | 145.10 |
| East Helena Area, MT | SO ₂ (1971 24-hour/Annual) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| East Kern County Area, CA | PM10 (1987 24-hour) | Nonattainment, Serious | 70 | 0 | 2.92 | 6.36 | 7.70 | 11.02 |
| El Paso County, TX | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 16.97 | 36.24 | 49.72 | 68.07 |
| El Paso, TX | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 9.89 | 21.78 | 24.40 | 35.93 |
| Eugene-Springfield Area, OR | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 3.83 | 7.81 | 13.74 | 17.41 |
| Fairbanks Area, AK | CO (1971 8-hour) | Maintenance, Serious | 100 | 0 | 3.71 | 8.14 | 9.29 | 13.58 |
| Fairbanks, AK | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 4.10 | 8.94 | 10.69 | 15.36 |

Table A1-10
Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Direct and Indirect Impacts
Nitrogen Oxides (NO_x) 2025

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|---|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Flathead County; Columbia Falls and vicinity, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.03 | 0.06 | 0.11 | 0.14 |
| Flathead County; Kalispell and vicinity, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.62 | 1.27 | 2.24 | 2.84 |
| Flathead County; Whitefish and vicinity, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.08 | 0.16 | 0.28 | 0.36 |
| Fort Collins Area, CO | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 2.03 | 4.14 | 7.29 | 9.24 |
| Freehold Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.40 | 0.82 | 1.45 | 1.84 |
| Fremont County; Canon City Area, CO | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.68 | 1.38 | 2.42 | 3.07 |
| Fresno Area, CA | CO (1971 8-hour) | Maintenance, Moderate > 12.7ppm | 100 | 0 | 9.59 | 19.57 | 34.27 | 43.50 |
| Grants Pass Area, OR | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.73 | 1.49 | 2.62 | 3.31 |
| Great Falls Area, MT | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 4.53 | 10.01 | 10.98 | 16.30 |
| Greater Connecticut, CT | Ozone (2008 8-hour) | Nonattainment, Moderate | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Greeley Area, CO | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 6.85 | 14.03 | 24.23 | 30.87 |
| Hancock and Brooke Counties (Part); The city of Weirton, WV | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 1.53 | 3.34 | 3.92 | 5.67 |
| Hancock County (Part) The city of Weirton, including Butler and Clay: Magisterial Districts, WV | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Harrisburg-Lebanon-Carlisle-York, PA | PM2.5 (2006 24-hour) | Maintenance, Moderate | 100 | 0 | 21.82 | 44.51 | 78.23 | 99.19 |
| Hartford-New Britain-Middletown Area, CT | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 19.17 | 39.09 | 68.77 | 87.17 |
| Hayden, AZ | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.06 | 0.13 | 0.22 | 0.28 |
| Hayden, AZ | SO ₂ (1971 24-hour/Annual) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Hayden, AZ | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.04 | 0.09 | 0.16 | 0.20 |
| Hillsborough County, FL | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.26 | 0.53 | 0.92 | 1.17 |
| Houston-Galveston-Brazoria, TX | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Humphreys County; (part) TVA Johnsonville, TN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Imperial Co, CA | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 3.55 | 7.23 | 12.72 | 16.13 |

Appendix A Air Quality Non-Attainment Area Results

Table A1-10

Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Direct and Indirect Impacts

Nitrogen Oxides (NO_x) 2025

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Imperial County, CA | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Imperial County, CA | PM2.5 (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 3.55 | 7.23 | 12.72 | 16.13 |
| Imperial County; Imperial Valley planning area, CA | PM10 (1987 24-hour) | Nonattainment, Serious | 70 | 0 | 4.33 | 8.82 | 15.52 | 19.68 |
| Indian Wells, CA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 2.91 | 6.33 | 7.66 | 10.96 |
| Indiana, PA | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 1.59 | 3.23 | 5.69 | 7.21 |
| Indianapolis Area, IN | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.03 | 0.06 | 0.10 | 0.13 |
| Indianapolis, IN | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 8.29 | 16.91 | 29.75 | 37.71 |
| Inyo County; Owens Valley planning area, CA | PM10 (1987 24-hour) | Nonattainment, Serious | 70 | 0 | 0.13 | 0.27 | 0.47 | 0.60 |
| Jackson County, MO | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.91 | 1.86 | 3.27 | 4.14 |
| Jackson County; Medford-Ashland (including White City), OR | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 3.16 | 6.45 | 11.35 | 14.39 |
| Jamestown, NY | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Jefferson County, KY | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Jefferson County, MO | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.89 | 1.81 | 3.18 | 4.03 |
| Jefferson County; (part) Steubenville & Mingo Junction, OH | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Jefferson County; (part), OH | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.08 | 0.17 | 0.30 | 0.38 |
| Johnstown, PA | PM2.5 (2006 24-hour) | Maintenance, Moderate | 100 | 0 | 2.12 | 4.33 | 7.61 | 9.65 |
| Josephine County; Grants Pass, OR | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.73 | 1.49 | 2.62 | 3.31 |
| Juneau; Mendenhall Valley area, AK | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.15 | 0.30 | 0.52 | 0.66 |
| Kern County (Eastern Kern), CA | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| King County; Kent, WA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.36 | 0.73 | 1.29 | 1.64 |
| King County; Seattle, WA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.15 | 0.32 | 0.55 | 0.70 |
| Klamath County; Klamath Falls, OR | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 1.13 | 2.31 | 4.07 | 5.16 |
| Klamath Falls Area, OR | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 1.12 | 2.29 | 4.03 | 5.10 |
| Klamath Falls, OR | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 1.23 | 2.51 | 4.41 | 5.59 |

Table A1-10
Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Direct and Indirect Impacts
Nitrogen Oxides (NO_x) 2025

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Knoxville, TN | Ozone (2008 8-hour) | Maintenance, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Knoxville-Sevierville-La Follette, TN | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 16.93 | 34.52 | 60.73 | 76.98 |
| La Porte County: (part), IN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lake County (part); Lakeview, OR | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.10 | 0.20 | 0.34 | 0.44 |
| Lake County, OH | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 4.63 | 9.44 | 16.60 | 21.04 |
| Lake County: (part), IN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lake County; (part) Eastlake, Timberlake, Lakeline, Willoughby, Mentor, OH | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lake County; Cities of East Chicago, Hammond, Whiting, and Gary, IN | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 43.07 | 94.62 | 107.89 | 157.80 |
| Lake County; Polson, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.04 | 0.07 | 0.13 | 0.17 |
| Lake County; Ronan, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lake Tahoe Nevada Area, NV | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.31 | 0.63 | 1.11 | 1.41 |
| Lake Tahoe North Shore Area, CA | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.18 | 0.37 | 0.65 | 0.82 |
| Lake Tahoe South Shore Area, CA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.51 | 1.04 | 1.83 | 2.32 |
| Lancaster, PA | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lancaster, PA | PM2.5 (2006 24-hour) | Maintenance, Moderate | 100 | 0 | 8.87 | 18.09 | 31.82 | 40.34 |
| Lane County (part); Oakridge, OR | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.04 | 0.08 | 0.14 | 0.18 |
| Lane County; Eugene/Springfield, OR | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 3.83 | 7.81 | 13.74 | 17.41 |
| Las Vegas Area, NV | CO (1971 8-hour) | Maintenance, Serious | 100 | 0 | 26.76 | 54.58 | 96.02 | 121.71 |
| LaSalle County; Oglesby, IL | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.61 | 1.24 | 2.17 | 2.76 |
| Laurel Area, MT | SO ₂ (1971 24-hour/Annual) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lebanon County, PA | PM2.5 (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 3.06 | 6.24 | 10.97 | 13.91 |
| Lemont, IL | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 56.31 | 123.95 | 139.29 | 204.87 |
| Liberty-Clairton, PA | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.18 | 0.37 | 0.64 | 0.82 |

Appendix A Air Quality Non-Attainment Area Results

Table A1-10

Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Direct and Indirect Impacts

Nitrogen Oxides (NO_x) 2025

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|---------------------------------------|--|---|---|--------|--------------------|----------|----------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Lincoln County; Libby and vicinity, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.10 | 0.21 | 0.37 | 0.47 |
| Logan, UT-ID | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 1.57 | 3.19 | 5.62 | 7.12 |
| Longmont Area, CO | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 1.27 | 2.59 | 4.56 | 5.78 |
| Lorain County (part), OH | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Los Angeles, CA | PM2.5 (2006 24-hour) | Nonattainment, Serious | 100 | 0 | 319.46 | 662.22 | 1,072.30 | 1,392.52 |
| Los Angeles-San Bernardino Counties (West Mojave Desert), CA | Ozone (2008 8-hour) | Nonattainment, Severe 15 | 25 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Los Angeles-South Coast Air Basin Area, CA | CO (1971 8-hour) | Maintenance, Serious | 100 | 0 | 319.64 | 662.58 | 1,072.93 | 1,393.31 |
| Los Angeles-South Coast Air Basin Area, CA | NO ₂ (1971 Annual) | Maintenance, -- | 100 | 0 | 319.64 | 662.59 | 1,072.95 | 1,393.34 |
| Los Angeles-South Coast Air Basin, CA | Ozone (2008 8-hour) | Nonattainment, Extreme | 10 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Los Angeles-South Coast Air Basin, CA | PM2.5 (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 319.22 | 661.72 | 1,071.42 | 1,391.40 |
| Lowell Area, MA | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 1.74 | 3.54 | 6.23 | 7.90 |
| Lucas County (part), OH | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Madison County; Granite City Township and Nameoki Township, IL | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 59.71 | 131.74 | 145.57 | 215.49 |
| Manchester Area, NH | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 1.50 | 3.05 | 5.37 | 6.81 |
| Maricopa and Pinal Counties; Phoenix planning area, AZ | PM10 (1987 24-hour) | Nonattainment, Serious | 70 | 0 | 61.65 | 125.73 | 221.18 | 280.36 |
| Marion County; Lawrence, Washington, and Warrant Townships, IN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Mariposa County, CA | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Marshall, WV | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 11.76 | 25.93 | 28.73 | 42.48 |
| Medford Area, OR | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 1.62 | 3.31 | 5.82 | 7.38 |
| Memphis Area, TN | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 22.17 | 46.41 | 71.30 | 94.10 |

Table A1-10
Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Direct and Indirect Impacts
Nitrogen Oxides (NO_x) 2025

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|---|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Memphis, TN-MS-AR | Ozone (2008 8-hour) | Nonattainment TN & Maintenance MS/AR, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Miami, AZ | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.22 | 0.46 | 0.80 | 1.02 |
| Miami, AZ | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Miami, AZ | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.22 | 0.46 | 0.80 | 1.02 |
| Milwaukee-Racine, WI | PM2.5 (2006 24-hour) | Maintenance, -- | 100 | 0 | 20.29 | 41.38 | 72.79 | 92.27 |
| Minneapolis-St. Paul Area, MN | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 102.25 | 216.97 | 308.71 | 417.54 |
| Missoula Area, MT | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 1.67 | 3.42 | 5.83 | 7.46 |
| Missoula county; Missoula and vicinity, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 1.60 | 3.28 | 5.59 | 7.15 |
| Modesto Area, CA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 3.36 | 6.85 | 12.04 | 15.26 |
| Mohave County (part); Bullhead City, AZ | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 1.59 | 3.25 | 5.72 | 7.25 |
| Mono County; Mammoth Lake planning area, CA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.51 | 1.04 | 1.83 | 2.32 |
| Mono County; Mono Basin, CA | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.04 | 0.08 | 0.14 | 0.18 |
| Morenci, AZ | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Morgan County, IN | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.62 | 1.25 | 2.21 | 2.80 |
| Morongo Band of Mission Indians | Ozone (2008 8-hour) | Nonattainment, Serious | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Morristown Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.68 | 1.38 | 2.42 | 3.07 |
| Muscatine County; (part), IA | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Muscatine, IA | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.34 | 0.70 | 1.23 | 1.55 |
| Muskingum River, OH | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.14 | 0.28 | 0.49 | 0.62 |
| Nashua Area, NH | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 1.29 | 2.63 | 4.63 | 5.87 |
| Nassau County, FL | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.10 | 0.19 | 0.34 | 0.43 |
| Nevada County (Western part), CA | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| New Haven County, CT | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.35 | 0.72 | 1.27 | 1.61 |

Appendix A Air Quality Non-Attainment Area Results

Table A1-10

Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Direct and Indirect Impacts

Nitrogen Oxides (NO_x) 2025

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|---------------------------------------|--|---|---|--------|--------------------|----------|----------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| New Haven-Meriden-Waterbury Area, CT | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 14.79 | 30.19 | 52.91 | 67.14 |
| New Manchester-Grant magisterial district in Hancock County, WV | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| New York County, NY | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 9.64 | 19.66 | 34.58 | 43.84 |
| New York, NY-NJ-CT | PM2.5 (2006 24-hour) | Maintenance, -- | 100 | 0 | 294.05 | 603.84 | 1,026.32 | 1,313.84 |
| New York-N. New Jersey-Long Island Area, NY-NJ-CT | CO (1971 8-hour) | Maintenance, Moderate > 12.7ppm | 100 | 0 | 168.90 | 347.70 | 583.49 | 749.74 |
| New York-N. New Jersey-Long Island, NY-NJ-CT | Ozone (2008 8-hour) | Nonattainment, Moderate | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| NJ portion of the Northeast Pennsylvania-Upper Delaware Valley Interstate AQCR: (part), NJ | SO ₂ (1971 24-hour/Annual) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Nogales, AZ | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.77 | 1.58 | 2.77 | 3.52 |
| Oakridge, OR | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.04 | 0.08 | 0.14 | 0.18 |
| Ogden Area, UT | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.94 | 1.92 | 3.38 | 4.29 |
| Ogden Area, UT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.94 | 1.92 | 3.38 | 4.29 |
| Olmsted County; (part), MN | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.48 | 0.98 | 1.73 | 2.19 |
| Olmsted; City of Rochester, MN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |

Table A1-10
Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Direct and Indirect Impacts
Nitrogen Oxides (NO_x) 2025

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Pechanga Band of Luiseno Mission Indians of the Pechanga Reservation | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Pekin, IL | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.68 | 1.38 | 2.43 | 3.08 |
| Penns Grove Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Peoria County: Hollis Twp, IL | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Peoria County: Peoria, IL | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Perth Amboy Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 6.82 | 14.77 | 18.49 | 26.13 |
| Philadelphia-Camden County Area, PA-NJ | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 41.52 | 89.03 | 118.98 | 164.34 |
| Philadelphia-Wilmington, PA-NJ-DE | PM _{2.5} (2006 24-hour) | Maintenance, Moderate for PA and DE Subject to Former Subpart 1 for NJ | 100 | 0 | 161.51 | 344.52 | 475.26 | 649.44 |
| Philadelphia-Wilmington-Atlantic City, PA-NJ-MD-DE | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Phoenix Area, AZ | CO (1971 8-hour) | Maintenance, Serious | 100 | 0 | 59.04 | 120.40 | 211.81 | 268.48 |
| Phoenix-Mesa, AZ | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Pierce County; Tacoma, WA | PM ₁₀ (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.04 | 0.07 | 0.13 | 0.17 |
| Pima County; Ajo planning area, AZ | PM ₁₀ (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.01 | 0.02 | 0.04 | 0.05 |
| Pima County; Rillito planning area, AZ | PM ₁₀ (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 1.04 | 2.13 | 3.74 | 4.74 |
| Pinal and Gila Counties; Payson, AZ | PM ₁₀ (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.46 | 0.94 | 1.65 | 2.10 |
| Pinal County (part); West Pinal, AZ | PM ₁₀ (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 6.78 | 13.83 | 24.33 | 30.84 |
| Pitkin County; Aspen, CO | PM ₁₀ (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.43 | 0.87 | 1.53 | 1.94 |
| Pittsburgh Area, PA | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 3.33 | 6.81 | 11.92 | 15.13 |
| Pittsburgh-Beaver Valley, PA | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Pittsburgh-Beaver Valley, PA | PM _{2.5} (2006 24-hour) | Maintenance, Moderate | 100 | 0 | 30.53 | 62.32 | 109.07 | 138.46 |
| Plumas County, CA | PM _{2.5} (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 0.11 | 0.22 | 0.39 | 0.50 |
| Polk County, TN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |

Appendix A Air Quality Non-Attainment Area Results

Table A1-10

Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Direct and Indirect Impacts

Nitrogen Oxides (NO_x) 2025

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|-------------------------------|--|---|---|--------|--------------------|----------|----------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Portland Area: Portland Metro Service District Boundary, OR | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 19.97 | 40.78 | 71.21 | 90.45 |
| Power-Bannock Counties; Fort Hall Indian Reservation, ID | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Power-Bannock Counties; Portneuf Valley Area, ID | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 1.54 | 3.14 | 5.52 | 6.99 |
| Provo Area, UT | CO (1971 8-hour) | Maintenance, Moderate > 12.7ppm | 100 | 0 | 1.24 | 2.53 | 4.44 | 5.63 |
| Provo, UT | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 6.71 | 13.69 | 24.08 | 30.52 |
| Prowers County; Lamar, CO | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.30 | 0.61 | 1.08 | 1.37 |
| Raleigh-Durham Area, NC | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 23.32 | 47.56 | 83.66 | 106.04 |
| Ramsey County; (part), MN | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.05 | 0.10 | 0.17 | 0.22 |
| Reading, PA | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Reno Area, NV | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 5.56 | 11.35 | 19.96 | 25.30 |
| Rhinelander, WI | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.60 | 1.23 | 2.17 | 2.75 |
| Riverside County (Coachella Valley), CA | Ozone (2008 8-hour) | Nonattainment, Severe 15 | 25 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Riverside County; Coachella Valley planning area, CA | PM10 (1987 24-hour) | Nonattainment, Serious | 70 | 0 | 8.94 | 18.23 | 32.08 | 40.66 |
| Riverside, Los Angeles, Orange, and San Bernardino Counties; South Coast Air Basin, CA | PM10 (1987 24-hour) | Maintenance, Serious | 100 | 0 | 318.35 | 659.95 | 1,068.30 | 1,387.45 |
| Rosebud County; Lame Deer, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.26 | 0.53 | 0.94 | 1.19 |
| Routt County (part); Steamboat Springs, CO | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.51 | 1.03 | 1.82 | 2.31 |
| Sacramento Area, CA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 22.80 | 46.51 | 81.71 | 103.61 |
| Sacramento County, CA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 20.91 | 42.65 | 74.95 | 95.03 |
| Sacramento Metro, CA | Ozone (2008 8-hour) | Nonattainment, Severe 15 | 25 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Sacramento, CA | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 49.35 | 102.36 | 165.28 | 214.82 |
| Salem Area, OR | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 4.17 | 8.50 | 14.95 | 18.95 |
| Salt Lake City Area, UT | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 12.76 | 27.72 | 34.00 | 48.41 |
| Salt Lake City, UT | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 43.30 | 91.12 | 135.99 | 181.12 |

Table A1-10
Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Direct and Indirect Impacts
Nitrogen Oxides (NO_x) 2025

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|---|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Salt Lake County, UT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 25.88 | 54.48 | 81.08 | 108.09 |
| Salt Lake County, UT | SO ₂ (1971 24-hour/Annual) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| San Bernardino County (part); excluding Searles Valley Planning area and South Coast Air Basin, CA | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 10.33 | 21.07 | 37.05 | 46.97 |
| San Diego Area, CA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 56.52 | 115.28 | 202.69 | 256.96 |
| San Diego County, CA | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| San Francisco Bay Area, CA | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| San Francisco Bay Area, CA | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 159.30 | 333.13 | 514.61 | 677.97 |
| San Francisco-Oakland-San Jose Area, CA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 149.83 | 313.83 | 480.66 | 634.93 |
| San Joaquin Valley Air Basin; Fresno, Kern, Kings, Madera, Merced, San Joaquin, Stanislaus, Tulare Counties, CA | PM10 (1987 24-hour) | Maintenance, Serious | 100 | 0 | 76.56 | 156.58 | 271.62 | 345.67 |
| San Joaquin Valley, CA | Ozone (2008 8-hour) | Nonattainment, Extreme | 10 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| San Joaquin Valley, CA | PM2.5 (2006 24-hour) | Nonattainment, Serious | 100 | 0 | 76.54 | 156.54 | 271.55 | 345.58 |
| San Joaquin Valley, CA | PM2.5 (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 76.54 | 156.54 | 271.55 | 345.58 |
| San Luis Obispo (Eastern San Luis Obispo), CA | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| San Manuel, AZ | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| San Miguel County; Telluride, CO | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.17 | 0.34 | 0.60 | 0.75 |
| Sanders County (part); Thompson Falls and vicinity, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.01 | 0.01 | 0.01 |
| Santa Cruz County; Nogales planning area, AZ | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.77 | 1.58 | 2.77 | 3.52 |
| Seaford, DE | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Seattle-Tacoma Area, WA | CO (1971 8-hour) | Maintenance, Moderate > 12.7ppm | 100 | 0 | 46.39 | 94.60 | 166.42 | 210.95 |
| Seattle-Tacoma, WA | PM2.5 (2006 24-hour) | Maintenance, Moderate | 100 | 0 | 7.52 | 15.35 | 27.00 | 34.22 |
| Sheboygan County, WI | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |

Appendix A Air Quality Non-Attainment Area Results

Table A1-10

Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Direct and Indirect Impacts

Nitrogen Oxides (NO_x) 2025

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|---|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Sheridan County; City of Sheridan, WY | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.43 | 0.88 | 1.55 | 1.96 |
| Shoshone County (part); excluding Pinehurst, ID | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.73 | 1.48 | 2.60 | 3.30 |
| Shoshone County; City of Pinehurst, ID | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Silver Bow County; Butte, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.69 | 1.41 | 2.48 | 3.14 |
| Somerville Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.30 | 0.61 | 1.07 | 1.36 |
| Southwest Indiana, IN | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.19 | 0.39 | 0.69 | 0.88 |
| Spokane Area, WA | CO (1971 8-hour) | Maintenance, Serious | 100 | 0 | 4.90 | 10.00 | 17.59 | 22.29 |
| Spokane County; (part), WA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 5.05 | 10.29 | 18.11 | 22.96 |
| Springfield Area, MA | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 2.73 | 5.57 | 9.79 | 12.41 |
| St. Bernard Parish, LA | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 41.14 | 90.82 | 100.06 | 148.28 |
| St. Louis Area, MO | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 14.85 | 30.29 | 53.28 | 67.54 |
| St. Louis-St. Charles-Farmington, MO-IL | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Steubenville, OH-WV | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 1.08 | 2.21 | 3.88 | 4.92 |
| Steubenville-Weirton, OH-WV | PM2.5 (2006 24-hour) | Maintenance, -- | 100 | 0 | 3.38 | 7.11 | 10.56 | 14.09 |
| Stockton Area, CA | CO (1971 8-hour) | Maintenance, Moderate ≤ 12.7ppm | 100 | 0 | 6.26 | 12.77 | 22.41 | 28.42 |
| Sullivan County, TN | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.63 | 1.33 | 1.93 | 2.60 |
| Syracuse Area; Onondaga County, NY | CO (1971 8-hour) | Maintenance, Moderate ≤ 12.7ppm | 100 | 0 | 9.15 | 18.67 | 32.84 | 41.63 |
| Tazewell County; Groveland Twp, IL | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Terre Haute, IN | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.97 | 1.97 | 3.46 | 4.39 |

Table A1-10
Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Direct and Indirect Impacts
Nitrogen Oxides (NO_x) 2025

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|---|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Thurston County; Cities of Olympia, Tumwater, and Lacey, WA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 1.71 | 3.50 | 6.15 | 7.80 |
| Toms River Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.08 | 0.17 | 0.30 | 0.38 |
| Tooele County (part), UT | SO ₂ (1971 24-hour/Annual) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Trenton Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 1.45 | 2.95 | 5.20 | 6.59 |
| Trona, CA | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.01 | 0.03 | 0.05 | 0.06 |
| Tucson Area, AZ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 14.25 | 29.06 | 51.12 | 64.79 |
| Tuscan Buttes, CA | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Union County; LaGrande, OR | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.47 | 0.95 | 1.67 | 2.12 |
| Upper Green River Basin Area, WY | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Utah County, UT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 6.71 | 13.69 | 24.08 | 30.53 |
| Vancouver Area: Clark County (part), WA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 4.54 | 9.27 | 16.30 | 20.67 |
| Ventura County, CA | Ozone (2008 8-hour) | Nonattainment, Serious | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Vermillion County; Part of Clinton Township, IN | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.35 | 0.71 | 1.25 | 1.59 |
| Vigo County, IN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Walla Walla County; Wallula, WA | PM10 (1987 24-hour) | Maintenance, Serious | 100 | 0 | 0.07 | 0.15 | 0.26 | 0.32 |
| Waltham Area, MA | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.94 | 1.93 | 3.39 | 4.29 |
| Warren County: Conewago Twp, PA | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Warren County: Warren Boro, Pleasant Twp, Glade Twp, PA | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Warren, PA | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 5.10 | 11.20 | 12.79 | 18.69 |
| Washington Area, DC-MD-VA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 11.08 | 22.60 | 39.77 | 50.41 |
| Washington, DC-MD-VA | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Washoe County; Reno planning area, NV | PM10 (1987 24-hour) | Nonattainment, Serious | 70 | 0 | 5.52 | 11.26 | 19.81 | 25.11 |

Appendix A Air Quality Non-Attainment Area Results

Table A1-10

Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Direct and Indirect Impacts

Nitrogen Oxides (NO_x) 2025

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|---|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Wayne County: Boston, Center, Franklin, Wayne & Webster Townships, IN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Wayne County; (part), MI | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 4.28 | 9.26 | 11.78 | 16.55 |
| West Central Pinal County, AZ | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 1.39 | 2.83 | 4.97 | 6.30 |
| West Silver Valley, ID | PM2.5 (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 0.37 | 0.75 | 1.32 | 1.68 |
| Winston-Salem Area, NC | CO (1971 8-hour) | Maintenance, Moderate ≤ 12.7ppm | 100 | 0 | 6.23 | 12.70 | 22.34 | 28.31 |
| Worcester Area, MA | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 3.77 | 7.69 | 13.52 | 17.14 |
| Yakima Area, WA | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.66 | 1.34 | 2.36 | 2.99 |
| Yakima County; (part), WA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 1.92 | 3.92 | 6.89 | 8.73 |
| Yuba City-Marysville, CA | PM2.5 (2006 24-hour) | Maintenance, Moderate | 100 | 0 | 3.19 | 6.51 | 11.46 | 14.53 |
| Yuma County; Yuma planning area, AZ | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 2.76 | 5.64 | 9.92 | 12.57 |

^a Reductions are shown as positive values. Negative values are emissions increases. Values of less than 0.005 tons per year are rounded to zero.

^b Nonattainment or maintenance status as of 5/13/2016. Source: U.S. EPA, The Green Book Nonattainment Areas for Criteria Pollutants; <http://www.epa.gov/airquality/greenbook/>. "--" indicates that no severity classification has been established for the NAAQS pollutant.

^c Emissions thresholds in tons per year. Where the threshold differs by precursor pollutant, the smallest of the precursor thresholds is shown. These thresholds are provided for information only; a general conformity determination is not required for the Proposed Action. Source: 40 CFR 93.853.

Notes: CO = carbon monoxide; NAAQS = National Ambient Air Quality Standards; NO₂ = nitrogen dioxide; PM = particulate matter; SO₂ = sulfur dioxide

Table A1-11
Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Direct and Indirect Impacts
Nitrogen Oxides (NO_x) 2040

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Ada County; Boise, ID | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 18.01 | 46.92 | 64.44 | 76.11 |
| Adams, Denver, and Boulder Counties; Denver Metropolitan area, CO | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 85.09 | 221.15 | 306.57 | 360.96 |
| Ajo, AZ | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Albuquerque Area, NM | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 35.93 | 93.56 | 128.61 | 151.86 |
| Allegheny County Air Basin: Hazelwood monitor, PA | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Allegheny County, PA | PM2.5 (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 46.67 | 121.39 | 167.67 | 197.66 |
| Allegheny County; The area including Liberty, Lincoln, Port Vue, and Glassport Boroughs and the City of Clairton, PA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.45 | 1.18 | 1.61 | 1.90 |
| Allegheny, PA | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 3.08 | 8.03 | 11.07 | 13.05 |
| Allentown, PA | PM2.5 (2006 24-hour) | Maintenance, Moderate | 100 | 0 | 31.70 | 82.49 | 113.77 | 134.18 |
| Allentown-Bethlehem-Easton, PA | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Anchorage Area, AK | CO (1971 8-hour) | Maintenance, Serious | 100 | 0 | 5.91 | 15.40 | 21.15 | 24.98 |
| Anchorage; Eagle River, AK | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.38 | 1.00 | 1.32 | 1.58 |
| AQCR 012: Portions of Grant County, NM | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| AQCR 109-Millinocket, ME | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| AQCR 131: Anoka, Carver, Dakota, Hennepin, Ramsey, Scott, and Washington counties (Minneapolis-St. Paul), MN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| AQCR 237: Brown County: Green Bay sub-city area, WI | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| AQCR 238: Marathon County: Rothschild Sub-city area, Rib Mountain, Weston, WI | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| AQCR 238: Oneida County: Rhinelander Sub-city area, WI | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| AQCR 239: Milwaukee County: Milwaukee sub-city area, WI | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |

Appendix A Air Quality Non-Attainment Area Results

Table A1-11

Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Direct and Indirect Impacts

Nitrogen Oxides (NO_x) 2040

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| AQCR 240: Dane County: Madison sub-city area, WI | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Archuleta County; Pagosa Springs, CO | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 1.32 | 3.44 | 4.76 | 5.61 |
| Armstrong County: Madison Twp, Mahoning Twp, Boggs Twp, Washington Twp, Pine Twp, PA | SO ₂ (1971 24-hour/Annual) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Aroostock County; City of Presque Isle, ME | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.88 | 2.29 | 3.18 | 3.74 |
| Atlanta, GA | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Atlantic City Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 3.03 | 7.87 | 10.91 | 12.85 |
| Bakersfield Area, CA | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 35.68 | 94.57 | 119.69 | 145.46 |
| Baltimore Area, MD | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.72 | 1.88 | 2.54 | 3.02 |
| Baltimore, MD | Ozone (2008 8-hour) | Nonattainment, Moderate | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Baton Rouge, LA | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Beaver, PA | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.86 | 2.24 | 3.11 | 3.66 |
| Benton County; (part) TVA Johnsonville, TN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Billings Area, MT | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 80.23 | 227.62 | 196.43 | 278.56 |
| Billings, MT | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 75.59 | 215.57 | 179.73 | 258.90 |
| Birmingham, AL | PM2.5 (2006 24-hour) | Maintenance, -- | 100 | 0 | 72.96 | 189.94 | 261.28 | 308.45 |
| Boise-Northern Ada County Area, ID | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 18.01 | 46.92 | 64.44 | 76.11 |
| Bonner County; The Sandpoint Area, ID | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.65 | 1.70 | 2.35 | 2.77 |
| Boston Area, MA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 42.45 | 110.45 | 152.42 | 179.74 |
| Boyd County (part), KY | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Brooke; Follansbee area, WV | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.03 | 0.08 | 0.11 | 0.13 |
| Burlington Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.39 | 1.00 | 1.39 | 1.64 |
| Calaveras County, CA | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Campbell-Clermont Counties, KY-OH | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 2.07 | 5.37 | 7.45 | 8.77 |

Table A1-11
Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Direct and Indirect Impacts
Nitrogen Oxides (NO_x) 2040

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|---|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Canton-Massillon, OH | PM2.5 (2006 24-hour) | Maintenance, -- | 100 | 0 | 42.42 | 115.49 | 127.40 | 162.99 |
| Central New Hampshire, NH | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 12.25 | 31.84 | 44.13 | 51.96 |
| Central Steptoe Valley, NV | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Charleston, WV | PM2.5 (2006 24-hour) | Maintenance, -- | 100 | 0 | 20.65 | 53.67 | 74.40 | 87.60 |
| Charlotte Area, NC | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 71.37 | 185.51 | 257.15 | 302.78 |
| Charlotte-Rock Hill, NC-SC | Ozone (2008 8-hour) | Maintenance, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Chicago-Naperville, IL-IN-WI | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Chico (Butte County), CA | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Chico Area, CA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 5.27 | 13.71 | 19.00 | 22.37 |
| Chico, CA | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 10.98 | 28.54 | 39.56 | 46.58 |
| Cincinnati, OH-KY-IN | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Clark County; Las Vegas planning area, NV | PM10 (1987 24-hour) | Maintenance, Serious | 100 | 0 | 89.01 | 231.34 | 320.69 | 377.60 |
| Cleveland Area, OH | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 53.28 | 138.48 | 191.96 | 226.02 |
| Cleveland, OH | PM2.5 (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 69.48 | 180.59 | 250.34 | 294.76 |
| Cleveland-Akron-Lorain, OH | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Cleveland-Akron-Lorain, OH | PM2.5 (2006 24-hour) | Maintenance, -- | 100 | 0 | 152.18 | 395.55 | 548.31 | 645.61 |
| Cochise County; Paul Spur/Douglas planning area, AZ | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 2.29 | 5.94 | 8.23 | 9.70 |
| Colorado Springs Area, CO | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 30.96 | 80.62 | 110.87 | 130.89 |
| Columbus, OH | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Cook County; Lyons Township, IL | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 4.53 | 11.91 | 15.70 | 18.81 |
| Cook County; Southeast Chicago, IL | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 4.84 | 12.72 | 16.82 | 20.13 |
| Coshocton County; Franklin Township, OH | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Coso Junction, CA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Cuyahoga County (part), OH | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Cuyahoga County, OH | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 53.03 | 137.84 | 191.07 | 224.97 |

Appendix A Air Quality Non-Attainment Area Results

Table A1-11

Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Direct and Indirect Impacts

Nitrogen Oxides (NO_x) 2040

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|---------------------------------------|--|---|---|--------|--------------------|----------|----------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Dallas-Fort Worth, TX | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Delaware County, PA | PM2.5 (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 182.48 | 515.51 | 457.37 | 640.64 |
| Denver-Boulder Area, CO | CO (1971 8-hour) | Maintenance, Serious | 100 | 0 | 193.93 | 517.01 | 635.76 | 780.70 |
| Denver-Boulder-Greeley-Ft Collins-Loveland, CO | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Detroit Area, MI | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 91.77 | 240.91 | 319.08 | 381.61 |
| Detroit, MI | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 28.90 | 77.48 | 92.61 | 114.92 |
| Detroit-Ann Arbor, MI | PM2.5 (2006 24-hour) | Maintenance, -- | 100 | 0 | 289.86 | 755.78 | 1,032.66 | 1,221.87 |
| Dona Ana County; Anthony, NM | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.61 | 1.59 | 2.20 | 2.59 |
| Douglas, AZ | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Dukes County, MA | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Duluth Area, MN | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 6.92 | 17.99 | 24.93 | 29.36 |
| East Chicago Area, IN | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 122.62 | 349.43 | 292.68 | 420.71 |
| East Helena Area, MT | SO ₂ (1971 24-hour/Annual) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| East Kern County Area, CA | PM10 (1987 24-hour) | Nonattainment, Serious | 70 | 0 | 8.64 | 24.29 | 22.26 | 30.74 |
| El Paso County, TX | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 52.72 | 144.41 | 154.21 | 199.82 |
| El Paso, TX | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 29.98 | 85.24 | 72.60 | 103.56 |
| Eugene-Springfield Area, OR | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 13.13 | 34.13 | 47.31 | 55.70 |
| Fairbanks Area, AK | CO (1971 8-hour) | Maintenance, Serious | 100 | 0 | 11.21 | 31.77 | 27.55 | 38.98 |
| Fairbanks, AK | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 12.57 | 35.32 | 32.48 | 44.79 |

Table A1-11
Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Direct and Indirect Impacts
Nitrogen Oxides (NO_x) 2040

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|---|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Flathead County; Columbia Falls and vicinity, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.08 | 0.22 | 0.30 | 0.36 |
| Flathead County; Kalispell and vicinity, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 2.11 | 5.47 | 7.58 | 8.93 |
| Flathead County; Whitefish and vicinity, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.24 | 0.63 | 0.87 | 1.02 |
| Fort Collins Area, CO | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 6.63 | 17.22 | 23.87 | 28.11 |
| Freehold Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 1.51 | 3.93 | 5.45 | 6.41 |
| Fremont County; Canon City Area, CO | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 2.23 | 5.81 | 8.05 | 9.48 |
| Fresno Area, CA | CO (1971 8-hour) | Maintenance, Moderate > 12.7ppm | 100 | 0 | 31.23 | 81.27 | 112.13 | 132.24 |
| Grants Pass Area, OR | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 2.58 | 6.71 | 9.30 | 10.95 |
| Great Falls Area, MT | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 13.78 | 39.31 | 32.77 | 47.21 |
| Greater Connecticut, CT | Ozone (2008 8-hour) | Nonattainment, Moderate | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Greeley Area, CO | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 22.58 | 58.94 | 80.23 | 95.05 |
| Hancock and Brooke Counties (Part); The city of Weirton, WV | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 4.64 | 13.08 | 11.75 | 16.37 |
| Hancock County (Part) The city of Weirton, including Butler and Clay: Magisterial Districts, WV | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Harrisburg-Lebanon-Carlisle-York, PA | PM2.5 (2006 24-hour) | Maintenance, Moderate | 100 | 0 | 72.17 | 187.61 | 259.81 | 306.02 |
| Hartford-New Britain-Middletown Area, CT | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 63.53 | 165.13 | 228.90 | 269.52 |
| Hayden, AZ | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.14 | 0.37 | 0.51 | 0.60 |
| Hayden, AZ | SO ₂ (1971 24-hour/Annual) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Hayden, AZ | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.13 | 0.34 | 0.47 | 0.55 |
| Hillsborough County, FL | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.90 | 2.34 | 3.21 | 3.79 |
| Houston-Galveston-Brazoria, TX | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Humphreys County; (part) TVA Johnsonville, TN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Imperial Co, CA | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 11.86 | 30.83 | 42.74 | 50.33 |

Appendix A Air Quality Non-Attainment Area Results

Table A1-11

Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Direct and Indirect Impacts

Nitrogen Oxides (NO_x) 2040

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Imperial County, CA | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Imperial County, CA | PM2.5 (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 11.86 | 30.83 | 42.74 | 50.33 |
| Imperial County; Imperial Valley planning area, CA | PM10 (1987 24-hour) | Nonattainment, Serious | 70 | 0 | 14.38 | 37.39 | 51.83 | 61.02 |
| Indian Wells, CA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 8.55 | 24.05 | 21.93 | 30.35 |
| Indiana, PA | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 5.25 | 13.65 | 18.92 | 22.28 |
| Indianapolis Area, IN | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.08 | 0.20 | 0.28 | 0.33 |
| Indianapolis, IN | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 26.45 | 68.75 | 95.31 | 112.22 |
| Inyo County; Owens Valley planning area, CA | PM10 (1987 24-hour) | Nonattainment, Serious | 70 | 0 | 0.46 | 1.18 | 1.64 | 1.93 |
| Jackson County, MO | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 3.06 | 7.95 | 11.00 | 12.96 |
| Jackson County; Medford-Ashland (including White City), OR | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 10.83 | 28.16 | 39.04 | 45.97 |
| Jamestown, NY | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Jefferson County, KY | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Jefferson County, MO | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 2.95 | 7.66 | 10.62 | 12.50 |
| Jefferson County; (part) Steubenville & Mingo Junction, OH | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Jefferson County; (part), OH | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.25 | 0.66 | 0.92 | 1.08 |
| Johnstown, PA | PM2.5 (2006 24-hour) | Maintenance, Moderate | 100 | 0 | 6.96 | 18.09 | 25.08 | 29.53 |
| Josephine County; Grants Pass, OR | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 2.58 | 6.71 | 9.30 | 10.95 |
| Juneau; Mendenhall Valley area, AK | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.49 | 1.27 | 1.76 | 2.07 |
| Kern County (Eastern Kern), CA | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| King County; Kent, WA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 1.33 | 3.46 | 4.80 | 5.65 |
| King County; Seattle, WA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.47 | 1.21 | 1.68 | 1.98 |
| Klamath County; Klamath Falls, OR | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 4.47 | 11.62 | 16.10 | 18.96 |
| Klamath Falls Area, OR | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 4.45 | 11.57 | 16.04 | 18.89 |
| Klamath Falls, OR | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 4.81 | 12.50 | 17.32 | 20.40 |

Table A1-11

Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Direct and Indirect Impacts

Nitrogen Oxides (NO_x) 2040

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Knoxville, TN | Ozone (2008 8-hour) | Maintenance, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Knoxville-Sevierville-La Follette, TN | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 55.97 | 145.47 | 201.66 | 237.44 |
| La Porte County: (part), IN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lake County (part); Lakeview, OR | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.39 | 1.02 | 1.42 | 1.67 |
| Lake County, OH | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 15.30 | 39.77 | 55.13 | 64.92 |
| Lake County: (part), IN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lake County; (part) Eastlake, Timberlake, Lakeline, Willoughby, Mentor, OH | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lake County; Cities of East Chicago, Hammond, Whiting, and Gary, IN | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 130.55 | 370.05 | 321.19 | 454.31 |
| Lake County; Polson, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.11 | 0.30 | 0.41 | 0.48 |
| Lake County; Ronan, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lake Tahoe Nevada Area, NV | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.88 | 2.29 | 3.17 | 3.74 |
| Lake Tahoe North Shore Area, CA | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.49 | 1.28 | 1.77 | 2.08 |
| Lake Tahoe South Shore Area, CA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 1.30 | 3.37 | 4.67 | 5.50 |
| Lancaster, PA | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lancaster, PA | PM2.5 (2006 24-hour) | Maintenance, Moderate | 100 | 0 | 29.34 | 76.25 | 105.69 | 124.45 |
| Lane County (part); Oakridge, OR | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.09 | 0.22 | 0.31 | 0.36 |
| Lane County; Eugene/Springfield, OR | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 13.13 | 34.13 | 47.31 | 55.70 |
| Las Vegas Area, NV | CO (1971 8-hour) | Maintenance, Serious | 100 | 0 | 88.76 | 230.71 | 319.81 | 376.56 |
| LaSalle County; Oglesby, IL | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 2.05 | 5.32 | 7.38 | 8.69 |
| Laurel Area, MT | SO ₂ (1971 24-hour/Annual) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lebanon County, PA | PM2.5 (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 10.11 | 26.29 | 36.44 | 42.90 |
| Lemont, IL | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 172.12 | 488.70 | 419.48 | 596.31 |
| Liberty-Clairton, PA | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.45 | 1.18 | 1.61 | 1.90 |

Appendix A Air Quality Non-Attainment Area Results

Table A1-11

Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Direct and Indirect Impacts

Nitrogen Oxides (NO_x) 2040

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|---------------------------------------|--|---|---|----------|--------------------|----------|----------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Lincoln County; Libby and vicinity, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.29 | 0.76 | 1.05 | 1.23 |
| Logan, UT-ID | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 5.20 | 13.50 | 18.72 | 22.04 |
| Longmont Area, CO | CO (1971 8-hour) | Maintenance, Moderate ≤ 12.7ppm | 100 | 0 | 4.33 | 11.25 | 15.60 | 18.37 |
| Lorain County (part), OH | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Los Angeles, CA | PM2.5 (2006 24-hour) | Nonattainment, Serious | 100 | 0 | 1,042.99 | 2,759.52 | 3,521.69 | 4,267.12 |
| Los Angeles-San Bernardino Counties (West Mojave Desert), CA | Ozone (2008 8-hour) | Nonattainment, Severe 15 | 25 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Los Angeles-South Coast Air Basin Area, CA | CO (1971 8-hour) | Maintenance, Serious | 100 | 0 | 1,043.40 | 2,760.61 | 3,523.20 | 4,268.89 |
| Los Angeles-South Coast Air Basin Area, CA | NO ₂ (1971 Annual) | Maintenance, -- | 100 | 0 | 1,043.45 | 2,760.73 | 3,523.37 | 4,269.10 |
| Los Angeles-South Coast Air Basin, CA | Ozone (2008 8-hour) | Nonattainment, Extreme | 10 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Los Angeles-South Coast Air Basin, CA | PM2.5 (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 1,041.76 | 2,756.34 | 3,517.28 | 4,261.92 |
| Lowell Area, MA | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 5.92 | 15.38 | 21.32 | 25.10 |
| Lucas County (part), OH | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Madison County; Granite City Township and Nameoki Township, IL | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 181.60 | 517.24 | 434.75 | 623.94 |
| Manchester Area, NH | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 4.74 | 12.32 | 17.07 | 20.10 |
| Maricopa and Pinal Counties; Phoenix planning area, AZ | PM10 (1987 24-hour) | Nonattainment, Serious | 70 | 0 | 203.75 | 529.57 | 734.09 | 864.36 |
| Marion County; Lawrence, Washington, and Warrant Townships, IN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Mariposa County, CA | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Marshall, WV | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 35.83 | 101.98 | 86.10 | 123.32 |
| Medford Area, OR | CO (1971 8-hour) | Maintenance, Moderate ≤ 12.7ppm | 100 | 0 | 5.69 | 14.79 | 20.50 | 24.14 |
| Memphis Area, TN | CO (1971 8-hour) | Maintenance, Moderate ≤ 12.7ppm | 100 | 0 | 71.44 | 191.13 | 231.03 | 285.49 |

Table A1-11
Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Direct and Indirect Impacts
Nitrogen Oxides (NO_x) 2040

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|---|---------------------------------------|--|---|---|--------|--------------------|--------|----------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Memphis, TN-MS-AR | Ozone (2008 8-hour) | Nonattainment TN & Maintenance MS/AR, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Miami, AZ | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.50 | 1.31 | 1.81 | 2.13 |
| Miami, AZ | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Miami, AZ | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.50 | 1.31 | 1.81 | 2.13 |
| Milwaukee-Racine, WI | PM2.5 (2006 24-hour) | Maintenance, -- | 100 | 0 | 67.15 | 174.52 | 241.91 | 284.84 |
| Minneapolis-St. Paul Area, MN | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 325.13 | 883.36 | 985.46 | 1,255.23 |
| Missoula Area, MT | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 5.50 | 14.39 | 19.34 | 23.01 |
| Missoula county; Missoula and vicinity, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 5.25 | 13.74 | 18.46 | 21.97 |
| Modesto Area, CA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 10.33 | 26.85 | 37.19 | 43.81 |
| Mohave County (part); Bullhead City, AZ | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 5.60 | 14.55 | 20.16 | 23.74 |
| Mono County; Mammoth Lake planning area, CA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 1.98 | 5.13 | 7.12 | 8.38 |
| Mono County; Mono Basin, CA | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.01 | 0.02 | 0.03 | 0.03 |
| Morenci, AZ | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Morgan County, IN | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 1.90 | 4.94 | 6.85 | 8.07 |
| Morongo Band of Mission Indians | Ozone (2008 8-hour) | Nonattainment, Serious | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Morristown Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 2.38 | 6.19 | 8.53 | 10.06 |
| Muscatine County; (part), IA | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Muscatine, IA | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 1.18 | 3.06 | 4.25 | 5.00 |
| Muskingum River, OH | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.49 | 1.28 | 1.77 | 2.09 |
| Nashua Area, NH | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 4.40 | 11.45 | 15.87 | 18.68 |
| Nassau County, FL | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.23 | 0.60 | 0.83 | 0.98 |
| Nevada County (Western part), CA | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| New Haven County, CT | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 1.08 | 2.82 | 3.89 | 4.58 |

Appendix A Air Quality Non-Attainment Area Results

Table A1-11

Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Direct and Indirect Impacts

Nitrogen Oxides (NO_x) 2040

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|---------------------------------------|--|---|---|--------|--------------------|----------|----------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| New Haven-Meriden-Waterbury Area, CT | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 48.86 | 127.09 | 175.54 | 206.94 |
| New Manchester-Grant magisterial district in Hancock County, WV | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| New York County, NY | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 31.88 | 82.87 | 114.88 | 135.26 |
| New York, NY-NJ-CT | PM2.5 (2006 24-hour) | Maintenance, -- | 100 | 0 | 966.28 | 2,530.37 | 3,389.79 | 4,038.08 |
| New York-N. New Jersey-Long Island Area, NY-NJ-CT | CO (1971 8-hour) | Maintenance, Moderate > 12.7ppm | 100 | 0 | 554.36 | 1,455.66 | 1,925.48 | 2,303.82 |
| New York-N. New Jersey-Long Island, NY-NJ-CT | Ozone (2008 8-hour) | Nonattainment, Moderate | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| NJ portion of the Northeast Pennsylvania-Upper Delaware Valley Interstate AQCR: (part), NJ | SO ₂ (1971 24-hour/Annual) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Nogales, AZ | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 2.67 | 6.94 | 9.63 | 11.34 |
| Oakridge, OR | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.09 | 0.22 | 0.31 | 0.36 |
| Ogden Area, UT | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 3.07 | 7.97 | 11.05 | 13.01 |
| Ogden Area, UT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 3.07 | 7.97 | 11.05 | 13.01 |
| Olmsted County; (part), MN | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 1.45 | 3.78 | 5.24 | 6.17 |
| Olmsted; City of Rochester, MN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |

Table A1-11
Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Direct and Indirect Impacts
Nitrogen Oxides (NO_x) 2040

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|---------------------------------------|--|---|---|--------|--------------------|----------|----------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Pechanga Band of Luiseno Mission Indians of the Pechanga Reservation | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Pekin, IL | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 2.28 | 5.93 | 8.23 | 9.69 |
| Penns Grove Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Peoria County: Hollis Twp, IL | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Peoria County: Peoria, IL | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Perth Amboy Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 22.02 | 61.17 | 60.27 | 80.70 |
| Philadelphia-Camden County Area, PA-NJ | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 130.46 | 358.85 | 374.13 | 489.47 |
| Philadelphia-Wilmington, PA-NJ-DE | PM2.5 (2006 24-hour) | Maintenance, Moderate for PA and DE Subject to Former Subpart 1 for NJ | 100 | 0 | 510.33 | 1,395.09 | 1,505.45 | 1,942.66 |
| Philadelphia-Wilmington-Atlantic City, PA-NJ-MD-DE | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Phoenix Area, AZ | CO (1971 8-hour) | Maintenance, Serious | 100 | 0 | 194.81 | 506.35 | 701.91 | 826.46 |
| Phoenix-Mesa, AZ | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Pierce County; Tacoma, WA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.10 | 0.25 | 0.34 | 0.41 |
| Pima County; Ajo planning area, AZ | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Pima County; Rillito planning area, AZ | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 3.72 | 9.67 | 13.41 | 15.79 |
| Pinal and Gila Counties; Payson, AZ | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 1.78 | 4.62 | 6.40 | 7.54 |
| Pinal County (part); West Pinal, AZ | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 23.12 | 60.10 | 83.31 | 98.10 |
| Pitkin County; Aspen, CO | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 1.41 | 3.66 | 5.08 | 5.98 |
| Pittsburgh Area, PA | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 10.10 | 26.28 | 36.28 | 42.77 |
| Pittsburgh-Beaver Valley, PA | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Pittsburgh-Beaver Valley, PA | PM2.5 (2006 24-hour) | Maintenance, Moderate | 100 | 0 | 100.96 | 262.71 | 362.29 | 427.33 |
| Plumas County, CA | PM2.5 (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Polk County, TN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |

Appendix A Air Quality Non-Attainment Area Results

Table A1-11

Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Direct and Indirect Impacts

Nitrogen Oxides (NO_x) 2040

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|-------------------------------|--|---|---|----------|--------------------|----------|----------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Portland Area: Portland Metro Service District Boundary, OR | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 66.28 | 172.55 | 237.42 | 280.25 |
| Power-Bannock Counties; Fort Hall Indian Reservation, ID | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Power-Bannock Counties; Portneuf Valley Area, ID | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 5.27 | 13.69 | 18.98 | 22.35 |
| Provo Area, UT | CO (1971 8-hour) | Maintenance, Moderate > 12.7ppm | 100 | 0 | 3.93 | 10.21 | 14.14 | 16.65 |
| Provo, UT | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 22.21 | 57.72 | 79.99 | 94.20 |
| Prowers County; Lamar, CO | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Raleigh-Durham Area, NC | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 77.13 | 200.46 | 277.88 | 327.19 |
| Ramsey County; (part), MN | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.16 | 0.41 | 0.56 | 0.66 |
| Reading, PA | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Reno Area, NV | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 17.93 | 46.61 | 64.61 | 76.07 |
| Rhinelander, WI | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 2.35 | 6.11 | 8.47 | 9.97 |
| Riverside County (Coachella Valley), CA | Ozone (2008 8-hour) | Nonattainment, Severe 15 | 25 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Riverside County; Coachella Valley planning area, CA | PM10 (1987 24-hour) | Nonattainment, Serious | 70 | 0 | 28.43 | 73.88 | 102.42 | 120.59 |
| Riverside, Los Angeles, Orange, and San Bernardino Counties; South Coast Air Basin, CA | PM10 (1987 24-hour) | Maintenance, Serious | 100 | 0 | 1,039.40 | 2,750.19 | 3,508.76 | 4,251.89 |
| Rosebud County; Lame Deer, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 1.59 | 4.14 | 5.75 | 6.76 |
| Routt County (part); Steamboat Springs, CO | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 1.68 | 4.36 | 6.04 | 7.12 |
| Sacramento Area, CA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 73.08 | 189.99 | 263.01 | 309.82 |
| Sacramento County, CA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 69.14 | 179.74 | 248.90 | 293.17 |
| Sacramento Metro, CA | Ozone (2008 8-hour) | Nonattainment, Severe 15 | 25 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Sacramento, CA | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 161.26 | 426.90 | 543.36 | 659.00 |
| Salem Area, OR | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 14.15 | 36.79 | 51.00 | 60.05 |
| Salt Lake City Area, UT | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 38.92 | 108.92 | 102.62 | 140.03 |
| Salt Lake City, UT | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 138.99 | 374.01 | 438.84 | 548.31 |

Table A1-11

Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Direct and Indirect Impacts

Nitrogen Oxides (NO_x) 2040

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|---|---------------------------------------|--|---|---|--------|--------------------|----------|----------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Salt Lake County, UT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 82.90 | 223.22 | 261.06 | 326.59 |
| Salt Lake County, UT | SO ₂ (1971 24-hour/Annual) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| San Bernardino County (part); excluding Searles Valley Planning area and South Coast Air Basin, CA | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 31.17 | 81.02 | 112.26 | 132.20 |
| San Diego Area, CA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 187.03 | 486.19 | 673.58 | 793.25 |
| San Diego County, CA | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| San Francisco Bay Area, CA | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| San Francisco Bay Area, CA | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 514.34 | 1,374.33 | 1,671.16 | 2,060.57 |
| San Francisco-Oakland-San Jose Area, CA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 482.77 | 1,292.28 | 1,557.41 | 1,926.64 |
| San Joaquin Valley Air Basin; Fresno, Kern, Kings, Madera, Merced, San Joaquin, Stanislaus, Tulare Counties, CA | PM10 (1987 24-hour) | Maintenance, Serious | 100 | 0 | 253.89 | 661.91 | 904.98 | 1,070.55 |
| San Joaquin Valley, CA | Ozone (2008 8-hour) | Nonattainment, Extreme | 10 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| San Joaquin Valley, CA | PM2.5 (2006 24-hour) | Nonattainment, Serious | 100 | 0 | 253.84 | 661.79 | 904.81 | 1,070.36 |
| San Joaquin Valley, CA | PM2.5 (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 253.84 | 661.79 | 904.81 | 1,070.36 |
| San Luis Obispo (Eastern San Luis Obispo), CA | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| San Manuel, AZ | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| San Miguel County; Telluride, CO | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.55 | 1.43 | 1.98 | 2.33 |
| Sanders County (part); Thompson Falls and vicinity, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Santa Cruz County; Nogales planning area, AZ | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 2.67 | 6.94 | 9.63 | 11.34 |
| Seaford, DE | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Seattle-Tacoma Area, WA | CO (1971 8-hour) | Maintenance, Moderate > 12.7ppm | 100 | 0 | 153.25 | 398.33 | 552.16 | 650.14 |
| Seattle-Tacoma, WA | PM2.5 (2006 24-hour) | Maintenance, Moderate | 100 | 0 | 24.52 | 63.73 | 88.34 | 104.02 |
| Sheboygan County, WI | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |

Appendix A Air Quality Non-Attainment Area Results

Table A1-11

Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Direct and Indirect Impacts

Nitrogen Oxides (NO_x) 2040

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|---|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Sheridan County; City of Sheridan, WY | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 1.46 | 3.79 | 5.25 | 6.18 |
| Shoshone County (part); excluding Pinehurst, ID | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 2.40 | 6.24 | 8.65 | 10.19 |
| Shoshone County; City of Pinehurst, ID | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Silver Bow County; Butte, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 2.34 | 6.08 | 8.43 | 9.93 |
| Somerville Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.91 | 2.37 | 3.29 | 3.87 |
| Southwest Indiana, IN | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.66 | 1.72 | 2.38 | 2.80 |
| Spokane Area, WA | CO (1971 8-hour) | Maintenance, Serious | 100 | 0 | 15.92 | 41.37 | 57.35 | 67.53 |
| Spokane County; (part), WA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 16.41 | 42.65 | 59.13 | 69.62 |
| Springfield Area, MA | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 9.40 | 24.43 | 33.87 | 39.88 |
| St. Bernard Parish, LA | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 125.19 | 356.73 | 298.95 | 429.62 |
| St. Louis Area, MO | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 48.06 | 124.92 | 173.11 | 203.85 |
| St. Louis-St. Charles-Farmington, MO-IL | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Steubenville, OH-WV | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 3.72 | 9.66 | 13.39 | 15.77 |
| Steubenville-Weirton, OH-WV | PM2.5 (2006 24-hour) | Maintenance, -- | 100 | 0 | 10.81 | 29.13 | 34.00 | 42.57 |
| Stockton Area, CA | CO (1971 8-hour) | Maintenance, Moderate ≤ 12.7ppm | 100 | 0 | 20.04 | 52.13 | 72.05 | 84.92 |
| Sullivan County, TN | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 1.83 | 4.96 | 5.53 | 7.04 |
| Syracuse Area; Onondaga County, NY | CO (1971 8-hour) | Maintenance, Moderate ≤ 12.7ppm | 100 | 0 | 30.28 | 78.69 | 109.08 | 128.44 |
| Tazewell County; Groveland Twp, IL | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Terre Haute, IN | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 2.47 | 6.41 | 8.89 | 10.47 |

Table A1-11

Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Direct and Indirect Impacts

Nitrogen Oxides (NO_x) 2040

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|---|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Thurston County; Cities of Olympia, Tumwater, and Lacey, WA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 5.51 | 14.33 | 19.87 | 23.40 |
| Toms River Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.28 | 0.73 | 1.02 | 1.20 |
| Tooele County (part), UT | SO ₂ (1971 24-hour/Annual) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Trenton Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 4.92 | 12.78 | 17.72 | 20.86 |
| Trona, CA | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Tucson Area, AZ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 47.22 | 122.73 | 170.13 | 200.32 |
| Tuscan Buttes, CA | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Union County; LaGrande, OR | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 1.94 | 5.04 | 6.99 | 8.23 |
| Upper Green River Basin Area, WY | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Utah County, UT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 22.21 | 57.72 | 79.99 | 94.20 |
| Vancouver Area: Clark County (part), WA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 15.00 | 39.00 | 54.06 | 63.65 |
| Ventura County, CA | Ozone (2008 8-hour) | Nonattainment, Serious | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Vermillion County; Part of Clinton Township, IN | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 2.25 | 5.85 | 8.10 | 9.54 |
| Vigo County, IN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Walla Walla County; Wallula, WA | PM10 (1987 24-hour) | Maintenance, Serious | 100 | 0 | 0.22 | 0.58 | 0.81 | 0.95 |
| Waltham Area, MA | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 3.09 | 8.03 | 11.13 | 13.10 |
| Warren County: Conewago Twp, PA | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Warren County: Warren Boro, Pleasant Twp, Glade Twp, PA | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Warren, PA | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 15.54 | 44.01 | 38.39 | 54.18 |
| Washington Area, DC-MD-VA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 36.66 | 95.29 | 132.09 | 155.53 |
| Washington, DC-MD-VA | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Washoe County; Reno planning area, NV | PM10 (1987 24-hour) | Nonattainment, Serious | 70 | 0 | 17.76 | 46.16 | 63.99 | 75.35 |

Appendix A Air Quality Non-Attainment Area Results

Table A1-11

Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Direct and Indirect Impacts

Nitrogen Oxides (NO_x) 2040

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|---|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Wayne County: Boston, Center, Franklin, Wayne & Webster Townships, IN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Wayne County; (part), MI | PM ₁₀ (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 14.40 | 39.79 | 40.40 | 53.43 |
| West Central Pinal County, AZ | PM _{2.5} (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 4.83 | 12.55 | 17.40 | 20.49 |
| West Silver Valley, ID | PM _{2.5} (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 1.32 | 3.42 | 4.75 | 5.59 |
| Winston-Salem Area, NC | CO (1971 8-hour) | Maintenance, Moderate ≤ 12.7ppm | 100 | 0 | 20.55 | 53.42 | 74.06 | 87.20 |
| Worcester Area, MA | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 13.09 | 34.02 | 47.16 | 55.53 |
| Yakima Area, WA | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 2.36 | 6.13 | 8.49 | 10.00 |
| Yakima County; (part), WA | PM ₁₀ (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 6.39 | 16.60 | 23.02 | 27.10 |
| Yuba City-Marysville, CA | PM _{2.5} (2006 24-hour) | Maintenance, Moderate | 100 | 0 | 10.62 | 27.59 | 38.25 | 45.04 |
| Yuma County; Yuma planning area, AZ | PM ₁₀ (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 9.05 | 23.53 | 32.62 | 38.41 |

^a Reductions are shown as positive values. Negative values are emissions increases. Values of less than 0.005 tons per year are rounded to zero.

^b Nonattainment or maintenance status as of 5/13/2016. Source: U.S. EPA, The Green Book Nonattainment Areas for Criteria Pollutants; <http://www.epa.gov/airquality/greenbook/>. "--" indicates that no severity classification has been established for the NAAQS pollutant.

^c Emissions thresholds in tons per year. Where the threshold differs by precursor pollutant, the smallest of the precursor thresholds is shown. These thresholds are provided for information only; a general conformity determination is not required for the Proposed Action. Source: 40 CFR 93.853.

Notes: CO = carbon monoxide; NAAQS = National Ambient Air Quality Standards; NO₂ = nitrogen dioxide; PM = particulate matter; SO₂ = sulfur dioxide

Table A1-12
Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Direct and Indirect Impacts
Nitrogen Oxides (NO_x) 2050

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Ada County; Boise, ID | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 21.53 | 57.40 | 77.14 | 90.79 |
| Adams, Denver, and Boulder Counties; Denver Metropolitan area, CO | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 101.52 | 270.06 | 366.26 | 429.71 |
| Ajo, AZ | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Albuquerque Area, NM | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 42.85 | 114.20 | 153.60 | 180.72 |
| Allegheny County Air Basin: Hazelwood monitor, PA | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Allegheny County, PA | PM2.5 (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 55.67 | 148.20 | 200.28 | 235.26 |
| Allegheny County; The area including Liberty, Lincoln, Port Vue, and Glassport Boroughs and the City of Clairton, PA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.41 | 1.09 | 1.45 | 1.71 |
| Allegheny, PA | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 2.84 | 7.56 | 10.19 | 11.98 |
| Allentown, PA | PM2.5 (2006 24-hour) | Maintenance, Moderate | 100 | 0 | 37.81 | 100.70 | 135.89 | 159.70 |
| Allentown-Bethlehem-Easton, PA | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Anchorage Area, AK | CO (1971 8-hour) | Maintenance, Serious | 100 | 0 | 6.95 | 18.52 | 24.88 | 29.28 |
| Anchorage; Eagle River, AK | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.44 | 1.19 | 1.54 | 1.84 |
| AQCR 012: Portions of Grant County, NM | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| AQCR 109-Millinocket, ME | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| AQCR 131: Anoka, Carver, Dakota, Hennepin, Ramsey, Scott, and Washington counties (Minneapolis-St. Paul), MN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| AQCR 237: Brown County: Green Bay sub-city area, WI | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| AQCR 238: Marathon County: Rothschild Sub-city area, Rib Mountain, Weston, WI | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| AQCR 238: Oneida County: Rhinelander Sub-city area, WI | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| AQCR 239: Milwaukee County: Milwaukee sub-city area, WI | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |

Appendix A Air Quality Non-Attainment Area Results

Table A1-12

Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Direct and Indirect Impacts

Nitrogen Oxides (NO_x) 2050

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| AQCR 240: Dane County: Madison sub-city area, WI | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Archuleta County; Pagosa Springs, CO | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 1.58 | 4.20 | 5.69 | 6.68 |
| Armstrong County: Madison Twp, Mahoning Twp, Boggs Twp, Washington Twp, Pine Twp, PA | SO ₂ (1971 24-hour/Annual) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Aroostock County; City of Presque Isle, ME | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 1.15 | 3.06 | 4.15 | 4.87 |
| Atlanta, GA | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Atlantic City Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 3.60 | 9.57 | 12.98 | 15.23 |
| Bakersfield Area, CA | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 42.47 | 115.25 | 142.90 | 173.06 |
| Baltimore Area, MD | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.89 | 2.39 | 3.17 | 3.75 |
| Baltimore, MD | Ozone (2008 8-hour) | Nonattainment, Moderate | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Baton Rouge, LA | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Beaver, PA | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 1.07 | 2.86 | 3.88 | 4.55 |
| Benton County; (part) TVA Johnsonville, TN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Billings Area, MT | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 93.83 | 273.17 | 230.55 | 326.87 |
| Billings, MT | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 88.37 | 258.65 | 210.85 | 303.76 |
| Birmingham, AL | PM2.5 (2006 24-hour) | Maintenance, -- | 100 | 0 | 86.95 | 231.71 | 311.87 | 366.86 |
| Boise-Northern Ada County Area, ID | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 21.53 | 57.40 | 77.14 | 90.79 |
| Bonner County; The Sandpoint Area, ID | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.83 | 2.21 | 2.99 | 3.51 |
| Boston Area, MA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 51.03 | 135.89 | 183.48 | 215.59 |
| Boyd County (part), KY | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Brooke; Follansbee area, WV | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.03 | 0.07 | 0.09 | 0.11 |
| Burlington Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.38 | 1.00 | 1.36 | 1.60 |
| Calaveras County, CA | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Campbell-Clermont Counties, KY-OH | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 2.51 | 6.67 | 9.04 | 10.61 |

Table A1-12

Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Direct and Indirect Impacts

Nitrogen Oxides (NO_x) 2050

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|---|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Canton-Massillon, OH | PM2.5 (2006 24-hour) | Maintenance, -- | 100 | 0 | 50.11 | 139.77 | 151.14 | 192.80 |
| Central New Hampshire, NH | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 14.61 | 38.87 | 52.72 | 61.85 |
| Central Steptoe Valley, NV | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Charleston, WV | PM2.5 (2006 24-hour) | Maintenance, -- | 100 | 0 | 24.63 | 65.53 | 88.88 | 104.27 |
| Charlotte Area, NC | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 85.15 | 226.53 | 307.21 | 360.43 |
| Charlotte-Rock Hill, NC-SC | Ozone (2008 8-hour) | Maintenance, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Chicago-Naperville, IL-IN-WI | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Chico (Butte County), CA | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Chico Area, CA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 6.65 | 17.70 | 24.00 | 28.16 |
| Chico, CA | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 13.14 | 34.96 | 47.42 | 55.63 |
| Cincinnati, OH-KY-IN | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Clark County; Las Vegas planning area, NV | PM10 (1987 24-hour) | Maintenance, Serious | 100 | 0 | 106.33 | 282.86 | 383.60 | 450.06 |
| Cleveland Area, OH | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 63.65 | 169.34 | 229.65 | 269.43 |
| Cleveland, OH | PM2.5 (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 82.97 | 220.71 | 299.33 | 351.18 |
| Cleveland-Akron-Lorain, OH | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Cleveland-Akron-Lorain, OH | PM2.5 (2006 24-hour) | Maintenance, -- | 100 | 0 | 181.63 | 483.19 | 655.29 | 768.81 |
| Cochise County; Paul Spur/Douglas planning area, AZ | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 2.70 | 7.19 | 9.75 | 11.44 |
| Colorado Springs Area, CO | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 37.01 | 98.62 | 132.70 | 156.11 |
| Columbus, OH | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Cook County; Lyons Township, IL | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 5.40 | 14.53 | 18.75 | 22.38 |
| Cook County; Southeast Chicago, IL | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 5.34 | 14.36 | 18.52 | 22.11 |
| Coshocton County; Franklin Township, OH | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Coso Junction, CA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Cuyahoga County (part), OH | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Cuyahoga County, OH | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 63.33 | 168.47 | 228.48 | 268.05 |

Appendix A Air Quality Non-Attainment Area Results

Table A1-12

Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Direct and Indirect Impacts

Nitrogen Oxides (NO_x) 2050

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|---------------------------------------|--|---|---|--------|--------------------|----------|----------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Dallas-Fort Worth, TX | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Delaware County, PA | PM2.5 (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 213.77 | 619.59 | 538.04 | 753.04 |
| Denver-Boulder Area, CO | CO (1971 8-hour) | Maintenance, Serious | 100 | 0 | 230.19 | 628.37 | 757.10 | 926.57 |
| Denver-Boulder-Greeley-Ft Collins-Loveland, CO | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Detroit Area, MI | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 98.51 | 264.99 | 341.92 | 408.18 |
| Detroit, MI | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 38.04 | 104.12 | 123.83 | 152.29 |
| Detroit-Ann Arbor, MI | PM2.5 (2006 24-hour) | Maintenance, -- | 100 | 0 | 345.58 | 922.31 | 1,233.19 | 1,453.92 |
| Dona Ana County; Anthony, NM | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.74 | 1.96 | 2.66 | 3.12 |
| Douglas, AZ | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Dukes County, MA | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Duluth Area, MN | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 8.84 | 23.52 | 31.89 | 37.42 |
| East Chicago Area, IN | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 143.42 | 419.47 | 343.64 | 493.93 |
| East Helena Area, MT | SO ₂ (1971 24-hour/Annual) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| East Kern County Area, CA | PM10 (1987 24-hour) | Nonattainment, Serious | 70 | 0 | 9.92 | 28.65 | 25.47 | 35.27 |
| El Paso County, TX | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 61.70 | 173.24 | 180.95 | 234.06 |
| El Paso, TX | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 34.97 | 102.04 | 84.86 | 121.13 |
| Eugene-Springfield Area, OR | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 15.98 | 42.52 | 57.67 | 67.66 |
| Fairbanks Area, AK | CO (1971 8-hour) | Maintenance, Serious | 100 | 0 | 13.03 | 37.94 | 32.08 | 45.44 |
| Fairbanks, AK | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 14.71 | 42.40 | 38.13 | 52.54 |

Table A1-12
Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Direct and Indirect Impacts
Nitrogen Oxides (NO_x) 2050

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|---|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Flathead County; Columbia Falls and vicinity, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.09 | 0.25 | 0.33 | 0.39 |
| Flathead County; Kalispell and vicinity, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 2.53 | 6.74 | 9.14 | 10.72 |
| Flathead County; Whitefish and vicinity, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.28 | 0.73 | 1.00 | 1.17 |
| Fort Collins Area, CO | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 7.85 | 20.89 | 28.33 | 33.23 |
| Freehold Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 1.95 | 5.18 | 7.02 | 8.24 |
| Fremont County; Canon City Area, CO | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 2.67 | 7.09 | 9.62 | 11.28 |
| Fresno Area, CA | CO (1971 8-hour) | Maintenance, Moderate > 12.7ppm | 100 | 0 | 36.98 | 98.49 | 132.96 | 156.24 |
| Grants Pass Area, OR | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 3.21 | 8.53 | 11.57 | 13.58 |
| Great Falls Area, MT | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 16.11 | 47.16 | 38.45 | 55.39 |
| Greater Connecticut, CT | Ozone (2008 8-hour) | Nonattainment, Moderate | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Greeley Area, CO | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 26.92 | 71.91 | 95.80 | 113.09 |
| Hancock and Brooke Counties (Part); The city of Weirton, WV | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 5.39 | 15.59 | 13.65 | 19.03 |
| Hancock County (Part) The city of Weirton, including Butler and Clay: Magisterial Districts, WV | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Harrisburg-Lebanon-Carlisle-York, PA | PM2.5 (2006 24-hour) | Maintenance, Moderate | 100 | 0 | 86.09 | 229.07 | 310.37 | 364.25 |
| Hartford-New Britain-Middletown Area, CT | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 75.89 | 201.89 | 273.80 | 321.23 |
| Hayden, AZ | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.16 | 0.43 | 0.58 | 0.68 |
| Hayden, AZ | SO ₂ (1971 24-hour/Annual) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Hayden, AZ | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.15 | 0.41 | 0.55 | 0.65 |
| Hillsborough County, FL | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 1.10 | 2.92 | 3.93 | 4.63 |
| Houston-Galveston-Brazoria, TX | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Humphreys County; (part) TVA Johnsonville, TN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Imperial Co, CA | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 14.22 | 37.84 | 51.32 | 60.21 |

Appendix A Air Quality Non-Attainment Area Results

Table A1-12

Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Direct and Indirect Impacts

Nitrogen Oxides (NO_x) 2050

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Imperial County, CA | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Imperial County, CA | PM2.5 (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 14.22 | 37.84 | 51.32 | 60.21 |
| Imperial County; Imperial Valley planning area, CA | PM10 (1987 24-hour) | Nonattainment, Serious | 70 | 0 | 17.20 | 45.76 | 62.05 | 72.80 |
| Indian Wells, CA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 9.78 | 28.29 | 24.97 | 34.69 |
| Indiana, PA | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 6.27 | 16.68 | 22.63 | 26.55 |
| Indianapolis Area, IN | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.08 | 0.21 | 0.29 | 0.34 |
| Indianapolis, IN | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 30.93 | 82.29 | 111.60 | 130.93 |
| Inyo County; Owens Valley planning area, CA | PM10 (1987 24-hour) | Nonattainment, Serious | 70 | 0 | 0.66 | 1.75 | 2.38 | 2.79 |
| Jackson County, MO | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 3.68 | 9.79 | 13.25 | 15.56 |
| Jackson County; Medford-Ashland (including White City), OR | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 13.17 | 35.04 | 47.52 | 55.75 |
| Jamestown, NY | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Jefferson County, KY | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Jefferson County, MO | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 3.53 | 9.38 | 12.72 | 14.93 |
| Jefferson County; (part) Steubenville & Mingo Junction, OH | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Jefferson County; (part), OH | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.28 | 0.74 | 1.00 | 1.18 |
| Johnstown, PA | PM2.5 (2006 24-hour) | Maintenance, Moderate | 100 | 0 | 8.25 | 21.95 | 29.76 | 34.92 |
| Josephine County; Grants Pass, OR | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 3.21 | 8.53 | 11.57 | 13.58 |
| Juneau; Mendenhall Valley area, AK | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.59 | 1.56 | 2.12 | 2.48 |
| Kern County (Eastern Kern), CA | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| King County; Kent, WA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 1.68 | 4.46 | 6.05 | 7.09 |
| King County; Seattle, WA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.53 | 1.41 | 1.91 | 2.24 |
| Klamath County; Klamath Falls, OR | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 6.10 | 16.22 | 22.00 | 25.81 |
| Klamath Falls Area, OR | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 6.10 | 16.23 | 22.01 | 25.82 |
| Klamath Falls, OR | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 6.44 | 17.12 | 23.22 | 27.24 |

Table A1-12
Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Direct and Indirect Impacts
Nitrogen Oxides (NO_x) 2050

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Knoxville, TN | Ozone (2008 8-hour) | Maintenance, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Knoxville-Sevierville-La Follette, TN | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 66.76 | 177.59 | 240.85 | 282.57 |
| La Porte County: (part), IN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lake County (part); Lakeview, OR | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 1.29 | 3.42 | 4.64 | 5.44 |
| Lake County, OH | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 18.26 | 48.57 | 65.86 | 77.27 |
| Lake County: (part), IN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lake County; (part) Eastlake, Timberlake, Lakeline, Willoughby, Mentor, OH | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lake County; Cities of East Chicago, Hammond, Whiting, and Gary, IN | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 151.96 | 442.22 | 374.42 | 530.07 |
| Lake County; Polson, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.13 | 0.34 | 0.46 | 0.54 |
| Lake County; Ronan, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lake Tahoe Nevada Area, NV | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.93 | 2.47 | 3.35 | 3.93 |
| Lake Tahoe North Shore Area, CA | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.52 | 1.39 | 1.88 | 2.21 |
| Lake Tahoe South Shore Area, CA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 1.22 | 3.25 | 4.41 | 5.17 |
| Lancaster, PA | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lancaster, PA | PM2.5 (2006 24-hour) | Maintenance, Moderate | 100 | 0 | 35.00 | 93.11 | 126.26 | 148.13 |
| Lane County (part); Oakridge, OR | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.07 | 0.19 | 0.26 | 0.31 |
| Lane County; Eugene/Springfield, OR | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 15.98 | 42.52 | 57.67 | 67.66 |
| Las Vegas Area, NV | CO (1971 8-hour) | Maintenance, Serious | 100 | 0 | 106.02 | 282.05 | 382.51 | 448.78 |
| LaSalle County; Oglesby, IL | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 2.48 | 6.60 | 8.95 | 10.50 |
| Laurel Area, MT | SO ₂ (1971 24-hour/Annual) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lebanon County, PA | PM2.5 (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 12.07 | 32.10 | 43.53 | 51.07 |
| Lemont, IL | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 201.54 | 587.22 | 493.29 | 700.87 |
| Liberty-Clairton, PA | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.41 | 1.09 | 1.45 | 1.71 |

Appendix A Air Quality Non-Attainment Area Results

Table A1-12

Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Direct and Indirect Impacts

Nitrogen Oxides (NO_x) 2050

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|---------------------------------------|--|---|---|----------|--------------------|----------|----------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Lincoln County; Libby and vicinity, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.30 | 0.79 | 1.08 | 1.26 |
| Logan, UT-ID | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 6.21 | 16.52 | 22.41 | 26.29 |
| Longmont Area, CO | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 5.25 | 13.96 | 18.93 | 22.21 |
| Lorain County (part), OH | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Los Angeles, CA | PM2.5 (2006 24-hour) | Nonattainment, Serious | 100 | 0 | 1,241.40 | 3,362.51 | 4,203.50 | 5,075.40 |
| Los Angeles-San Bernardino Counties (West Mojave Desert), CA | Ozone (2008 8-hour) | Nonattainment, Severe 15 | 25 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Los Angeles-South Coast Air Basin Area, CA | CO (1971 8-hour) | Maintenance, Serious | 100 | 0 | 1,241.94 | 3,363.97 | 4,205.47 | 5,077.72 |
| Los Angeles-South Coast Air Basin Area, CA | NO ₂ (1971 Annual) | Maintenance, -- | 100 | 0 | 1,241.99 | 3,364.10 | 4,205.65 | 5,077.93 |
| Los Angeles-South Coast Air Basin, CA | Ozone (2008 8-hour) | Nonattainment, Extreme | 10 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Los Angeles-South Coast Air Basin, CA | PM2.5 (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 1,239.81 | 3,358.30 | 4,197.78 | 5,068.69 |
| Lowell Area, MA | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 7.18 | 19.10 | 25.90 | 30.39 |
| Lucas County (part), OH | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Madison County; Granite City Township and Nameoki Township, IL | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 212.21 | 620.41 | 509.79 | 731.71 |
| Manchester Area, NH | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 5.50 | 14.64 | 19.85 | 23.29 |
| Maricopa and Pinal Counties; Phoenix planning area, AZ | PM10 (1987 24-hour) | Nonattainment, Serious | 70 | 0 | 243.01 | 646.46 | 876.72 | 1,028.60 |
| Marion County; Lawrence, Washington, and Warrant Townships, IN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Mariposa County, CA | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Marshall, WV | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 41.93 | 122.50 | 101.19 | 144.89 |
| Medford Area, OR | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 7.00 | 18.62 | 25.25 | 29.63 |
| Memphis Area, TN | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 84.72 | 232.08 | 274.90 | 338.57 |

Table A1-12

Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Direct and Indirect Impacts

Nitrogen Oxides (NO_x) 2050

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|---|---------------------------------------|--|---|---|--------|--------------------|----------|----------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Memphis, TN-MS-AR | Ozone (2008 8-hour) | Nonattainment TN & Maintenance MS/AR, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Miami, AZ | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.39 | 1.03 | 1.39 | 1.63 |
| Miami, AZ | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Miami, AZ | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.39 | 1.03 | 1.39 | 1.63 |
| Milwaukee-Racine, WI | PM2.5 (2006 24-hour) | Maintenance, -- | 100 | 0 | 80.13 | 213.17 | 289.07 | 339.16 |
| Minneapolis-St. Paul Area, MN | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 384.36 | 1,069.81 | 1,169.97 | 1,485.83 |
| Missoula Area, MT | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 6.56 | 17.58 | 23.12 | 27.42 |
| Missoula county; Missoula and vicinity, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 6.25 | 16.75 | 22.04 | 26.13 |
| Modesto Area, CA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 11.77 | 31.32 | 42.44 | 49.80 |
| Mohave County (part); Bullhead City, AZ | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 6.89 | 18.33 | 24.86 | 29.17 |
| Mono County; Mammoth Lake planning area, CA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 2.60 | 6.92 | 9.39 | 11.01 |
| Mono County; Mono Basin, CA | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Morenci, AZ | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Morgan County, IN | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 2.18 | 5.79 | 7.85 | 9.21 |
| Morongo Band of Mission Indians | Ozone (2008 8-hour) | Nonattainment, Serious | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Morristown Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 2.94 | 7.82 | 10.56 | 12.41 |
| Muscatine County; (part), IA | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Muscatine, IA | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 1.44 | 3.83 | 5.19 | 6.09 |
| Muskingum River, OH | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.65 | 1.73 | 2.34 | 2.75 |
| Nashua Area, NH | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 5.35 | 14.23 | 19.29 | 22.64 |
| Nassau County, FL | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.23 | 0.61 | 0.83 | 0.98 |
| Nevada County (Western part), CA | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| New Haven County, CT | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 1.23 | 3.27 | 4.42 | 5.19 |

Appendix A Air Quality Non-Attainment Area Results

Table A1-12

Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Direct and Indirect Impacts

Nitrogen Oxides (NO_x) 2050

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|---------------------------------------|--|---|---|----------|--------------------|----------|----------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| New Haven-Meriden-Waterbury Area, CT | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 58.26 | 155.12 | 209.62 | 246.24 |
| New Manchester-Grant magisterial district in Hancock County, WV | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| New York County, NY | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 38.04 | 101.19 | 137.24 | 161.01 |
| New York, NY-NJ-CT | PM2.5 (2006 24-hour) | Maintenance, -- | 100 | 0 | 1,151.26 | 3,085.95 | 4,046.68 | 4,803.48 |
| New York-N. New Jersey-Long Island Area, NY-NJ-CT | CO (1971 8-hour) | Maintenance, Moderate > 12.7ppm | 100 | 0 | 660.61 | 1,775.66 | 2,299.60 | 2,741.69 |
| New York-N. New Jersey-Long Island, NY-NJ-CT | Ozone (2008 8-hour) | Nonattainment, Moderate | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| NJ portion of the Northeast Pennsylvania-Upper Delaware Valley Interstate AQCR: (part), NJ | SO ₂ (1971 24-hour/Annual) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Nogales, AZ | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 3.25 | 8.66 | 11.74 | 13.78 |
| Oakridge, OR | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.07 | 0.19 | 0.26 | 0.31 |
| Ogden Area, UT | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 3.63 | 9.65 | 13.08 | 15.35 |
| Ogden Area, UT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 3.63 | 9.65 | 13.08 | 15.35 |
| Olmsted County; (part), MN | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 1.66 | 4.40 | 5.97 | 7.01 |
| Olmsted; City of Rochester, MN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |

Table A1-12
Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Direct and Indirect Impacts
Nitrogen Oxides (NO_x) 2050

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|---------------------------------------|--|---|---|--------|--------------------|----------|----------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Pechanga Band of Luiseno Mission Indians of the Pechanga Reservation | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Pekin, IL | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 2.75 | 7.32 | 9.93 | 11.65 |
| Penns Grove Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Peoria County: Hollis Twp, IL | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Peoria County: Peoria, IL | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Perth Amboy Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 26.49 | 75.33 | 73.35 | 97.67 |
| Philadelphia-Camden County Area, PA-NJ | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 153.76 | 433.44 | 442.94 | 578.05 |
| Philadelphia-Wilmington, PA-NJ-DE | PM _{2.5} (2006 24-hour) | Maintenance, Moderate for PA and DE Subject to Former Subpart 1 for NJ | 100 | 0 | 602.28 | 1,687.02 | 1,784.54 | 2,296.51 |
| Philadelphia-Wilmington-Atlantic City, PA-NJ-MD-DE | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Phoenix Area, AZ | CO (1971 8-hour) | Maintenance, Serious | 100 | 0 | 232.16 | 617.59 | 837.57 | 982.67 |
| Phoenix-Mesa, AZ | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Pierce County; Tacoma, WA | PM ₁₀ (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.10 | 0.26 | 0.35 | 0.41 |
| Pima County; Ajo planning area, AZ | PM ₁₀ (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Pima County; Rillito planning area, AZ | PM ₁₀ (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 4.61 | 12.25 | 16.62 | 19.50 |
| Pinal and Gila Counties; Payson, AZ | PM ₁₀ (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 2.35 | 6.25 | 8.47 | 9.94 |
| Pinal County (part); West Pinal, AZ | PM ₁₀ (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 27.92 | 74.26 | 100.71 | 118.16 |
| Pitkin County; Aspen, CO | PM ₁₀ (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 1.68 | 4.47 | 6.07 | 7.12 |
| Pittsburgh Area, PA | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 11.23 | 29.89 | 40.38 | 47.44 |
| Pittsburgh-Beaver Valley, PA | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Pittsburgh-Beaver Valley, PA | PM _{2.5} (2006 24-hour) | Maintenance, Moderate | 100 | 0 | 120.48 | 320.88 | 432.96 | 508.86 |
| Plumas County, CA | PM _{2.5} (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Polk County, TN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |

Appendix A Air Quality Non-Attainment Area Results

Table A1-12

Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Direct and Indirect Impacts

Nitrogen Oxides (NO_x) 2050

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|-------------------------------|--|---|---|----------|--------------------|----------|----------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Portland Area: Portland Metro Service District Boundary, OR | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 79.25 | 211.17 | 284.31 | 334.39 |
| Power-Bannock Counties; Fort Hall Indian Reservation, ID | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Power-Bannock Counties; Portneuf Valley Area, ID | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 6.42 | 17.07 | 23.15 | 27.16 |
| Provo Area, UT | CO (1971 8-hour) | Maintenance, Moderate > 12.7ppm | 100 | 0 | 4.60 | 12.25 | 16.60 | 19.48 |
| Provo, UT | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 26.49 | 70.48 | 95.56 | 112.12 |
| Prowers County; Lamar, CO | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Raleigh-Durham Area, NC | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 92.01 | 244.77 | 331.96 | 389.46 |
| Ramsey County; (part), MN | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.18 | 0.49 | 0.66 | 0.77 |
| Reading, PA | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Reno Area, NV | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 21.11 | 56.15 | 76.16 | 89.35 |
| Rhinelander, WI | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 3.27 | 8.71 | 11.81 | 13.86 |
| Riverside County (Coachella Valley), CA | Ozone (2008 8-hour) | Nonattainment, Severe 15 | 25 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Riverside County; Coachella Valley planning area, CA | PM10 (1987 24-hour) | Nonattainment, Serious | 70 | 0 | 33.30 | 88.59 | 120.15 | 140.96 |
| Riverside, Los Angeles, Orange, and San Bernardino Counties; South Coast Air Basin, CA | PM10 (1987 24-hour) | Maintenance, Serious | 100 | 0 | 1,237.22 | 3,351.41 | 4,188.44 | 5,057.74 |
| Rosebud County; Lame Deer, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 2.14 | 5.68 | 7.71 | 9.04 |
| Routt County (part); Steamboat Springs, CO | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 2.00 | 5.32 | 7.22 | 8.47 |
| Sacramento Area, CA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 85.45 | 227.39 | 307.97 | 361.49 |
| Sacramento County, CA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 82.48 | 219.47 | 297.33 | 348.96 |
| Sacramento Metro, CA | Ozone (2008 8-hour) | Nonattainment, Severe 15 | 25 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Sacramento, CA | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 192.14 | 520.72 | 649.31 | 784.71 |
| Salem Area, OR | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 17.12 | 45.53 | 61.75 | 72.45 |
| Salt Lake City Area, UT | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 45.33 | 130.16 | 119.70 | 163.33 |
| Salt Lake City, UT | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 164.72 | 453.94 | 522.09 | 650.23 |

Table A1-12
Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Direct and Indirect Impacts
Nitrogen Oxides (NO_x) 2050

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|---|---------------------------------------|--|---|---|--------|--------------------|----------|----------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Salt Lake County, UT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 98.16 | 270.70 | 310.30 | 386.95 |
| Salt Lake County, UT | SO ₂ (1971 24-hour/Annual) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| San Bernardino County (part); excluding Searles Valley Planning area and South Coast Air Basin, CA | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 35.29 | 93.88 | 127.27 | 149.34 |
| San Diego Area, CA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 223.20 | 593.85 | 804.91 | 944.53 |
| San Diego County, CA | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| San Francisco Bay Area, CA | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| San Francisco Bay Area, CA | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 610.47 | 1,670.32 | 1,990.37 | 2,445.93 |
| San Francisco-Oakland-San Jose Area, CA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 572.64 | 1,569.68 | 1,853.88 | 2,285.80 |
| San Joaquin Valley Air Basin; Fresno, Kern, Kings, Madera, Merced, San Joaquin, Stanislaus, Tulare Counties, CA | PM10 (1987 24-hour) | Maintenance, Serious | 100 | 0 | 303.46 | 809.76 | 1,083.41 | 1,277.04 |
| San Joaquin Valley, CA | Ozone (2008 8-hour) | Nonattainment, Extreme | 10 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| San Joaquin Valley, CA | PM2.5 (2006 24-hour) | Nonattainment, Serious | 100 | 0 | 303.41 | 809.64 | 1,083.25 | 1,276.86 |
| San Joaquin Valley, CA | PM2.5 (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 303.41 | 809.64 | 1,083.25 | 1,276.86 |
| San Luis Obispo (Eastern San Luis Obispo), CA | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| San Manuel, AZ | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| San Miguel County; Telluride, CO | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.65 | 1.74 | 2.36 | 2.77 |
| Sanders County (part); Thompson Falls and vicinity, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Santa Cruz County; Nogales planning area, AZ | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 3.25 | 8.66 | 11.74 | 13.78 |
| Seaford, DE | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Seattle-Tacoma Area, WA | CO (1971 8-hour) | Maintenance, Moderate > 12.7ppm | 100 | 0 | 182.72 | 486.07 | 659.20 | 773.40 |
| Seattle-Tacoma, WA | PM2.5 (2006 24-hour) | Maintenance, Moderate | 100 | 0 | 29.02 | 77.19 | 104.68 | 122.82 |
| Sheboygan County, WI | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |

Appendix A Air Quality Non-Attainment Area Results

Table A1-12

Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Direct and Indirect Impacts

Nitrogen Oxides (NO_x) 2050

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|---|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Sheridan County; City of Sheridan, WY | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 1.76 | 4.68 | 6.35 | 7.45 |
| Shoshone County (part); excluding Pinehurst, ID | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 2.86 | 7.62 | 10.33 | 12.12 |
| Shoshone County; City of Pinehurst, ID | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Silver Bow County; Butte, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 2.83 | 7.53 | 10.21 | 11.98 |
| Somerville Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 1.04 | 2.76 | 3.75 | 4.40 |
| Southwest Indiana, IN | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.83 | 2.20 | 2.99 | 3.51 |
| Spokane Area, WA | CO (1971 8-hour) | Maintenance, Serious | 100 | 0 | 18.80 | 50.02 | 67.83 | 79.58 |
| Spokane County; (part), WA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 19.39 | 51.59 | 69.97 | 82.09 |
| Springfield Area, MA | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 11.50 | 30.59 | 41.48 | 48.67 |
| St. Bernard Parish, LA | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 146.37 | 428.08 | 350.79 | 504.14 |
| St. Louis Area, MO | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 56.53 | 150.39 | 203.90 | 239.24 |
| St. Louis-St. Charles-Farmington, MO-IL | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Steubenville, OH-WV | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 4.60 | 12.25 | 16.61 | 19.49 |
| Steubenville-Weirton, OH-WV | PM2.5 (2006 24-hour) | Maintenance, -- | 100 | 0 | 12.80 | 35.32 | 40.41 | 50.43 |
| Stockton Area, CA | CO (1971 8-hour) | Maintenance, Moderate ≤ 12.7ppm | 100 | 0 | 23.47 | 62.47 | 84.48 | 99.22 |
| Sullivan County, TN | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 2.02 | 5.64 | 6.07 | 7.76 |
| Syracuse Area; Onondaga County, NY | CO (1971 8-hour) | Maintenance, Moderate ≤ 12.7ppm | 100 | 0 | 36.12 | 96.09 | 130.31 | 152.89 |
| Tazewell County; Groveland Twp, IL | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Terre Haute, IN | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 2.22 | 5.91 | 8.02 | 9.40 |

Table A1-12

Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Direct and Indirect Impacts

Nitrogen Oxides (NO_x) 2050

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|---|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Thurston County; Cities of Olympia, Tumwater, and Lacey, WA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 6.49 | 17.27 | 23.42 | 27.47 |
| Toms River Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.34 | 0.91 | 1.23 | 1.44 |
| Tooele County (part), UT | SO ₂ (1971 24-hour/Annual) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Trenton Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 5.96 | 15.85 | 21.50 | 25.22 |
| Trona, CA | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Tucson Area, AZ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 56.39 | 150.01 | 203.45 | 238.69 |
| Tuscan Buttes, CA | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Union County; LaGrande, OR | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 2.71 | 7.21 | 9.77 | 11.47 |
| Upper Green River Basin Area, WY | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Utah County, UT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 26.49 | 70.48 | 95.56 | 112.12 |
| Vancouver Area: Clark County (part), WA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 17.88 | 47.58 | 64.52 | 75.70 |
| Ventura County, CA | Ozone (2008 8-hour) | Nonattainment, Serious | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Vermillion County; Part of Clinton Township, IN | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Vigo County, IN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Walla Walla County; Wallula, WA | PM10 (1987 24-hour) | Maintenance, Serious | 100 | 0 | 0.26 | 0.69 | 0.94 | 1.10 |
| Waltham Area, MA | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 3.66 | 9.74 | 13.21 | 15.50 |
| Warren County: Conewago Twp, PA | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Warren County: Warren Boro, Pleasant Twp, Glade Twp, PA | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Warren, PA | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 18.12 | 52.67 | 44.88 | 63.35 |
| Washington Area, DC-MD-VA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 43.74 | 116.35 | 157.79 | 185.13 |
| Washington, DC-MD-VA | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Washoe County; Reno planning area, NV | PM10 (1987 24-hour) | Nonattainment, Serious | 70 | 0 | 20.88 | 55.56 | 75.35 | 88.40 |

Appendix A Air Quality Non-Attainment Area Results

Table A1-12

Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Direct and Indirect Impacts

Nitrogen Oxides (NO_x) 2050

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|---|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Wayne County: Boston, Center, Franklin, Wayne & Webster Townships, IN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Wayne County; (part), MI | PM ₁₀ (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 18.18 | 51.29 | 52.23 | 68.26 |
| West Central Pinal County, AZ | PM _{2.5} (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 5.88 | 15.64 | 21.21 | 24.88 |
| West Silver Valley, ID | PM _{2.5} (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 1.68 | 4.48 | 6.07 | 7.13 |
| Winston-Salem Area, NC | CO (1971 8-hour) | Maintenance, Moderate ≤ 12.7ppm | 100 | 0 | 24.50 | 65.17 | 88.39 | 103.70 |
| Worcester Area, MA | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 16.09 | 42.79 | 58.04 | 68.09 |
| Yakima Area, WA | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 2.93 | 7.78 | 10.55 | 12.38 |
| Yakima County; (part), WA | PM ₁₀ (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 7.65 | 20.34 | 27.58 | 32.36 |
| Yuba City-Marysville, CA | PM _{2.5} (2006 24-hour) | Maintenance, Moderate | 100 | 0 | 12.69 | 33.77 | 45.80 | 53.73 |
| Yuma County; Yuma planning area, AZ | PM ₁₀ (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 10.75 | 28.61 | 38.79 | 45.51 |

^a Reductions are shown as positive values. Negative values are emissions increases. Values of less than 0.005 tons per year are rounded to zero.

^b Nonattainment or maintenance status as of 5/13/2016. Source: U.S. EPA, The Green Book Nonattainment Areas for Criteria Pollutants; <http://www.epa.gov/airquality/greenbook/>. "--" indicates that no severity classification has been established for the NAAQS pollutant.

^c Emissions thresholds in tons per year. Where the threshold differs by precursor pollutant, the smallest of the precursor thresholds is shown. These thresholds are provided for information only; a general conformity determination is not required for the Proposed Action. Source: 40 CFR 93.853.

Notes: CO = carbon monoxide; NAAQS =National Ambient Air Quality Standards; NO₂ = nitrogen dioxide; PM = particulate matter; SO₂ = sulfur dioxide

Table A1-13
Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Direct and Indirect Impacts
Volatile Organic Compounds (VOC) 2018

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Ada County; Boise, ID | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.19 | 0.25 | 0.29 | 0.34 |
| Adams, Denver, and Boulder Counties; Denver Metropolitan area, CO | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.74 | 0.98 | 1.15 | 1.35 |
| Ajo, AZ | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Albuquerque Area, NM | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.19 | 0.26 | 0.30 | 0.35 |
| Allegheny County Air Basin: Hazelwood monitor, PA | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Allegheny County, PA | PM2.5 (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 0.19 | 0.26 | 0.30 | 0.35 |
| Allegheny County; The area including Liberty, Lincoln, Port Vue, and Glassport Boroughs and the City of Clairton, PA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.01 | 0.01 | 0.01 |
| Allegheny, PA | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.02 | 0.03 | 0.03 | 0.03 |
| Allentown, PA | PM2.5 (2006 24-hour) | Maintenance, Moderate | 100 | 0 | 0.11 | 0.14 | 0.17 | 0.20 |
| Allentown-Bethlehem-Easton, PA | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Anchorage Area, AK | CO (1971 8-hour) | Maintenance, Serious | 100 | 0 | 0.12 | 0.15 | 0.18 | 0.21 |
| Anchorage; Eagle River, AK | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.01 | 0.01 | 0.01 | 0.01 |
| AQCR 012: Portions of Grant County, NM | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| AQCR 109-Millinocket, ME | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| AQCR 131: Anoka, Carver, Dakota, Hennepin, Ramsey, Scott, and Washington counties (Minneapolis-St. Paul), MN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| AQCR 237: Brown County: Green Bay sub-city area, WI | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| AQCR 238: Marathon County: Rothschild Sub-city area, Rib Mountain, Weston, WI | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| AQCR 238: Oneida County: Rhinelander Sub-city area, WI | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| AQCR 239: Milwaukee County: Milwaukee sub-city area, WI | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |

Appendix A Air Quality Non-Attainment Area Results

Table A1-13

**Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Direct and Indirect Impacts
Volatile Organic Compounds (VOC) 2018**

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| AQCR 240: Dane County: Madison sub-city area, WI | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Archuleta County; Pagosa Springs, CO | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.01 | 0.01 | 0.01 | 0.01 |
| Armstrong County: Madison Twp, Mahoning Twp, Boggs Twp, Washington Twp, Pine Twp, PA | SO ₂ (1971 24-hour/Annual) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Aroostock County; City of Presque Isle, ME | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Atlanta, GA | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Atlantic City Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.01 | 0.01 | 0.01 |
| Bakersfield Area, CA | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.11 | 0.15 | 0.17 | 0.20 |
| Baltimore Area, MD | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.01 | 0.01 |
| Baltimore, MD | Ozone (2008 8-hour) | Nonattainment, Moderate | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Baton Rouge, LA | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Beaver, PA | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Benton County; (part) TVA Johnsonville, TN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Billings Area, MT | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.47 | 0.61 | 0.72 | 0.84 |
| Billings, MT | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.36 | 0.46 | 0.54 | 0.64 |
| Birmingham, AL | PM2.5 (2006 24-hour) | Maintenance, -- | 100 | 0 | 0.44 | 0.59 | 0.69 | 0.81 |
| Boise-Northern Ada County Area, ID | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.19 | 0.25 | 0.29 | 0.34 |
| Bonner County; The Sandpoint Area, ID | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.01 | 0.01 | 0.01 | 0.01 |
| Boston Area, MA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.26 | 0.35 | 0.41 | 0.48 |
| Boyd County (part), KY | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Brooke; Follansbee area, WV | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Burlington Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Calaveras County, CA | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Campbell-Clermont Counties, KY-OH | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.01 | 0.01 | 0.01 | 0.01 |

Table A1-13
Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Direct and Indirect Impacts
Volatile Organic Compounds (VOC) 2018

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|---|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Canton-Massillon, OH | PM2.5 (2006 24-hour) | Maintenance, -- | 100 | 0 | 0.09 | 0.12 | 0.14 | 0.16 |
| Central New Hampshire, NH | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.01 | 0.01 | 0.01 | 0.01 |
| Central Steptoe Valley, NV | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Charleston, WV | PM2.5 (2006 24-hour) | Maintenance, -- | 100 | 0 | 0.07 | 0.09 | 0.10 | 0.12 |
| Charlotte Area, NC | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.12 | 0.17 | 0.20 | 0.23 |
| Charlotte-Rock Hill, NC-SC | Ozone (2008 8-hour) | Maintenance, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Chicago-Naperville, IL-IN-WI | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Chico (Butte County), CA | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Chico Area, CA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.01 | 0.01 | 0.01 | 0.02 |
| Chico, CA | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.02 | 0.03 | 0.03 | 0.04 |
| Cincinnati, OH-KY-IN | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Clark County; Las Vegas planning area, NV | PM10 (1987 24-hour) | Maintenance, Serious | 100 | 0 | 0.16 | 0.23 | 0.27 | 0.31 |
| Cleveland Area, OH | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.22 | 0.29 | 0.34 | 0.40 |
| Cleveland, OH | PM2.5 (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 0.27 | 0.36 | 0.42 | 0.50 |
| Cleveland-Akron-Lorain, OH | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Cleveland-Akron-Lorain, OH | PM2.5 (2006 24-hour) | Maintenance, -- | 100 | 0 | 0.42 | 0.58 | 0.67 | 0.78 |
| Cochise County; Paul Spur/Douglas planning area, AZ | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.01 | 0.01 | 0.02 | 0.02 |
| Colorado Springs Area, CO | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.28 | 0.37 | 0.43 | 0.51 |
| Columbus, OH | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Cook County; Lyons Township, IL | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.01 | 0.01 | 0.02 | 0.02 |
| Cook County; Southeast Chicago, IL | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.01 | 0.02 | 0.02 | 0.02 |
| Coshocton County; Franklin Township, OH | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Coso Junction, CA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Cuyahoga County (part), OH | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Cuyahoga County, OH | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.22 | 0.29 | 0.34 | 0.40 |

Appendix A Air Quality Non-Attainment Area Results

Table A1-13

**Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Direct and Indirect Impacts
Volatile Organic Compounds (VOC) 2018**

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Dallas-Fort Worth, TX | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Delaware County, PA | PM2.5 (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 0.12 | 0.16 | 0.19 | 0.23 |
| Denver-Boulder Area, CO | CO (1971 8-hour) | Maintenance, Serious | 100 | 0 | 1.49 | 1.96 | 2.31 | 2.69 |
| Denver-Boulder-Greeley-Ft Collins-Loveland, CO | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Detroit Area, MI | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.38 | 0.52 | 0.61 | 0.71 |
| Detroit, MI | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.14 | 0.18 | 0.22 | 0.25 |
| Detroit-Ann Arbor, MI | PM2.5 (2006 24-hour) | Maintenance, -- | 100 | 0 | 1.00 | 1.37 | 1.59 | 1.86 |
| Dona Ana County; Anthony, NM | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.01 | 0.01 | 0.01 | 0.01 |
| Douglas, AZ | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Dukes County, MA | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Duluth Area, MN | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.09 | 0.12 | 0.14 | 0.17 |
| East Chicago Area, IN | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.27 | 0.35 | 0.41 | 0.48 |
| East Helena Area, MT | SO ₂ (1971 24-hour/Annual) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| East Kern County Area, CA | PM10 (1987 24-hour) | Nonattainment, Serious | 70 | 0 | 0.08 | 0.10 | 0.12 | 0.14 |
| El Paso County, TX | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.17 | 0.23 | 0.27 | 0.31 |
| El Paso, TX | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.07 | 0.08 | 0.10 | 0.12 |
| Eugene-Springfield Area, OR | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.04 | 0.06 | 0.07 | 0.08 |
| Fairbanks Area, AK | CO (1971 8-hour) | Maintenance, Serious | 100 | 0 | 0.04 | 0.05 | 0.06 | 0.07 |
| Fairbanks, AK | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.05 | 0.07 | 0.08 | 0.09 |

Table A1-13
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Volatile Organic Compounds (VOC) 2018

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|---|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Flathead County; Columbia Falls and vicinity, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Flathead County; Kalispell and vicinity, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.02 | 0.03 | 0.04 | 0.04 |
| Flathead County; Whitefish and vicinity, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.01 |
| Fort Collins Area, CO | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.05 | 0.07 | 0.08 | 0.10 |
| Freehold Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Fremont County; Canon City Area, CO | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.01 | 0.01 | 0.01 | 0.02 |
| Fresno Area, CA | CO (1971 8-hour) | Maintenance, Moderate > 12.7ppm | 100 | 0 | 0.04 | 0.05 | 0.06 | 0.07 |
| Grants Pass Area, OR | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.01 | 0.02 | 0.02 | 0.02 |
| Great Falls Area, MT | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.05 | 0.07 | 0.08 | 0.10 |
| Greater Connecticut, CT | Ozone (2008 8-hour) | Nonattainment, Moderate | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Greeley Area, CO | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.18 | 0.24 | 0.29 | 0.33 |
| Hancock and Brooke Counties (Part); The city of Weirton, WV | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.02 | 0.02 | 0.03 | 0.03 |
| Hancock County (Part) The city of Weirton, including Butler and Clay: Magisterial Districts, WV | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Harrisburg-Lebanon-Carlisle-York, PA | PM2.5 (2006 24-hour) | Maintenance, Moderate | 100 | 0 | 0.35 | 0.47 | 0.55 | 0.65 |
| Hartford-New Britain-Middletown Area, CT | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.18 | 0.25 | 0.29 | 0.33 |
| Hayden, AZ | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Hayden, AZ | SO ₂ (1971 24-hour/Annual) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Hayden, AZ | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Hillsborough County, FL | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.01 | 0.02 | 0.02 | 0.02 |
| Houston-Galveston-Brazoria, TX | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Humphreys County; (part) TVA Johnsonville, TN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Imperial Co, CA | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.02 | 0.03 | 0.03 | 0.04 |

Appendix A Air Quality Non-Attainment Area Results

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Volatile Organic Compounds (VOC) 2018

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Imperial County, CA | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Imperial County, CA | PM2.5 (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 0.02 | 0.03 | 0.03 | 0.04 |
| Imperial County; Imperial Valley planning area, CA | PM10 (1987 24-hour) | Nonattainment, Serious | 70 | 0 | 0.02 | 0.03 | 0.04 | 0.04 |
| Indian Wells, CA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.08 | 0.10 | 0.12 | 0.14 |
| Indiana, PA | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.01 | 0.01 | 0.01 | 0.02 |
| Indianapolis Area, IN | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Indianapolis, IN | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.09 | 0.13 | 0.15 | 0.17 |
| Inyo County; Owens Valley planning area, CA | PM10 (1987 24-hour) | Nonattainment, Serious | 70 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Jackson County, MO | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.03 | 0.03 | 0.04 | 0.05 |
| Jackson County; Medford-Ashland (including White City), OR | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.06 | 0.08 | 0.09 | 0.11 |
| Jamestown, NY | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Jefferson County, KY | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Jefferson County, MO | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.04 | 0.05 | 0.06 | 0.07 |
| Jefferson County; (part) Steubenville & Mingo Junction, OH | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Jefferson County; (part), OH | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.01 | 0.01 |
| Johnstown, PA | PM2.5 (2006 24-hour) | Maintenance, Moderate | 100 | 0 | 0.02 | 0.03 | 0.04 | 0.04 |
| Josephine County; Grants Pass, OR | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.01 | 0.02 | 0.02 | 0.02 |
| Juneau; Mendenhall Valley area, AK | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.01 | 0.01 | 0.01 | 0.01 |
| Kern County (Eastern Kern), CA | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| King County; Kent, WA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.01 | 0.01 | 0.01 | 0.01 |
| King County; Seattle, WA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.01 |
| Klamath County; Klamath Falls, OR | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.02 | 0.02 | 0.03 | 0.03 |
| Klamath Falls Area, OR | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.02 | 0.02 | 0.03 | 0.03 |
| Klamath Falls, OR | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.02 | 0.03 | 0.03 | 0.04 |

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| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Knoxville, TN | Ozone (2008 8-hour) | Maintenance, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Knoxville-Sevierville-La Follette, TN | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.33 | 0.44 | 0.52 | 0.61 |
| La Porte County: (part), IN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lake County (part); Lakeview, OR | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lake County, OH | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.02 | 0.03 | 0.04 | 0.05 |
| Lake County: (part), IN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lake County; (part) Eastlake, Timberlake, Lakeline, Willoughby, Mentor, OH | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lake County; Cities of East Chicago, Hammond, Whiting, and Gary, IN | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.34 | 0.43 | 0.51 | 0.60 |
| Lake County; Polson, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lake County; Ronan, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lake Tahoe Nevada Area, NV | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.01 | 0.01 | 0.01 |
| Lake Tahoe North Shore Area, CA | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lake Tahoe South Shore Area, CA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lancaster, PA | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lancaster, PA | PM2.5 (2006 24-hour) | Maintenance, Moderate | 100 | 0 | 0.05 | 0.07 | 0.08 | 0.09 |
| Lane County (part); Oakridge, OR | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lane County; Eugene/Springfield, OR | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.04 | 0.06 | 0.07 | 0.08 |
| Las Vegas Area, NV | CO (1971 8-hour) | Maintenance, Serious | 100 | 0 | 0.16 | 0.23 | 0.27 | 0.31 |
| LaSalle County; Oglesby, IL | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.01 | 0.01 | 0.01 |
| Laurel Area, MT | SO ₂ (1971 24-hour/Annual) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lebanon County, PA | PM2.5 (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 0.07 | 0.10 | 0.12 | 0.14 |
| Lemont, IL | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.07 | 0.10 | 0.11 | 0.13 |
| Liberty-Clairton, PA | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.01 | 0.01 | 0.01 |

Appendix A Air Quality Non-Attainment Area Results

Table A1-13

Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Direct and Indirect Impacts

Volatile Organic Compounds (VOC) 2018

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Lincoln County; Libby and vicinity, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.01 |
| Logan, UT-ID | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.03 | 0.04 | 0.04 | 0.05 |
| Longmont Area, CO | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.04 | 0.06 | 0.07 | 0.08 |
| Lorain County (part), OH | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Los Angeles, CA | PM2.5 (2006 24-hour) | Nonattainment, Serious | 100 | 0 | 1.23 | 1.81 | 2.08 | 2.42 |
| Los Angeles-San Bernardino Counties (West Mojave Desert), CA | Ozone (2008 8-hour) | Nonattainment, Severe 15 | 25 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Los Angeles-South Coast Air Basin Area, CA | CO (1971 8-hour) | Maintenance, Serious | 100 | 0 | 1.23 | 1.81 | 2.08 | 2.43 |
| Los Angeles-South Coast Air Basin Area, CA | NO ₂ (1971 Annual) | Maintenance, -- | 100 | 0 | 1.23 | 1.81 | 2.08 | 2.43 |
| Los Angeles-South Coast Air Basin, CA | Ozone (2008 8-hour) | Nonattainment, Extreme | 10 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Los Angeles-South Coast Air Basin, CA | PM2.5 (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 1.23 | 1.81 | 2.08 | 2.42 |
| Lowell Area, MA | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.03 | 0.04 | 0.05 | 0.06 |
| Lucas County (part), OH | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Madison County; Granite City Township and Nameoki Township, IL | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.19 | 0.24 | 0.29 | 0.34 |
| Manchester Area, NH | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.01 | 0.01 |
| Maricopa and Pinal Counties; Phoenix planning area, AZ | PM10 (1987 24-hour) | Nonattainment, Serious | 70 | 0 | 0.30 | 0.44 | 0.50 | 0.58 |
| Marion County; Lawrence, Washington, and Warrant Townships, IN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Mariposa County, CA | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Marshall, WV | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.01 | 0.02 | 0.02 | 0.03 |
| Medford Area, OR | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.03 | 0.04 | 0.05 | 0.06 |
| Memphis Area, TN | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.26 | 0.34 | 0.40 | 0.47 |

Table A1-13

Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Direct and Indirect Impacts
Volatile Organic Compounds (VOC) 2018

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|---|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Memphis, TN-MS-AR | Ozone (2008 8-hour) | Nonattainment TN & Maintenance MS/AR, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Miami, AZ | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.01 | 0.01 | 0.01 | 0.01 |
| Miami, AZ | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Miami, AZ | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.01 | 0.01 | 0.01 | 0.01 |
| Milwaukee-Racine, WI | PM2.5 (2006 24-hour) | Maintenance, -- | 100 | 0 | 0.18 | 0.25 | 0.29 | 0.34 |
| Minneapolis-St. Paul Area, MN | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 1.26 | 1.67 | 1.96 | 2.29 |
| Missoula Area, MT | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.05 | 0.07 | 0.08 | 0.09 |
| Missoula county; Missoula and vicinity, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.05 | 0.07 | 0.08 | 0.09 |
| Modesto Area, CA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.02 | 0.03 | 0.04 | 0.04 |
| Mohave County (part); Bullhead City, AZ | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.02 | 0.03 | 0.04 | 0.04 |
| Mono County; Mammoth Lake planning area, CA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Mono County; Mono Basin, CA | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Morenci, AZ | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Morgan County, IN | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.01 | 0.01 | 0.01 |
| Morongo Band of Mission Indians | Ozone (2008 8-hour) | Nonattainment, Serious | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Morristown Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.01 |
| Muscatine County; (part), IA | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Muscatine, IA | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.02 | 0.03 | 0.03 | 0.04 |
| Muskingum River, OH | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.01 |
| Nashua Area, NH | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.01 |
| Nassau County, FL | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.01 | 0.01 | 0.01 | 0.01 |
| Nevada County (Western part), CA | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| New Haven County, CT | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.01 | 0.01 | 0.01 |

Appendix A Air Quality Non-Attainment Area Results

Table A1-13

**Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Direct and Indirect Impacts
Volatile Organic Compounds (VOC) 2018**

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| New Haven-Meriden-Waterbury Area, CT | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.17 | 0.23 | 0.27 | 0.31 |
| New Manchester-Grant magisterial district in Hancock County, WV | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| New York County, NY | PM ₁₀ (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.12 | 0.16 | 0.18 | 0.22 |
| New York, NY-NJ-CT | PM _{2.5} (2006 24-hour) | Maintenance, -- | 100 | 0 | 2.71 | 3.72 | 4.34 | 5.06 |
| New York-N. New Jersey-Long Island Area, NY-NJ-CT | CO (1971 8-hour) | Maintenance, Moderate > 12.7ppm | 100 | 0 | 1.53 | 2.10 | 2.45 | 2.86 |
| New York-N. New Jersey-Long Island, NY-NJ-CT | Ozone (2008 8-hour) | Nonattainment, Moderate | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| NJ portion of the Northeast Pennsylvania-Upper Delaware Valley Interstate AQCR: (part), NJ | SO ₂ (1971 24-hour/Annual) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Nogales, AZ | PM _{2.5} (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.01 | 0.01 | 0.02 | 0.02 |
| Oakridge, OR | PM _{2.5} (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Ogden Area, UT | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.01 | 0.01 | 0.02 | 0.02 |
| Ogden Area, UT | PM ₁₀ (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.01 | 0.01 | 0.02 | 0.02 |
| Olmsted County; (part), MN | PM ₁₀ (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.01 | 0.02 | 0.02 | 0.03 |
| Olmsted; City of Rochester, MN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |

Table A1-13
Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Direct and Indirect Impacts
Volatile Organic Compounds (VOC) 2018

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Pechanga Band of Luiseno Mission Indians of the Pechanga Reservation | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Pekin, IL | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Penns Grove Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Peoria County: Hollis Twp, IL | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Peoria County: Peoria, IL | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Perth Amboy Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.03 | 0.04 | 0.04 | 0.05 |
| Philadelphia-Camden County Area, PA-NJ | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.29 | 0.39 | 0.46 | 0.53 |
| Philadelphia-Wilmington, PA-NJ-DE | PM _{2.5} (2006 24-hour) | Maintenance, Moderate for PA and DE Subject to Former Subpart 1 for NJ | 100 | 0 | 1.17 | 1.56 | 1.83 | 2.14 |
| Philadelphia-Wilmington-Atlantic City, PA-NJ-MD-DE | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Phoenix Area, AZ | CO (1971 8-hour) | Maintenance, Serious | 100 | 0 | 0.27 | 0.40 | 0.46 | 0.53 |
| Phoenix-Mesa, AZ | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Pierce County; Tacoma, WA | PM ₁₀ (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.01 | 0.02 | 0.02 | 0.03 |
| Pima County; Ajo planning area, AZ | PM ₁₀ (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Pima County; Rillito planning area, AZ | PM ₁₀ (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.02 | 0.02 | 0.03 | 0.03 |
| Pinal and Gila Counties; Payson, AZ | PM ₁₀ (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.01 | 0.01 | 0.01 | 0.02 |
| Pinal County (part); West Pinal, AZ | PM ₁₀ (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.14 | 0.19 | 0.22 | 0.26 |
| Pitkin County; Aspen, CO | PM ₁₀ (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.01 | 0.01 | 0.01 | 0.01 |
| Pittsburgh Area, PA | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.05 | 0.06 | 0.07 | 0.09 |
| Pittsburgh-Beaver Valley, PA | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Pittsburgh-Beaver Valley, PA | PM _{2.5} (2006 24-hour) | Maintenance, Moderate | 100 | 0 | 0.39 | 0.53 | 0.62 | 0.73 |
| Plumas County, CA | PM _{2.5} (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Polk County, TN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |

Appendix A Air Quality Non-Attainment Area Results

Table A1-13

**Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Direct and Indirect Impacts
Volatile Organic Compounds (VOC) 2018**

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|-------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Portland Area: Portland Metro Service District Boundary, OR | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.15 | 0.22 | 0.25 | 0.29 |
| Power-Bannock Counties; Fort Hall Indian Reservation, ID | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Power-Bannock Counties; Portneuf Valley Area, ID | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.04 | 0.06 | 0.07 | 0.08 |
| Provo Area, UT | CO (1971 8-hour) | Maintenance, Moderate > 12.7ppm | 100 | 0 | 0.01 | 0.01 | 0.01 | 0.01 |
| Provo, UT | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.03 | 0.05 | 0.06 | 0.06 |
| Prowers County; Lamar, CO | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.01 | 0.01 |
| Raleigh-Durham Area, NC | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.31 | 0.42 | 0.49 | 0.57 |
| Ramsey County; (part), MN | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Reading, PA | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Reno Area, NV | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.09 | 0.12 | 0.14 | 0.16 |
| Rhinelander, WI | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.03 | 0.04 | 0.05 | 0.06 |
| Riverside County (Coachella Valley), CA | Ozone (2008 8-hour) | Nonattainment, Severe 15 | 25 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Riverside County; Coachella Valley planning area, CA | PM10 (1987 24-hour) | Nonattainment, Serious | 70 | 0 | 0.02 | 0.03 | 0.04 | 0.04 |
| Riverside, Los Angeles, Orange, and San Bernardino Counties; South Coast Air Basin, CA | PM10 (1987 24-hour) | Maintenance, Serious | 100 | 0 | 1.23 | 1.81 | 2.07 | 2.42 |
| Rosebud County; Lame Deer, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.01 | 0.01 | 0.01 |
| Routt County (part); Steamboat Springs, CO | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.01 | 0.01 | 0.01 | 0.02 |
| Sacramento Area, CA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.10 | 0.16 | 0.18 | 0.21 |
| Sacramento County, CA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.07 | 0.10 | 0.12 | 0.14 |
| Sacramento Metro, CA | Ozone (2008 8-hour) | Nonattainment, Severe 15 | 25 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Sacramento, CA | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.21 | 0.30 | 0.35 | 0.41 |
| Salem Area, OR | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.05 | 0.07 | 0.09 | 0.10 |
| Salt Lake City Area, UT | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.10 | 0.13 | 0.15 | 0.18 |
| Salt Lake City, UT | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.42 | 0.57 | 0.66 | 0.78 |

Table A1-13

Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Direct and Indirect Impacts
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| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|---|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Salt Lake County, UT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.22 | 0.29 | 0.34 | 0.40 |
| Salt Lake County, UT | SO ₂ (1971 24-hour/Annual) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| San Bernardino County (part); excluding Searles Valley Planning area and South Coast Air Basin, CA | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.03 | 0.05 | 0.06 | 0.07 |
| San Diego Area, CA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.53 | 0.73 | 0.85 | 0.99 |
| San Diego County, CA | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| San Francisco Bay Area, CA | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| San Francisco Bay Area, CA | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.70 | 1.00 | 1.15 | 1.35 |
| San Francisco-Oakland-San Jose Area, CA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.66 | 0.93 | 1.08 | 1.26 |
| San Joaquin Valley Air Basin; Fresno, Kern, Kings, Madera, Merced, San Joaquin, Stanislaus, Tulare Counties, CA | PM10 (1987 24-hour) | Maintenance, Serious | 100 | 0 | 0.39 | 0.56 | 0.65 | 0.75 |
| San Joaquin Valley, CA | Ozone (2008 8-hour) | Nonattainment, Extreme | 10 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| San Joaquin Valley, CA | PM2.5 (2006 24-hour) | Nonattainment, Serious | 100 | 0 | 0.39 | 0.56 | 0.65 | 0.75 |
| San Joaquin Valley, CA | PM2.5 (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 0.39 | 0.56 | 0.65 | 0.75 |
| San Luis Obispo (Eastern San Luis Obispo), CA | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| San Manuel, AZ | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| San Miguel County; Telluride, CO | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Sanders County (part); Thompson Falls and vicinity, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Santa Cruz County; Nogales planning area, AZ | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.01 | 0.01 | 0.02 | 0.02 |
| Seaford, DE | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Seattle-Tacoma Area, WA | CO (1971 8-hour) | Maintenance, Moderate > 12.7ppm | 100 | 0 | 0.80 | 1.07 | 1.25 | 1.46 |
| Seattle-Tacoma, WA | PM2.5 (2006 24-hour) | Maintenance, Moderate | 100 | 0 | 0.13 | 0.18 | 0.21 | 0.24 |
| Sheboygan County, WI | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |

Appendix A Air Quality Non-Attainment Area Results

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Volatile Organic Compounds (VOC) 2018**

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|---|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Sheridan County; City of Sheridan, WY | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.02 | 0.02 | 0.03 | 0.03 |
| Shoshone County (part); excluding Pinehurst, ID | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.01 | 0.01 | 0.01 | 0.01 |
| Shoshone County; City of Pinehurst, ID | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Silver Bow County; Butte, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.01 | 0.01 | 0.01 | 0.01 |
| Somerville Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.01 | 0.01 |
| Southwest Indiana, IN | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.01 | 0.01 | 0.01 | 0.01 |
| Spokane Area, WA | CO (1971 8-hour) | Maintenance, Serious | 100 | 0 | 0.06 | 0.08 | 0.10 | 0.11 |
| Spokane County; (part), WA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.06 | 0.09 | 0.10 | 0.12 |
| Springfield Area, MA | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.03 | 0.04 | 0.05 | 0.06 |
| St. Bernard Parish, LA | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.05 | 0.07 | 0.08 | 0.09 |
| St. Louis Area, MO | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.76 | 0.99 | 1.16 | 1.36 |
| St. Louis-St. Charles-Farmington, MO-IL | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Steubenville, OH-WV | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.04 | 0.06 | 0.07 | 0.08 |
| Steubenville-Weirton, OH-WV | PM2.5 (2006 24-hour) | Maintenance, -- | 100 | 0 | 0.10 | 0.12 | 0.15 | 0.17 |
| Stockton Area, CA | CO (1971 8-hour) | Maintenance, Moderate ≤ 12.7ppm | 100 | 0 | 0.02 | 0.04 | 0.04 | 0.05 |
| Sullivan County, TN | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.02 | 0.02 | 0.03 | 0.03 |
| Syracuse Area; Onondaga County, NY | CO (1971 8-hour) | Maintenance, Moderate ≤ 12.7ppm | 100 | 0 | 0.16 | 0.21 | 0.25 | 0.29 |
| Tazewell County; Groveland Twp, IL | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Terre Haute, IN | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.04 | 0.05 | 0.06 | 0.07 |

Table A1-13
Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Direct and Indirect Impacts
Volatile Organic Compounds (VOC) 2018

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|---|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Thurston County; Cities of Olympia, Tumwater, and Lacey, WA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.02 | 0.02 | 0.03 | 0.03 |
| Toms River Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Tooele County (part), UT | SO ₂ (1971 24-hour/Annual) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Trenton Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.01 | 0.02 | 0.02 | 0.02 |
| Trona, CA | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.01 | 0.01 | 0.01 | 0.01 |
| Tucson Area, AZ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.27 | 0.36 | 0.42 | 0.49 |
| Tuscan Buttes, CA | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Union County; LaGrande, OR | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.01 | 0.01 | 0.01 | 0.02 |
| Upper Green River Basin Area, WY | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Utah County, UT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.03 | 0.05 | 0.06 | 0.06 |
| Vancouver Area: Clark County (part), WA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.05 | 0.07 | 0.09 | 0.10 |
| Ventura County, CA | Ozone (2008 8-hour) | Nonattainment, Serious | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Vermillion County; Part of Clinton Township, IN | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.01 | 0.01 | 0.01 | 0.01 |
| Vigo County, IN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Walla Walla County; Wallula, WA | PM10 (1987 24-hour) | Maintenance, Serious | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.01 |
| Waltham Area, MA | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.02 | 0.02 | 0.03 | 0.03 |
| Warren County: Conewago Twp, PA | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Warren County: Warren Boro, Pleasant Twp, Glade Twp, PA | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Warren, PA | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.01 | 0.01 | 0.01 | 0.01 |
| Washington Area, DC-MD-VA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.07 | 0.10 | 0.11 | 0.13 |
| Washington, DC-MD-VA | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Washoe County; Reno planning area, NV | PM10 (1987 24-hour) | Nonattainment, Serious | 70 | 0 | 0.09 | 0.12 | 0.14 | 0.16 |

Appendix A Air Quality Non-Attainment Area Results

Table A1-13

**Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Direct and Indirect Impacts
Volatile Organic Compounds (VOC) 2018**

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|---|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Wayne County: Boston, Center, Franklin, Wayne & Webster Townships, IN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Wayne County; (part), MI | PM ₁₀ (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.10 | 0.13 | 0.15 | 0.18 |
| West Central Pinal County, AZ | PM _{2.5} (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.03 | 0.04 | 0.05 | 0.05 |
| West Silver Valley, ID | PM _{2.5} (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.01 | 0.01 | 0.01 |
| Winston-Salem Area, NC | CO (1971 8-hour) | Maintenance, Moderate ≤ 12.7ppm | 100 | 0 | 0.05 | 0.08 | 0.09 | 0.10 |
| Worcester Area, MA | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.04 | 0.06 | 0.07 | 0.08 |
| Yakima Area, WA | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.02 | 0.02 | 0.03 | 0.03 |
| Yakima County; (part), WA | PM ₁₀ (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.05 | 0.07 | 0.08 | 0.10 |
| Yuba City-Marysville, CA | PM _{2.5} (2006 24-hour) | Maintenance, Moderate | 100 | 0 | 0.02 | 0.02 | 0.03 | 0.03 |
| Yuma County; Yuma planning area, AZ | PM ₁₀ (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.06 | 0.08 | 0.09 | 0.10 |

^a Reductions are shown as positive values. Negative values are emissions increases. Values of less than 0.005 tons per year are rounded to zero.

^b Nonattainment or maintenance status as of 5/13/2016. Source: U.S. EPA, The Green Book Nonattainment Areas for Criteria Pollutants; <http://www.epa.gov/airquality/greenbook/>. "--" indicates that no severity classification has been established for the NAAQS pollutant.

^c Emissions thresholds in tons per year. Where the threshold differs by precursor pollutant, the smallest of the precursor thresholds is shown. These thresholds are provided for information only; a general conformity determination is not required for the Proposed Action. Source: 40 CFR 93.853.

Notes: CO = carbon monoxide; NAAQS = National Ambient Air Quality Standards; NO₂ = nitrogen dioxide; PM = particulate matter; SO₂ = sulfur dioxide

Table A1-14
Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Direct and Indirect Impacts
Volatile Organic Compounds (VOC) 2025

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Ada County; Boise, ID | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 2.05 | 4.29 | 4.31 | 6.23 |
| Adams, Denver, and Boulder Counties; Denver Metropolitan area, CO | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 8.27 | 17.56 | 17.39 | 25.30 |
| Ajo, AZ | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Albuquerque Area, NM | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 2.28 | 5.03 | 4.79 | 7.12 |
| Allegheny County Air Basin: Hazelwood monitor, PA | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Allegheny County, PA | PM2.5 (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 2.38 | 5.41 | 4.99 | 7.55 |
| Allegheny County; The area including Liberty, Lincoln, Port Vue, and Glassport Boroughs and the City of Clairton, PA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.04 | 0.09 | 0.09 | 0.13 |
| Allegheny, PA | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.22 | 0.49 | 0.45 | 0.68 |
| Allentown, PA | PM2.5 (2006 24-hour) | Maintenance, Moderate | 100 | 0 | 1.39 | 3.23 | 2.92 | 4.47 |
| Allentown-Bethlehem-Easton, PA | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Anchorage Area, AK | CO (1971 8-hour) | Maintenance, Serious | 100 | 0 | 1.21 | 2.46 | 2.55 | 3.62 |
| Anchorage; Eagle River, AK | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.08 | 0.15 | 0.16 | 0.23 |
| AQCR 012: Portions of Grant County, NM | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| AQCR 109-Millinocket, ME | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| AQCR 131: Anoka, Carver, Dakota, Hennepin, Ramsey, Scott, and Washington counties (Minneapolis-St. Paul), MN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| AQCR 237: Brown County: Green Bay sub-city area, WI | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| AQCR 238: Marathon County: Rothschild Sub-city area, Rib Mountain, Weston, WI | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| AQCR 238: Oneida County: Rhinelander Sub-city area, WI | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| AQCR 239: Milwaukee County: Milwaukee sub-city area, WI | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |

Appendix A Air Quality Non-Attainment Area Results

Table A1-14

Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Direct and Indirect Impacts

Volatile Organic Compounds (VOC) 2025

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| AQCR 240: Dane County: Madison sub-city area, WI | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Archuleta County; Pagosa Springs, CO | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.07 | 0.15 | 0.14 | 0.21 |
| Armstrong County: Madison Twp, Mahoning Twp, Boggs Twp, Washington Twp, Pine Twp, PA | SO ₂ (1971 24-hour/Annual) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Aroostock County; City of Presque Isle, ME | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.02 | 0.05 | 0.04 | 0.06 |
| Atlanta, GA | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Atlantic City Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.08 | 0.21 | 0.17 | 0.27 |
| Bakersfield Area, CA | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 1.41 | 3.21 | 2.95 | 4.48 |
| Baltimore Area, MD | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.04 | 0.09 | 0.09 | 0.13 |
| Baltimore, MD | Ozone (2008 8-hour) | Nonattainment, Moderate | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Baton Rouge, LA | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Beaver, PA | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.03 | 0.07 | 0.07 | 0.10 |
| Benton County; (part) TVA Johnsonville, TN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Billings Area, MT | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 4.64 | 9.17 | 9.81 | 13.69 |
| Billings, MT | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 3.50 | 6.86 | 7.40 | 10.27 |
| Birmingham, AL | PM2.5 (2006 24-hour) | Maintenance, -- | 100 | 0 | 5.17 | 11.28 | 10.86 | 16.05 |
| Boise-Northern Ada County Area, ID | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 2.05 | 4.29 | 4.31 | 6.23 |
| Bonner County; The Sandpoint Area, ID | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.07 | 0.15 | 0.16 | 0.22 |
| Boston Area, MA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 3.07 | 6.68 | 6.45 | 9.52 |
| Boyd County (part), KY | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Brooke; Follansbee area, WV | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.01 | 0.01 | 0.01 | 0.02 |
| Burlington Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.01 | 0.04 | 0.03 | 0.05 |
| Calaveras County, CA | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Campbell-Clermont Counties, KY-OH | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.09 | 0.22 | 0.20 | 0.30 |

Table A1-14

Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Direct and Indirect Impacts
 Volatile Organic Compounds (VOC) 2025

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|---|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Canton-Massillon, OH | PM2.5 (2006 24-hour) | Maintenance, -- | 100 | 0 | 1.10 | 2.50 | 2.31 | 3.50 |
| Central New Hampshire, NH | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.19 | 0.58 | 0.40 | 0.72 |
| Central Steptoe Valley, NV | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Charleston, WV | PM2.5 (2006 24-hour) | Maintenance, -- | 100 | 0 | 0.88 | 2.06 | 1.84 | 2.84 |
| Charlotte Area, NC | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 2.01 | 5.08 | 4.18 | 6.76 |
| Charlotte-Rock Hill, NC-SC | Ozone (2008 8-hour) | Maintenance, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Chicago-Naperville, IL-IN-WI | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Chico (Butte County), CA | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Chico Area, CA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.14 | 0.35 | 0.29 | 0.47 |
| Chico, CA | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.32 | 0.80 | 0.66 | 1.07 |
| Cincinnati, OH-KY-IN | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Clark County; Las Vegas planning area, NV | PM10 (1987 24-hour) | Maintenance, Serious | 100 | 0 | 2.61 | 6.54 | 5.44 | 8.75 |
| Cleveland Area, OH | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 2.75 | 6.23 | 5.76 | 8.71 |
| Cleveland, OH | PM2.5 (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 3.43 | 7.82 | 7.18 | 10.90 |
| Cleveland-Akron-Lorain, OH | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Cleveland-Akron-Lorain, OH | PM2.5 (2006 24-hour) | Maintenance, -- | 100 | 0 | 5.83 | 13.86 | 12.18 | 18.97 |
| Cochise County; Paul Spur/Douglas planning area, AZ | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.13 | 0.29 | 0.27 | 0.41 |
| Colorado Springs Area, CO | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 3.10 | 6.55 | 6.52 | 9.46 |
| Columbus, OH | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Cook County; Lyons Township, IL | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.14 | 0.34 | 0.29 | 0.46 |
| Cook County; Southeast Chicago, IL | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.17 | 0.41 | 0.35 | 0.56 |
| Coshocton County; Franklin Township, OH | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Coso Junction, CA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Cuyahoga County (part), OH | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Cuyahoga County, OH | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 2.74 | 6.21 | 5.73 | 8.68 |

Appendix A Air Quality Non-Attainment Area Results

Table A1-14

**Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Direct and Indirect Impacts
Volatile Organic Compounds (VOC) 2025**

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Dallas-Fort Worth, TX | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Delaware County, PA | PM2.5 (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 1.43 | 3.12 | 3.01 | 4.44 |
| Denver-Boulder Area, CO | CO (1971 8-hour) | Maintenance, Serious | 100 | 0 | 16.26 | 34.14 | 34.23 | 49.46 |
| Denver-Boulder-Greeley-Ft Collins-Loveland, CO | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Detroit Area, MI | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 4.71 | 10.70 | 9.87 | 14.95 |
| Detroit, MI | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 1.59 | 3.38 | 3.35 | 4.87 |
| Detroit-Ann Arbor, MI | PM2.5 (2006 24-hour) | Maintenance, -- | 100 | 0 | 13.05 | 30.06 | 27.32 | 41.73 |
| Dona Ana County; Anthony, NM | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.07 | 0.16 | 0.16 | 0.23 |
| Douglas, AZ | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Dukes County, MA | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Duluth Area, MN | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 1.04 | 2.13 | 2.18 | 3.12 |
| East Chicago Area, IN | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 2.64 | 5.19 | 5.58 | 7.76 |
| East Helena Area, MT | SO ₂ (1971 24-hour/Annual) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| East Kern County Area, CA | PM10 (1987 24-hour) | Nonattainment, Serious | 70 | 0 | 0.79 | 1.58 | 1.68 | 2.35 |
| El Paso County, TX | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 1.93 | 4.18 | 4.06 | 5.97 |
| El Paso, TX | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.65 | 1.29 | 1.37 | 1.92 |
| Eugene-Springfield Area, OR | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.58 | 1.34 | 1.22 | 1.86 |
| Fairbanks Area, AK | CO (1971 8-hour) | Maintenance, Serious | 100 | 0 | 0.37 | 0.73 | 0.78 | 1.09 |
| Fairbanks, AK | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.52 | 1.05 | 1.09 | 1.55 |

Table A1-14
Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Direct and Indirect Impacts
Volatile Organic Compounds (VOC) 2025

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|---|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Flathead County; Columbia Falls and vicinity, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.01 | 0.03 | 0.03 | 0.04 |
| Flathead County; Kalispell and vicinity, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.26 | 0.54 | 0.54 | 0.78 |
| Flathead County; Whitefish and vicinity, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.03 | 0.07 | 0.07 | 0.10 |
| Fort Collins Area, CO | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.59 | 1.26 | 1.24 | 1.82 |
| Freehold Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.03 | 0.08 | 0.06 | 0.10 |
| Fremont County; Canon City Area, CO | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.11 | 0.26 | 0.24 | 0.36 |
| Fresno Area, CA | CO (1971 8-hour) | Maintenance, Moderate > 12.7ppm | 100 | 0 | 0.70 | 1.88 | 1.46 | 2.45 |
| Grants Pass Area, OR | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.14 | 0.32 | 0.30 | 0.45 |
| Great Falls Area, MT | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.54 | 1.05 | 1.14 | 1.58 |
| Greater Connecticut, CT | Ozone (2008 8-hour) | Nonattainment, Moderate | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Greeley Area, CO | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 2.05 | 4.37 | 4.31 | 6.28 |
| Hancock and Brooke Counties (Part); The city of Weirton, WV | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.18 | 0.35 | 0.37 | 0.52 |
| Hancock County (Part) The city of Weirton, including Butler and Clay: Magisterial Districts, WV | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Harrisburg-Lebanon-Carlisle-York, PA | PM2.5 (2006 24-hour) | Maintenance, Moderate | 100 | 0 | 4.28 | 9.53 | 8.97 | 13.43 |
| Hartford-New Britain-Middletown Area, CT | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 2.48 | 5.87 | 5.18 | 8.05 |
| Hayden, AZ | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.03 | 0.05 | 0.05 | 0.08 |
| Hayden, AZ | SO ₂ (1971 24-hour/Annual) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Hayden, AZ | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.02 | 0.04 | 0.04 | 0.06 |
| Hillsborough County, FL | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.15 | 0.31 | 0.32 | 0.45 |
| Houston-Galveston-Brazoria, TX | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Humphreys County; (part) TVA Johnsonville, TN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Imperial Co, CA | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.32 | 0.81 | 0.66 | 1.07 |

Appendix A Air Quality Non-Attainment Area Results

Table A1-14

**Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Direct and Indirect Impacts
Volatile Organic Compounds (VOC) 2025**

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Imperial County, CA | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Imperial County, CA | PM2.5 (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 0.32 | 0.81 | 0.66 | 1.07 |
| Imperial County; Imperial Valley planning area, CA | PM10 (1987 24-hour) | Nonattainment, Serious | 70 | 0 | 0.38 | 0.98 | 0.80 | 1.30 |
| Indian Wells, CA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.79 | 1.58 | 1.67 | 2.35 |
| Indiana, PA | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.14 | 0.35 | 0.28 | 0.46 |
| Indianapolis Area, IN | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.01 | 0.01 | 0.01 |
| Indianapolis, IN | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 1.22 | 2.82 | 2.54 | 3.90 |
| Inyo County; Owens Valley planning area, CA | PM10 (1987 24-hour) | Nonattainment, Serious | 70 | 0 | 0.01 | 0.02 | 0.02 | 0.03 |
| Jackson County, MO | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.29 | 0.62 | 0.62 | 0.90 |
| Jackson County; Medford-Ashland (including White City), OR | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.72 | 1.57 | 1.51 | 2.23 |
| Jamestown, NY | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Jefferson County, KY | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Jefferson County, MO | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.41 | 0.85 | 0.86 | 1.24 |
| Jefferson County; (part) Steubenville & Mingo Junction, OH | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Jefferson County; (part), OH | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.04 | 0.07 | 0.08 | 0.11 |
| Johnstown, PA | PM2.5 (2006 24-hour) | Maintenance, Moderate | 100 | 0 | 0.30 | 0.69 | 0.62 | 0.95 |
| Josephine County; Grants Pass, OR | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.14 | 0.32 | 0.30 | 0.45 |
| Juneau; Mendenhall Valley area, AK | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.07 | 0.15 | 0.15 | 0.22 |
| Kern County (Eastern Kern), CA | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| King County; Kent, WA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.08 | 0.17 | 0.16 | 0.24 |
| King County; Seattle, WA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.03 | 0.07 | 0.07 | 0.10 |
| Klamath County; Klamath Falls, OR | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.23 | 0.52 | 0.49 | 0.73 |
| Klamath Falls Area, OR | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.23 | 0.51 | 0.48 | 0.72 |
| Klamath Falls, OR | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.25 | 0.56 | 0.53 | 0.79 |

Table A1-14
Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Direct and Indirect Impacts
Volatile Organic Compounds (VOC) 2025

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Knoxville, TN | Ozone (2008 8-hour) | Maintenance, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Knoxville-Sevierville-La Follette, TN | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 3.89 | 8.52 | 8.17 | 12.10 |
| La Porte County: (part), IN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lake County (part); Lakeview, OR | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.02 | 0.04 | 0.03 | 0.05 |
| Lake County, OH | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.41 | 1.05 | 0.85 | 1.39 |
| Lake County: (part), IN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lake County; (part) Eastlake, Timberlake, Lakeline, Willoughby, Mentor, OH | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lake County; Cities of East Chicago, Hammond, Whiting, and Gary, IN | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 3.35 | 6.73 | 7.08 | 9.96 |
| Lake County; Polson, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.01 | 0.02 | 0.02 | 0.02 |
| Lake County; Ronan, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lake Tahoe Nevada Area, NV | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.05 | 0.12 | 0.11 | 0.16 |
| Lake Tahoe North Shore Area, CA | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.02 | 0.04 | 0.04 | 0.06 |
| Lake Tahoe South Shore Area, CA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.03 | 0.09 | 0.07 | 0.11 |
| Lancaster, PA | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lancaster, PA | PM2.5 (2006 24-hour) | Maintenance, Moderate | 100 | 0 | 0.80 | 2.04 | 1.67 | 2.71 |
| Lane County (part); Oakridge, OR | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.01 | 0.01 | 0.01 | 0.02 |
| Lane County; Eugene/Springfield, OR | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.58 | 1.34 | 1.22 | 1.86 |
| Las Vegas Area, NV | CO (1971 8-hour) | Maintenance, Serious | 100 | 0 | 2.61 | 6.52 | 5.43 | 8.73 |
| LaSalle County; Oglesby, IL | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.06 | 0.16 | 0.13 | 0.21 |
| Laurel Area, MT | SO ₂ (1971 24-hour/Annual) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lebanon County, PA | PM2.5 (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 0.85 | 1.82 | 1.78 | 2.60 |
| Lemont, IL | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.82 | 1.74 | 1.72 | 2.51 |
| Liberty-Clairton, PA | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.04 | 0.09 | 0.09 | 0.13 |

Appendix A Air Quality Non-Attainment Area Results

Table A1-14

Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Direct and Indirect Impacts

Volatile Organic Compounds (VOC) 2025

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Lincoln County; Libby and vicinity, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.03 | 0.06 | 0.06 | 0.09 |
| Logan, UT-ID | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.33 | 0.73 | 0.69 | 1.03 |
| Longmont Area, CO | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.48 | 1.01 | 1.01 | 1.46 |
| Lorain County (part), OH | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Los Angeles, CA | PM2.5 (2006 24-hour) | Nonattainment, Serious | 100 | 0 | 21.84 | 56.35 | 45.38 | 74.45 |
| Los Angeles-San Bernardino Counties (West Mojave Desert), CA | Ozone (2008 8-hour) | Nonattainment, Severe 15 | 25 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Los Angeles-South Coast Air Basin Area, CA | CO (1971 8-hour) | Maintenance, Serious | 100 | 0 | 21.86 | 56.38 | 45.40 | 74.49 |
| Los Angeles-South Coast Air Basin Area, CA | NO ₂ (1971 Annual) | Maintenance, -- | 100 | 0 | 21.86 | 56.39 | 45.40 | 74.49 |
| Los Angeles-South Coast Air Basin, CA | Ozone (2008 8-hour) | Nonattainment, Extreme | 10 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Los Angeles-South Coast Air Basin, CA | PM2.5 (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 21.83 | 56.31 | 45.34 | 74.39 |
| Lowell Area, MA | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.38 | 0.83 | 0.79 | 1.18 |
| Lucas County (part), OH | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Madison County; Granite City Township and Nameoki Township, IL | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 1.87 | 3.71 | 3.95 | 5.53 |
| Manchester Area, NH | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.08 | 0.24 | 0.17 | 0.30 |
| Maricopa and Pinal Counties; Phoenix planning area, AZ | PM10 (1987 24-hour) | Nonattainment, Serious | 70 | 0 | 5.24 | 13.54 | 10.89 | 17.88 |
| Marion County; Lawrence, Washington, and Warrant Townships, IN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Mariposa County, CA | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Marshall, WV | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.16 | 0.32 | 0.33 | 0.46 |
| Medford Area, OR | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.37 | 0.81 | 0.77 | 1.15 |
| Memphis Area, TN | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 3.08 | 6.83 | 6.46 | 9.64 |

Table A1-14

Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Direct and Indirect Impacts
 Volatile Organic Compounds (VOC) 2025

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|---|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Memphis, TN-MS-AR | Ozone (2008 8-hour) | Nonattainment TN & Maintenance MS/AR, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Miami, AZ | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.05 | 0.11 | 0.11 | 0.16 |
| Miami, AZ | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Miami, AZ | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.05 | 0.11 | 0.11 | 0.16 |
| Milwaukee-Racine, WI | PM2.5 (2006 24-hour) | Maintenance, -- | 100 | 0 | 2.56 | 6.09 | 5.34 | 8.33 |
| Minneapolis-St. Paul Area, MN | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 14.33 | 30.86 | 30.13 | 44.19 |
| Missoula Area, MT | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.57 | 1.21 | 1.21 | 1.75 |
| Missoula county; Missoula and vicinity, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.55 | 1.16 | 1.16 | 1.68 |
| Modesto Area, CA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.35 | 0.86 | 0.72 | 1.15 |
| Mohave County (part); Bullhead City, AZ | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.29 | 0.66 | 0.61 | 0.92 |
| Mono County; Mammoth Lake planning area, CA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.03 | 0.08 | 0.05 | 0.10 |
| Mono County; Mono Basin, CA | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.01 | 0.00 | 0.01 |
| Morenci, AZ | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Morgan County, IN | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.06 | 0.14 | 0.12 | 0.19 |
| Morongo Band of Mission Indians | Ozone (2008 8-hour) | Nonattainment, Serious | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Morristown Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.05 | 0.14 | 0.11 | 0.19 |
| Muscatine County; (part), IA | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Muscatine, IA | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.24 | 0.48 | 0.50 | 0.71 |
| Muskingum River, OH | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.04 | 0.08 | 0.08 | 0.12 |
| Nashua Area, NH | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.07 | 0.21 | 0.15 | 0.26 |
| Nassau County, FL | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.05 | 0.10 | 0.10 | 0.14 |
| Nevada County (Western part), CA | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| New Haven County, CT | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.05 | 0.12 | 0.11 | 0.17 |

Appendix A Air Quality Non-Attainment Area Results

Table A1-14

Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Direct and Indirect Impacts

Volatile Organic Compounds (VOC) 2025

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| New Haven-Meriden-Waterbury Area, CT | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 2.21 | 5.11 | 4.63 | 7.09 |
| New Manchester-Grant magisterial district in Hancock County, WV | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| New York County, NY | PM ₁₀ (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 1.51 | 3.47 | 3.17 | 4.83 |
| New York, NY-NJ-CT | PM _{2.5} (2006 24-hour) | Maintenance, -- | 100 | 0 | 36.80 | 86.37 | 76.95 | 118.90 |
| New York-N. New Jersey-Long Island Area, NY-NJ-CT | CO (1971 8-hour) | Maintenance, Moderate > 12.7ppm | 100 | 0 | 20.69 | 48.46 | 43.27 | 66.78 |
| New York-N. New Jersey-Long Island, NY-NJ-CT | Ozone (2008 8-hour) | Nonattainment, Moderate | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| NJ portion of the Northeast Pennsylvania-Upper Delaware Valley Interstate AQCR: (part), NJ | SO ₂ (1971 24-hour/Annual) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Nogales, AZ | PM _{2.5} (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.14 | 0.31 | 0.29 | 0.43 |
| Oakridge, OR | PM _{2.5} (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.01 | 0.01 | 0.01 | 0.02 |
| Ogden Area, UT | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.14 | 0.32 | 0.29 | 0.45 |
| Ogden Area, UT | PM ₁₀ (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.14 | 0.32 | 0.29 | 0.45 |
| Olmsted County; (part), MN | PM ₁₀ (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.15 | 0.33 | 0.32 | 0.47 |
| Olmsted; City of Rochester, MN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |

Table A1-14
Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Direct and Indirect Impacts
Volatile Organic Compounds (VOC) 2025

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Pechanga Band of Luiseno Mission Indians of the Pechanga Reservation | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Pekin, IL | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.04 | 0.11 | 0.07 | 0.13 |
| Penns Grove Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Peoria County: Hollis Twp, IL | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Peoria County: Peoria, IL | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Perth Amboy Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.35 | 0.77 | 0.73 | 1.09 |
| Philadelphia-Camden County Area, PA-NJ | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 3.46 | 7.62 | 7.27 | 10.80 |
| Philadelphia-Wilmington, PA-NJ-DE | PM _{2.5} (2006 24-hour) | Maintenance, Moderate for PA and DE Subject to Former Subpart 1 for NJ | 100 | 0 | 14.17 | 31.57 | 29.72 | 44.49 |
| Philadelphia-Wilmington-Atlantic City, PA-NJ-MD-DE | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Phoenix Area, AZ | CO (1971 8-hour) | Maintenance, Serious | 100 | 0 | 4.88 | 12.69 | 10.14 | 16.71 |
| Phoenix-Mesa, AZ | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Pierce County; Tacoma, WA | PM ₁₀ (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.14 | 0.28 | 0.30 | 0.42 |
| Pima County; Ajo planning area, AZ | PM ₁₀ (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.01 | 0.01 | 0.01 |
| Pima County; Rillito planning area, AZ | PM ₁₀ (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.23 | 0.51 | 0.49 | 0.72 |
| Pinal and Gila Counties; Payson, AZ | PM ₁₀ (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.11 | 0.24 | 0.23 | 0.33 |
| Pinal County (part); West Pinal, AZ | PM ₁₀ (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 1.69 | 3.68 | 3.56 | 5.25 |
| Pitkin County; Aspen, CO | PM ₁₀ (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.09 | 0.19 | 0.18 | 0.27 |
| Pittsburgh Area, PA | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.57 | 1.29 | 1.20 | 1.81 |
| Pittsburgh-Beaver Valley, PA | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Pittsburgh-Beaver Valley, PA | PM _{2.5} (2006 24-hour) | Maintenance, Moderate | 100 | 0 | 5.00 | 11.39 | 10.47 | 15.89 |
| Plumas County, CA | PM _{2.5} (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 0.01 | 0.03 | 0.03 | 0.04 |
| Polk County, TN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |

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Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Direct and Indirect Impacts

Volatile Organic Compounds (VOC) 2025

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|-------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Portland Area: Portland Metro Service District Boundary, OR | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 2.27 | 5.48 | 4.73 | 7.45 |
| Power-Bannock Counties; Fort Hall Indian Reservation, ID | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Power-Bannock Counties; Portneuf Valley Area, ID | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.50 | 1.06 | 1.06 | 1.54 |
| Provo Area, UT | CO (1971 8-hour) | Maintenance, Moderate > 12.7ppm | 100 | 0 | 0.11 | 0.28 | 0.22 | 0.36 |
| Provo, UT | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.58 | 1.49 | 1.20 | 1.97 |
| Prowers County; Lamar, CO | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.05 | 0.12 | 0.11 | 0.17 |
| Raleigh-Durham Area, NC | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 3.93 | 8.93 | 8.23 | 12.47 |
| Ramsey County; (part), MN | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.01 | 0.03 | 0.03 | 0.04 |
| Reading, PA | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Reno Area, NV | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 1.05 | 2.35 | 2.20 | 3.30 |
| Rhinelander, WI | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.35 | 0.71 | 0.73 | 1.04 |
| Riverside County (Coachella Valley), CA | Ozone (2008 8-hour) | Nonattainment, Severe 15 | 25 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Riverside County; Coachella Valley planning area, CA | PM10 (1987 24-hour) | Nonattainment, Serious | 70 | 0 | 0.53 | 1.51 | 1.09 | 1.91 |
| Riverside, Los Angeles, Orange, and San Bernardino Counties; South Coast Air Basin, CA | PM10 (1987 24-hour) | Maintenance, Serious | 100 | 0 | 21.78 | 56.17 | 45.25 | 74.22 |
| Rosebud County; Lame Deer, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.07 | 0.15 | 0.15 | 0.22 |
| Routt County (part); Steamboat Springs, CO | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.11 | 0.25 | 0.23 | 0.35 |
| Sacramento Area, CA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 1.88 | 4.89 | 3.91 | 6.45 |
| Sacramento County, CA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 1.45 | 3.95 | 3.00 | 5.10 |
| Sacramento Metro, CA | Ozone (2008 8-hour) | Nonattainment, Severe 15 | 25 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Sacramento, CA | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 3.55 | 9.04 | 7.39 | 12.02 |
| Salem Area, OR | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.70 | 1.59 | 1.47 | 2.22 |
| Salt Lake City Area, UT | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 1.06 | 2.22 | 2.23 | 3.22 |
| Salt Lake City, UT | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 5.15 | 11.51 | 10.81 | 16.20 |

Table A1-14
Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Direct and Indirect Impacts
Volatile Organic Compounds (VOC) 2025

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|---|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Salt Lake County, UT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 2.73 | 6.18 | 5.72 | 8.65 |
| Salt Lake County, UT | SO ₂ (1971 24-hour/Annual) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| San Bernardino County (part); excluding Searles Valley Planning area and South Coast Air Basin, CA | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.72 | 1.96 | 1.49 | 2.53 |
| San Diego Area, CA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 7.33 | 17.34 | 15.31 | 23.78 |
| San Diego County, CA | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| San Francisco Bay Area, CA | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| San Francisco Bay Area, CA | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 11.07 | 27.54 | 23.06 | 36.96 |
| San Francisco-Oakland-San Jose Area, CA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 10.28 | 25.49 | 21.41 | 34.25 |
| San Joaquin Valley Air Basin; Fresno, Kern, Kings, Madera, Merced, San Joaquin, Stanislaus, Tulare Counties, CA | PM10 (1987 24-hour) | Maintenance, Serious | 100 | 0 | 6.61 | 16.87 | 13.75 | 22.39 |
| San Joaquin Valley, CA | Ozone (2008 8-hour) | Nonattainment, Extreme | 10 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| San Joaquin Valley, CA | PM2.5 (2006 24-hour) | Nonattainment, Serious | 100 | 0 | 6.61 | 16.86 | 13.74 | 22.39 |
| San Joaquin Valley, CA | PM2.5 (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 6.61 | 16.86 | 13.74 | 22.39 |
| San Luis Obispo (Eastern San Luis Obispo), CA | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| San Manuel, AZ | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| San Miguel County; Telluride, CO | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.01 | 0.04 | 0.03 | 0.05 |
| Sanders County (part); Thompson Falls and vicinity, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Santa Cruz County; Nogales planning area, AZ | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.14 | 0.31 | 0.29 | 0.43 |
| Seaford, DE | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Seattle-Tacoma Area, WA | CO (1971 8-hour) | Maintenance, Moderate > 12.7ppm | 100 | 0 | 9.59 | 21.24 | 20.12 | 30.02 |
| Seattle-Tacoma, WA | PM2.5 (2006 24-hour) | Maintenance, Moderate | 100 | 0 | 1.57 | 3.47 | 3.29 | 4.90 |
| Sheboygan County, WI | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |

Appendix A Air Quality Non-Attainment Area Results

Table A1-14

**Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Direct and Indirect Impacts
Volatile Organic Compounds (VOC) 2025**

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|---|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Sheridan County; City of Sheridan, WY | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.20 | 0.41 | 0.41 | 0.59 |
| Shoshone County (part); excluding Pinehurst, ID | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.10 | 0.24 | 0.21 | 0.33 |
| Shoshone County; City of Pinehurst, ID | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Silver Bow County; Butte, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.09 | 0.21 | 0.18 | 0.29 |
| Somerville Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.04 | 0.10 | 0.09 | 0.14 |
| Southwest Indiana, IN | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.07 | 0.14 | 0.14 | 0.20 |
| Spokane Area, WA | CO (1971 8-hour) | Maintenance, Serious | 100 | 0 | 0.78 | 1.79 | 1.63 | 2.49 |
| Spokane County; (part), WA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.80 | 1.84 | 1.68 | 2.56 |
| Springfield Area, MA | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.43 | 0.99 | 0.91 | 1.38 |
| St. Bernard Parish, LA | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.52 | 1.04 | 1.11 | 1.55 |
| St. Louis Area, MO | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 7.89 | 16.25 | 16.63 | 23.76 |
| St. Louis-St. Charles-Farmington, MO-IL | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Steubenville, OH-WV | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.47 | 0.98 | 1.00 | 1.43 |
| Steubenville-Weirton, OH-WV | PM2.5 (2006 24-hour) | Maintenance, -- | 100 | 0 | 1.01 | 2.09 | 2.13 | 3.06 |
| Stockton Area, CA | CO (1971 8-hour) | Maintenance, Moderate ≤ 12.7ppm | 100 | 0 | 0.47 | 1.25 | 0.97 | 1.63 |
| Sullivan County, TN | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.17 | 0.35 | 0.35 | 0.51 |
| Syracuse Area; Onondaga County, NY | CO (1971 8-hour) | Maintenance, Moderate ≤ 12.7ppm | 100 | 0 | 1.89 | 4.18 | 3.96 | 5.91 |
| Tazewell County; Groveland Twp, IL | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Terre Haute, IN | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.39 | 0.82 | 0.82 | 1.19 |

Table A1-14

Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Direct and Indirect Impacts
 Volatile Organic Compounds (VOC) 2025

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|---|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Thurston County; Cities of Olympia, Tumwater, and Lacey, WA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.23 | 0.55 | 0.49 | 0.75 |
| Toms River Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.01 | 0.02 | 0.01 | 0.02 |
| Tooele County (part), UT | SO ₂ (1971 24-hour/Annual) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Trenton Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.17 | 0.41 | 0.35 | 0.55 |
| Trona, CA | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.07 | 0.14 | 0.16 | 0.22 |
| Tucson Area, AZ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 3.16 | 6.95 | 6.64 | 9.86 |
| Tuscan Buttes, CA | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Union County; LaGrande, OR | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.12 | 0.26 | 0.25 | 0.37 |
| Upper Green River Basin Area, WY | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Utah County, UT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.58 | 1.49 | 1.20 | 1.97 |
| Vancouver Area: Clark County (part), WA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.71 | 1.63 | 1.48 | 2.26 |
| Ventura County, CA | Ozone (2008 8-hour) | Nonattainment, Serious | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Vermillion County; Part of Clinton Township, IN | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.10 | 0.20 | 0.20 | 0.29 |
| Vigo County, IN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Walla Walla County; Wallula, WA | PM10 (1987 24-hour) | Maintenance, Serious | 100 | 0 | 0.03 | 0.07 | 0.07 | 0.10 |
| Waltham Area, MA | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.20 | 0.45 | 0.43 | 0.64 |
| Warren County: Conewago Twp, PA | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Warren County: Warren Boro, Pleasant Twp, Glade Twp, PA | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Warren, PA | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.09 | 0.20 | 0.20 | 0.29 |
| Washington Area, DC-MD-VA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 1.08 | 2.70 | 2.25 | 3.62 |
| Washington, DC-MD-VA | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Washoe County; Reno planning area, NV | PM10 (1987 24-hour) | Nonattainment, Serious | 70 | 0 | 1.04 | 2.33 | 2.18 | 3.27 |

Appendix A Air Quality Non-Attainment Area Results

Table A1-14

**Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Direct and Indirect Impacts
Volatile Organic Compounds (VOC) 2025**

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|---|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Wayne County: Boston, Center, Franklin, Wayne & Webster Townships, IN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Wayne County; (part), MI | PM ₁₀ (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 1.04 | 2.10 | 2.19 | 3.10 |
| West Central Pinal County, AZ | PM _{2.5} (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.35 | 0.77 | 0.75 | 1.10 |
| West Silver Valley, ID | PM _{2.5} (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 0.05 | 0.12 | 0.11 | 0.17 |
| Winston-Salem Area, NC | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.77 | 1.84 | 1.61 | 2.52 |
| Worcester Area, MA | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.58 | 1.34 | 1.21 | 1.85 |
| Yakima Area, WA | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.20 | 0.43 | 0.43 | 0.62 |
| Yakima County; (part), WA | PM ₁₀ (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.59 | 1.26 | 1.25 | 1.82 |
| Yuba City-Marysville, CA | PM _{2.5} (2006 24-hour) | Maintenance, Moderate | 100 | 0 | 0.29 | 0.73 | 0.59 | 0.97 |
| Yuma County; Yuma planning area, AZ | PM ₁₀ (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.66 | 1.43 | 1.38 | 2.04 |

^a Reductions are shown as positive values. Negative values are emissions increases. Values of less than 0.005 tons per year are rounded to zero.

^b Nonattainment or maintenance status as of 5/13/2016. Source: U.S. EPA, The Green Book Nonattainment Areas for Criteria Pollutants; <http://www.epa.gov/airquality/greenbook/>. "--" indicates that no severity classification has been established for the NAAQS pollutant.

^c Emissions thresholds in tons per year. Where the threshold differs by precursor pollutant, the smallest of the precursor thresholds is shown. These thresholds are provided for information only; a general conformity determination is not required for the Proposed Action. Source: 40 CFR 93.853.

Notes: CO = carbon monoxide; NAAQS =National Ambient Air Quality Standards; NO₂ = nitrogen dioxide; PM = particulate matter; SO₂ = sulfur dioxide

Table A1-15
Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Direct and Indirect Impacts
Volatile Organic Compounds (VOC) 2040

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Ada County; Boise, ID | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 5.43 | 15.37 | 12.11 | 17.37 |
| Adams, Denver, and Boulder Counties; Denver Metropolitan area, CO | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 21.86 | 62.95 | 48.79 | 70.41 |
| Ajo, AZ | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Albuquerque Area, NM | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 6.09 | 18.39 | 13.58 | 19.95 |
| Allegheny County Air Basin: Hazelwood monitor, PA | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Allegheny County, PA | PM2.5 (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 6.40 | 20.03 | 14.28 | 21.26 |
| Allegheny County; The area including Liberty, Lincoln, Port Vue, and Glassport Boroughs and the City of Clairton, PA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.09 | 0.27 | 0.20 | 0.29 |
| Allegheny, PA | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.45 | 1.39 | 1.00 | 1.49 |
| Allentown, PA | PM2.5 (2006 24-hour) | Maintenance, Moderate | 100 | 0 | 3.77 | 12.09 | 8.40 | 12.64 |
| Allentown-Bethlehem-Easton, PA | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Anchorage Area, AK | CO (1971 8-hour) | Maintenance, Serious | 100 | 0 | 3.07 | 8.38 | 6.85 | 9.70 |
| Anchorage; Eagle River, AK | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.19 | 0.52 | 0.43 | 0.60 |
| AQCR 012: Portions of Grant County, NM | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| AQCR 109-Millinocket, ME | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| AQCR 131: Anoka, Carver, Dakota, Hennepin, Ramsey, Scott, and Washington counties (Minneapolis-St. Paul), MN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| AQCR 237: Brown County: Green Bay sub-city area, WI | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| AQCR 238: Marathon County: Rothschild Sub-city area, Rib Mountain, Weston, WI | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| AQCR 238: Oneida County: Rhinelander Sub-city area, WI | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| AQCR 239: Milwaukee County: Milwaukee sub-city area, WI | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |

Appendix A Air Quality Non-Attainment Area Results

Table A1-15

Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Direct and Indirect Impacts

Volatile Organic Compounds (VOC) 2040

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| AQCR 240: Dane County: Madison sub-city area, WI | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Archuleta County; Pagosa Springs, CO | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.18 | 0.57 | 0.40 | 0.60 |
| Armstrong County: Madison Twp, Mahoning Twp, Boggs Twp, Washington Twp, Pine Twp, PA | SO ₂ (1971 24-hour/Annual) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Aroostock County; City of Presque Isle, ME | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.06 | 0.21 | 0.13 | 0.20 |
| Atlanta, GA | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Atlantic City Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.22 | 0.80 | 0.49 | 0.78 |
| Bakersfield Area, CA | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 3.80 | 11.97 | 8.48 | 12.66 |
| Baltimore Area, MD | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.12 | 0.36 | 0.26 | 0.39 |
| Baltimore, MD | Ozone (2008 8-hour) | Nonattainment, Moderate | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Baton Rouge, LA | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Beaver, PA | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.09 | 0.30 | 0.20 | 0.31 |
| Benton County; (part) TVA Johnsonville, TN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Billings Area, MT | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 11.98 | 31.37 | 26.76 | 37.32 |
| Billings, MT | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 9.07 | 23.49 | 20.27 | 28.16 |
| Birmingham, AL | PM2.5 (2006 24-hour) | Maintenance, -- | 100 | 0 | 13.75 | 40.95 | 30.68 | 44.84 |
| Boise-Northern Ada County Area, ID | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 5.43 | 15.37 | 12.11 | 17.37 |
| Bonner County; The Sandpoint Area, ID | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.22 | 0.61 | 0.48 | 0.69 |
| Boston Area, MA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 8.26 | 24.53 | 18.44 | 26.91 |
| Boyd County (part), KY | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Brooke; Follansbee area, WV | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.01 | 0.03 | 0.03 | 0.04 |
| Burlington Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.03 | 0.11 | 0.07 | 0.11 |
| Calaveras County, CA | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Campbell-Clermont Counties, KY-OH | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.26 | 0.84 | 0.59 | 0.88 |

Table A1-15

Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Direct and Indirect Impacts
 Volatile Organic Compounds (VOC) 2040

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|---|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Canton-Massillon, OH | PM2.5 (2006 24-hour) | Maintenance, -- | 100 | 0 | 2.96 | 9.29 | 6.61 | 9.85 |
| Central New Hampshire, NH | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.56 | 2.37 | 1.25 | 2.11 |
| Central Steptoe Valley, NV | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Charleston, WV | PM2.5 (2006 24-hour) | Maintenance, -- | 100 | 0 | 2.39 | 7.72 | 5.32 | 8.03 |
| Charlotte Area, NC | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 5.56 | 19.72 | 12.39 | 19.41 |
| Charlotte-Rock Hill, NC-SC | Ozone (2008 8-hour) | Maintenance, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Chicago-Naperville, IL-IN-WI | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Chico (Butte County), CA | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Chico Area, CA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.43 | 1.49 | 0.95 | 1.48 |
| Chico, CA | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.89 | 3.11 | 1.97 | 3.08 |
| Cincinnati, OH-KY-IN | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Clark County; Las Vegas planning area, NV | PM10 (1987 24-hour) | Maintenance, Serious | 100 | 0 | 7.24 | 25.38 | 16.12 | 25.14 |
| Cleveland Area, OH | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 7.40 | 23.13 | 16.50 | 24.57 |
| Cleveland, OH | PM2.5 (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 9.24 | 29.11 | 20.60 | 30.77 |
| Cleveland-Akron-Lorain, OH | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Cleveland-Akron-Lorain, OH | PM2.5 (2006 24-hour) | Maintenance, -- | 100 | 0 | 15.89 | 52.48 | 35.40 | 53.88 |
| Cochise County; Paul Spur/Douglas planning area, AZ | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.34 | 1.06 | 0.76 | 1.13 |
| Colorado Springs Area, CO | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 8.22 | 23.55 | 18.34 | 26.42 |
| Columbus, OH | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Cook County; Lyons Township, IL | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.38 | 1.29 | 0.85 | 1.31 |
| Cook County; Southeast Chicago, IL | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.41 | 1.39 | 0.92 | 1.41 |
| Coshocton County; Franklin Township, OH | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Coso Junction, CA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Cuyahoga County (part), OH | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Cuyahoga County, OH | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 7.37 | 23.02 | 16.42 | 24.45 |

Appendix A Air Quality Non-Attainment Area Results

Table A1-15

**Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Direct and Indirect Impacts
Volatile Organic Compounds (VOC) 2040**

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Dallas-Fort Worth, TX | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Delaware County, PA | PM2.5 (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 3.81 | 11.30 | 8.50 | 12.41 |
| Denver-Boulder Area, CO | CO (1971 8-hour) | Maintenance, Serious | 100 | 0 | 42.90 | 121.69 | 95.73 | 137.40 |
| Denver-Boulder-Greeley-Ft Collins-Loveland, CO | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Detroit Area, MI | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 11.51 | 35.94 | 25.66 | 38.19 |
| Detroit, MI | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 4.61 | 13.38 | 10.28 | 14.88 |
| Detroit-Ann Arbor, MI | PM2.5 (2006 24-hour) | Maintenance, -- | 100 | 0 | 35.24 | 112.14 | 78.56 | 117.79 |
| Dona Ana County; Anthony, NM | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.20 | 0.57 | 0.45 | 0.64 |
| Douglas, AZ | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Dukes County, MA | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Duluth Area, MN | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 3.03 | 8.37 | 6.77 | 9.62 |
| East Chicago Area, IN | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 6.87 | 17.85 | 15.34 | 21.34 |
| East Helena Area, MT | SO ₂ (1971 24-hour/Annual) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| East Kern County Area, CA | PM10 (1987 24-hour) | Nonattainment, Serious | 70 | 0 | 2.04 | 5.39 | 4.56 | 6.38 |
| El Paso County, TX | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 5.01 | 14.72 | 11.17 | 16.24 |
| El Paso, TX | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 1.66 | 4.38 | 3.71 | 5.19 |
| Eugene-Springfield Area, OR | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 1.63 | 5.19 | 3.62 | 5.44 |
| Fairbanks Area, AK | CO (1971 8-hour) | Maintenance, Serious | 100 | 0 | 0.92 | 2.43 | 2.05 | 2.87 |
| Fairbanks, AK | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 1.34 | 3.61 | 2.98 | 4.21 |

Table A1-15
Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Direct and Indirect Impacts
Volatile Organic Compounds (VOC) 2040

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|---|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Flathead County; Columbia Falls and vicinity, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.03 | 0.08 | 0.06 | 0.09 |
| Flathead County; Kalispell and vicinity, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.69 | 1.95 | 1.54 | 2.21 |
| Flathead County; Whitefish and vicinity, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.08 | 0.22 | 0.18 | 0.25 |
| Fort Collins Area, CO | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 1.54 | 4.49 | 3.44 | 4.99 |
| Freehold Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.09 | 0.35 | 0.20 | 0.33 |
| Fremont County; Canon City Area, CO | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.31 | 0.96 | 0.68 | 1.02 |
| Fresno Area, CA | CO (1971 8-hour) | Maintenance, Moderate > 12.7ppm | 100 | 0 | 1.95 | 7.36 | 4.34 | 6.99 |
| Grants Pass Area, OR | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.41 | 1.26 | 0.92 | 1.36 |
| Great Falls Area, MT | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 1.39 | 3.61 | 3.11 | 4.33 |
| Greater Connecticut, CT | Ozone (2008 8-hour) | Nonattainment, Moderate | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Greeley Area, CO | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 5.43 | 15.66 | 12.11 | 17.49 |
| Hancock and Brooke Counties (Part); The city of Weirton, WV | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.43 | 1.17 | 0.97 | 1.37 |
| Hancock County (Part) The city of Weirton, including Butler and Clay: Magisterial Districts, WV | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Harrisburg-Lebanon-Carlisle-York, PA | PM2.5 (2006 24-hour) | Maintenance, Moderate | 100 | 0 | 11.45 | 35.01 | 25.53 | 37.69 |
| Hartford-New Britain-Middletown Area, CT | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 6.76 | 22.24 | 15.07 | 22.89 |
| Hayden, AZ | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.06 | 0.15 | 0.12 | 0.18 |
| Hayden, AZ | SO ₂ (1971 24-hour/Annual) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Hayden, AZ | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.05 | 0.15 | 0.12 | 0.17 |
| Hillsborough County, FL | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.42 | 1.14 | 0.93 | 1.32 |
| Houston-Galveston-Brazoria, TX | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Humphreys County; (part) TVA Johnsonville, TN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Imperial Co, CA | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.89 | 3.18 | 1.97 | 3.11 |

Appendix A Air Quality Non-Attainment Area Results

Table A1-15

Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Direct and Indirect Impacts

Volatile Organic Compounds (VOC) 2040

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Imperial County, CA | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Imperial County, CA | PM2.5 (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 0.89 | 3.18 | 1.97 | 3.11 |
| Imperial County; Imperial Valley planning area, CA | PM10 (1987 24-hour) | Nonattainment, Serious | 70 | 0 | 1.07 | 3.85 | 2.39 | 3.77 |
| Indian Wells, CA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 2.04 | 5.37 | 4.55 | 6.36 |
| Indiana, PA | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.38 | 1.37 | 0.84 | 1.34 |
| Indianapolis Area, IN | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.01 | 0.03 | 0.02 | 0.03 |
| Indianapolis, IN | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 3.17 | 10.18 | 7.07 | 10.64 |
| Inyo County; Owens Valley planning area, CA | PM10 (1987 24-hour) | Nonattainment, Serious | 70 | 0 | 0.02 | 0.10 | 0.06 | 0.09 |
| Jackson County, MO | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.79 | 2.27 | 1.76 | 2.54 |
| Jackson County; Medford-Ashland (including White City), OR | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 1.98 | 5.93 | 4.42 | 6.47 |
| Jamestown, NY | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Jefferson County, KY | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Jefferson County, MO | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 1.08 | 3.02 | 2.42 | 3.45 |
| Jefferson County; (part) Steubenville & Mingo Junction, OH | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Jefferson County; (part), OH | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.09 | 0.24 | 0.19 | 0.28 |
| Johnstown, PA | PM2.5 (2006 24-hour) | Maintenance, Moderate | 100 | 0 | 0.80 | 2.58 | 1.78 | 2.68 |
| Josephine County; Grants Pass, OR | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.41 | 1.26 | 0.92 | 1.36 |
| Juneau; Mendenhall Valley area, AK | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.19 | 0.54 | 0.43 | 0.61 |
| Kern County (Eastern Kern), CA | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| King County; Kent, WA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.23 | 0.70 | 0.52 | 0.77 |
| King County; Seattle, WA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.08 | 0.25 | 0.18 | 0.27 |
| Klamath County; Klamath Falls, OR | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.74 | 2.25 | 1.65 | 2.43 |
| Klamath Falls Area, OR | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.74 | 2.24 | 1.65 | 2.43 |
| Klamath Falls, OR | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.80 | 2.42 | 1.78 | 2.62 |

Table A1-15

Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Direct and Indirect Impacts
 Volatile Organic Compounds (VOC) 2040

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Knoxville, TN | Ozone (2008 8-hour) | Maintenance, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Knoxville-Sevierville-La Follette, TN | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 10.36 | 31.00 | 23.11 | 33.84 |
| La Porte County: (part), IN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lake County (part); Lakeview, OR | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.05 | 0.16 | 0.11 | 0.17 |
| Lake County, OH | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 1.14 | 4.10 | 2.54 | 4.01 |
| Lake County: (part), IN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lake County; (part) Eastlake, Timberlake, Lakeline, Willoughby, Mentor, OH | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lake County; Cities of East Chicago, Hammond, Whiting, and Gary, IN | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 8.49 | 22.64 | 18.96 | 26.61 |
| Lake County; Polson, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.02 | 0.06 | 0.04 | 0.06 |
| Lake County; Ronan, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lake Tahoe Nevada Area, NV | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.12 | 0.37 | 0.27 | 0.40 |
| Lake Tahoe North Shore Area, CA | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.04 | 0.14 | 0.09 | 0.14 |
| Lake Tahoe South Shore Area, CA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.07 | 0.28 | 0.16 | 0.26 |
| Lancaster, PA | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lancaster, PA | PM2.5 (2006 24-hour) | Maintenance, Moderate | 100 | 0 | 2.22 | 7.94 | 4.95 | 7.78 |
| Lane County (part); Oakridge, OR | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.01 | 0.03 | 0.02 | 0.04 |
| Lane County; Eugene/Springfield, OR | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 1.63 | 5.19 | 3.62 | 5.44 |
| Las Vegas Area, NV | CO (1971 8-hour) | Maintenance, Serious | 100 | 0 | 7.22 | 25.31 | 16.08 | 25.07 |
| LaSalle County; Oglesby, IL | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.18 | 0.61 | 0.40 | 0.61 |
| Laurel Area, MT | SO ₂ (1971 24-hour/Annual) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lebanon County, PA | PM2.5 (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 2.24 | 6.56 | 5.00 | 7.26 |
| Lemont, IL | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 2.19 | 6.29 | 4.88 | 7.04 |
| Liberty-Clairton, PA | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.09 | 0.27 | 0.20 | 0.29 |

Appendix A Air Quality Non-Attainment Area Results

Table A1-15

Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Direct and Indirect Impacts

Volatile Organic Compounds (VOC) 2040

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Lincoln County; Libby and vicinity, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.07 | 0.19 | 0.15 | 0.21 |
| Logan, UT-ID | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.89 | 2.68 | 1.98 | 2.91 |
| Longmont Area, CO | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 1.30 | 3.70 | 2.91 | 4.18 |
| Lorain County (part), OH | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Los Angeles, CA | PM2.5 (2006 24-hour) | Nonattainment, Serious | 100 | 0 | 61.02 | 221.35 | 135.83 | 214.89 |
| Los Angeles-San Bernardino Counties (West Mojave Desert), CA | Ozone (2008 8-hour) | Nonattainment, Severe 15 | 25 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Los Angeles-South Coast Air Basin Area, CA | CO (1971 8-hour) | Maintenance, Serious | 100 | 0 | 61.04 | 221.45 | 135.89 | 214.98 |
| Los Angeles-South Coast Air Basin Area, CA | NO ₂ (1971 Annual) | Maintenance, -- | 100 | 0 | 61.04 | 221.46 | 135.89 | 214.99 |
| Los Angeles-South Coast Air Basin, CA | Ozone (2008 8-hour) | Nonattainment, Extreme | 10 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Los Angeles-South Coast Air Basin, CA | PM2.5 (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 60.95 | 221.08 | 135.67 | 214.63 |
| Lowell Area, MA | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 1.03 | 3.12 | 2.31 | 3.39 |
| Lucas County (part), OH | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Madison County; Granite City Township and Nameoki Township, IL | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 4.84 | 12.72 | 10.81 | 15.10 |
| Manchester Area, NH | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.23 | 0.94 | 0.51 | 0.85 |
| Maricopa and Pinal Counties; Phoenix planning area, AZ | PM10 (1987 24-hour) | Nonattainment, Serious | 70 | 0 | 14.56 | 52.89 | 32.42 | 51.32 |
| Marion County; Lawrence, Washington, and Warrant Townships, IN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Mariposa County, CA | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Marshall, WV | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.42 | 1.15 | 0.94 | 1.33 |
| Medford Area, OR | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 1.04 | 3.12 | 2.32 | 3.40 |
| Memphis Area, TN | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 8.23 | 25.02 | 18.35 | 27.03 |

Table A1-15

Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Direct and Indirect Impacts
 Volatile Organic Compounds (VOC) 2040

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|---|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Memphis, TN-MS-AR | Ozone (2008 8-hour) | Nonattainment TN & Maintenance MS/AR, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Miami, AZ | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.09 | 0.28 | 0.21 | 0.31 |
| Miami, AZ | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Miami, AZ | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.09 | 0.28 | 0.21 | 0.31 |
| Milwaukee-Racine, WI | PM2.5 (2006 24-hour) | Maintenance, -- | 100 | 0 | 6.97 | 23.05 | 15.53 | 23.65 |
| Minneapolis-St. Paul Area, MN | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 38.07 | 111.49 | 84.94 | 123.35 |
| Missoula Area, MT | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 1.52 | 4.32 | 3.40 | 4.88 |
| Missoula county; Missoula and vicinity, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 1.45 | 4.13 | 3.24 | 4.66 |
| Modesto Area, CA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.89 | 3.07 | 1.98 | 3.07 |
| Mohave County (part); Bullhead City, AZ | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.83 | 2.57 | 1.86 | 2.75 |
| Mono County; Mammoth Lake planning area, CA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.09 | 0.37 | 0.19 | 0.33 |
| Mono County; Mono Basin, CA | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Morenci, AZ | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Morgan County, IN | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.15 | 0.52 | 0.33 | 0.52 |
| Morongo Band of Mission Indians | Ozone (2008 8-hour) | Nonattainment, Serious | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Morristown Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.16 | 0.59 | 0.36 | 0.57 |
| Muscatine County; (part), IA | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Muscatine, IA | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.65 | 1.77 | 1.45 | 2.05 |
| Muskingum River, OH | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.11 | 0.32 | 0.24 | 0.35 |
| Nashua Area, NH | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.21 | 0.88 | 0.47 | 0.79 |
| Nassau County, FL | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.09 | 0.25 | 0.20 | 0.29 |
| Nevada County (Western part), CA | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| New Haven County, CT | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.13 | 0.42 | 0.29 | 0.44 |

Appendix A Air Quality Non-Attainment Area Results

Table A1-15

Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Direct and Indirect Impacts

Volatile Organic Compounds (VOC) 2040

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| New Haven-Meriden-Waterbury Area, CT | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 5.98 | 19.09 | 13.33 | 20.01 |
| New Manchester-Grant magisterial district in Hancock County, WV | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| New York County, NY | PM ₁₀ (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 4.08 | 12.94 | 9.10 | 13.62 |
| New York, NY-NJ-CT | PM _{2.5} (2006 24-hour) | Maintenance, -- | 100 | 0 | 99.89 | 325.07 | 222.63 | 336.76 |
| New York-N. New Jersey-Long Island Area, NY-NJ-CT | CO (1971 8-hour) | Maintenance, Moderate > 12.7ppm | 100 | 0 | 56.19 | 182.43 | 125.24 | 189.26 |
| New York-N. New Jersey-Long Island, NY-NJ-CT | Ozone (2008 8-hour) | Nonattainment, Moderate | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| NJ portion of the Northeast Pennsylvania-Upper Delaware Valley Interstate AQCR: (part), NJ | SO ₂ (1971 24-hour/Annual) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Nogales, AZ | PM _{2.5} (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.38 | 1.20 | 0.86 | 1.27 |
| Oakridge, OR | PM _{2.5} (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.01 | 0.03 | 0.02 | 0.04 |
| Ogden Area, UT | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.37 | 1.19 | 0.83 | 1.25 |
| Ogden Area, UT | PM ₁₀ (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.37 | 1.19 | 0.83 | 1.25 |
| Olmsted County; (part), MN | PM ₁₀ (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.37 | 1.07 | 0.83 | 1.19 |
| Olmsted; City of Rochester, MN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |

Table A1-15

Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Direct and Indirect Impacts
 Volatile Organic Compounds (VOC) 2040

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Pechanga Band of Luiseno Mission Indians of the Pechanga Reservation | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Pekin, IL | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.11 | 0.45 | 0.24 | 0.40 |
| Penns Grove Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Peoria County: Hollis Twp, IL | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Peoria County: Peoria, IL | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Perth Amboy Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 1.05 | 3.19 | 2.33 | 3.44 |
| Philadelphia-Camden County Area, PA-NJ | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 9.24 | 27.81 | 20.61 | 30.24 |
| Philadelphia-Wilmington, PA-NJ-DE | PM _{2.5} (2006 24-hour) | Maintenance, Moderate for PA and DE Subject to Former Subpart 1 for NJ | 100 | 0 | 37.92 | 115.94 | 84.56 | 124.83 |
| Philadelphia-Wilmington-Atlantic City, PA-NJ-MD-DE | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Phoenix Area, AZ | CO (1971 8-hour) | Maintenance, Serious | 100 | 0 | 13.60 | 49.73 | 30.27 | 48.05 |
| Phoenix-Mesa, AZ | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Pierce County; Tacoma, WA | PM ₁₀ (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.37 | 0.96 | 0.82 | 1.15 |
| Pima County; Ajo planning area, AZ | PM ₁₀ (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Pima County; Rillito planning area, AZ | PM ₁₀ (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.67 | 2.00 | 1.49 | 2.18 |
| Pinal and Gila Counties; Payson, AZ | PM ₁₀ (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.33 | 1.00 | 0.74 | 1.09 |
| Pinal County (part); West Pinal, AZ | PM ₁₀ (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 4.65 | 13.75 | 10.36 | 15.11 |
| Pitkin County; Aspen, CO | PM ₁₀ (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.23 | 0.70 | 0.51 | 0.76 |
| Pittsburgh Area, PA | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 1.41 | 4.39 | 3.14 | 4.67 |
| Pittsburgh-Beaver Valley, PA | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Pittsburgh-Beaver Valley, PA | PM _{2.5} (2006 24-hour) | Maintenance, Moderate | 100 | 0 | 13.46 | 42.29 | 30.01 | 44.77 |
| Plumas County, CA | PM _{2.5} (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Polk County, TN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |

Appendix A Air Quality Non-Attainment Area Results

Table A1-15

Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Direct and Indirect Impacts

Volatile Organic Compounds (VOC) 2040

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|-------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Portland Area: Portland Metro Service District Boundary, OR | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 6.23 | 20.99 | 13.89 | 21.30 |
| Power-Bannock Counties; Fort Hall Indian Reservation, ID | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Power-Bannock Counties; Portneuf Valley Area, ID | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 1.37 | 3.95 | 3.07 | 4.42 |
| Provo Area, UT | CO (1971 8-hour) | Maintenance, Moderate > 12.7ppm | 100 | 0 | 0.29 | 1.03 | 0.64 | 1.00 |
| Provo, UT | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 1.61 | 5.83 | 3.59 | 5.67 |
| Prowers County; Lamar, CO | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Raleigh-Durham Area, NC | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 10.57 | 33.11 | 23.57 | 35.12 |
| Ramsey County; (part), MN | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.03 | 0.09 | 0.07 | 0.10 |
| Reading, PA | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Reno Area, NV | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 2.74 | 8.42 | 6.10 | 9.03 |
| Rhinelander, WI | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 1.06 | 2.93 | 2.38 | 3.37 |
| Riverside County (Coachella Valley), CA | Ozone (2008 8-hour) | Nonattainment, Severe 15 | 25 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Riverside County; Coachella Valley planning area, CA | PM10 (1987 24-hour) | Nonattainment, Serious | 70 | 0 | 1.46 | 5.90 | 3.24 | 5.38 |
| Riverside, Los Angeles, Orange, and San Bernardino Counties; South Coast Air Basin, CA | PM10 (1987 24-hour) | Maintenance, Serious | 100 | 0 | 60.84 | 220.63 | 135.44 | 214.24 |
| Rosebud County; Lame Deer, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.35 | 1.03 | 0.78 | 1.14 |
| Routt County (part); Steamboat Springs, CO | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.30 | 0.90 | 0.66 | 0.97 |
| Sacramento Area, CA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 5.13 | 18.71 | 11.42 | 18.11 |
| Sacramento County, CA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 4.10 | 15.77 | 9.13 | 14.81 |
| Sacramento Metro, CA | Ozone (2008 8-hour) | Nonattainment, Severe 15 | 25 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Sacramento, CA | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 9.92 | 35.40 | 22.08 | 34.69 |
| Salem Area, OR | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 1.93 | 6.06 | 4.31 | 6.42 |
| Salt Lake City Area, UT | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 2.74 | 7.70 | 6.11 | 8.74 |
| Salt Lake City, UT | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 13.82 | 42.36 | 30.81 | 45.53 |

Table A1-15

Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Direct and Indirect Impacts
 Volatile Organic Compounds (VOC) 2040

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|---|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Salt Lake County, UT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 7.34 | 22.89 | 16.36 | 24.34 |
| Salt Lake County, UT | SO ₂ (1971 24-hour/Annual) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| San Bernardino County (part); excluding Searles Valley Planning area and South Coast Air Basin, CA | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 1.88 | 7.18 | 4.17 | 6.76 |
| San Diego Area, CA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 19.93 | 65.54 | 44.42 | 67.47 |
| San Diego County, CA | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| San Francisco Bay Area, CA | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| San Francisco Bay Area, CA | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 30.56 | 106.39 | 68.06 | 105.82 |
| San Francisco-Oakland-San Jose Area, CA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 28.28 | 98.14 | 62.99 | 97.81 |
| San Joaquin Valley Air Basin; Fresno, Kern, Kings, Madera, Merced, San Joaquin, Stanislaus, Tulare Counties, CA | PM10 (1987 24-hour) | Maintenance, Serious | 100 | 0 | 18.45 | 66.10 | 41.08 | 64.64 |
| San Joaquin Valley, CA | Ozone (2008 8-hour) | Nonattainment, Extreme | 10 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| San Joaquin Valley, CA | PM2.5 (2006 24-hour) | Nonattainment, Serious | 100 | 0 | 18.45 | 66.09 | 41.07 | 64.63 |
| San Joaquin Valley, CA | PM2.5 (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 18.45 | 66.09 | 41.07 | 64.63 |
| San Luis Obispo (Eastern San Luis Obispo), CA | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| San Manuel, AZ | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| San Miguel County; Telluride, CO | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.04 | 0.15 | 0.09 | 0.15 |
| Sanders County (part); Thompson Falls and vicinity, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Santa Cruz County; Nogales planning area, AZ | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.38 | 1.20 | 0.86 | 1.27 |
| Seaford, DE | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Seattle-Tacoma Area, WA | CO (1971 8-hour) | Maintenance, Moderate > 12.7ppm | 100 | 0 | 25.58 | 77.66 | 57.06 | 83.99 |
| Seattle-Tacoma, WA | PM2.5 (2006 24-hour) | Maintenance, Moderate | 100 | 0 | 4.13 | 12.52 | 9.21 | 13.55 |
| Sheboygan County, WI | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |

Appendix A Air Quality Non-Attainment Area Results

Table A1-15

Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Direct and Indirect Impacts

Volatile Organic Compounds (VOC) 2040

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|---|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Sheridan County; City of Sheridan, WY | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.52 | 1.47 | 1.17 | 1.67 |
| Shoshone County (part); excluding Pinehurst, ID | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.28 | 0.90 | 0.62 | 0.93 |
| Shoshone County; City of Pinehurst, ID | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Silver Bow County; Butte, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.25 | 0.81 | 0.55 | 0.83 |
| Somerville Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.11 | 0.36 | 0.25 | 0.38 |
| Southwest Indiana, IN | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.18 | 0.51 | 0.40 | 0.58 |
| Spokane Area, WA | CO (1971 8-hour) | Maintenance, Serious | 100 | 0 | 2.07 | 6.53 | 4.60 | 6.89 |
| Spokane County; (part), WA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 2.13 | 6.74 | 4.75 | 7.10 |
| Springfield Area, MA | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 1.22 | 3.85 | 2.71 | 4.06 |
| St. Bernard Parish, LA | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 1.36 | 3.61 | 3.04 | 4.26 |
| St. Louis Area, MO | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 20.30 | 56.14 | 45.31 | 64.44 |
| St. Louis-St. Charles-Farmington, MO-IL | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Steubenville, OH-WV | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 1.29 | 3.62 | 2.88 | 4.12 |
| Steubenville-Weirton, OH-WV | PM2.5 (2006 24-hour) | Maintenance, -- | 100 | 0 | 2.66 | 7.39 | 5.94 | 8.46 |
| Stockton Area, CA | CO (1971 8-hour) | Maintenance, Moderate ≤ 12.7ppm | 100 | 0 | 1.28 | 4.80 | 2.85 | 4.57 |
| Sullivan County, TN | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.38 | 1.04 | 0.84 | 1.19 |
| Syracuse Area; Onondaga County, NY | CO (1971 8-hour) | Maintenance, Moderate ≤ 12.7ppm | 100 | 0 | 5.04 | 15.32 | 11.25 | 16.56 |
| Tazewell County; Groveland Twp, IL | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Terre Haute, IN | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.79 | 2.24 | 1.77 | 2.54 |

Table A1-15

Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Direct and Indirect Impacts
 Volatile Organic Compounds (VOC) 2040

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|---|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Thurston County; Cities of Olympia, Tumwater, and Lacey, WA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.61 | 2.00 | 1.36 | 2.07 |
| Toms River Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.02 | 0.07 | 0.04 | 0.07 |
| Tooele County (part), UT | SO ₂ (1971 24-hour/Annual) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Trenton Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.47 | 1.58 | 1.05 | 1.61 |
| Trona, CA | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.19 | 0.49 | 0.42 | 0.58 |
| Tucson Area, AZ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 8.45 | 25.41 | 18.86 | 27.65 |
| Tuscan Buttes, CA | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Union County; LaGrande, OR | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.40 | 1.18 | 0.89 | 1.30 |
| Upper Green River Basin Area, WY | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Utah County, UT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 1.61 | 5.83 | 3.59 | 5.67 |
| Vancouver Area: Clark County (part), WA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 1.91 | 6.06 | 4.26 | 6.37 |
| Ventura County, CA | Ozone (2008 8-hour) | Nonattainment, Serious | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Vermillion County; Part of Clinton Township, IN | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.49 | 1.44 | 1.10 | 1.59 |
| Vigo County, IN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Walla Walla County; Wallula, WA | PM10 (1987 24-hour) | Maintenance, Serious | 100 | 0 | 0.08 | 0.22 | 0.18 | 0.26 |
| Waltham Area, MA | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.54 | 1.63 | 1.20 | 1.77 |
| Warren County: Conewago Twp, PA | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Warren County: Warren Boro, Pleasant Twp, Glade Twp, PA | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Warren, PA | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.24 | 0.72 | 0.54 | 0.79 |
| Washington Area, DC-MD-VA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 2.98 | 10.45 | 6.64 | 10.36 |
| Washington, DC-MD-VA | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Washoe County; Reno planning area, NV | PM10 (1987 24-hour) | Nonattainment, Serious | 70 | 0 | 2.71 | 8.34 | 6.04 | 8.94 |

Appendix A Air Quality Non-Attainment Area Results

Table A1-15

**Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Direct and Indirect Impacts
Volatile Organic Compounds (VOC) 2040**

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|---|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Wayne County: Boston, Center, Franklin, Wayne & Webster Townships, IN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Wayne County; (part), MI | PM ₁₀ (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 2.84 | 7.73 | 6.34 | 8.97 |
| West Central Pinal County, AZ | PM _{2.5} (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.99 | 2.93 | 2.21 | 3.22 |
| West Silver Valley, ID | PM _{2.5} (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 0.15 | 0.49 | 0.34 | 0.51 |
| Winston-Salem Area, NC | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 2.10 | 6.98 | 4.69 | 7.14 |
| Worcester Area, MA | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 1.64 | 5.23 | 3.67 | 5.50 |
| Yakima Area, WA | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.58 | 1.68 | 1.30 | 1.88 |
| Yakima County; (part), WA | PM ₁₀ (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 1.58 | 4.56 | 3.52 | 5.09 |
| Yuba City-Marysville, CA | PM _{2.5} (2006 24-hour) | Maintenance, Moderate | 100 | 0 | 0.80 | 2.85 | 1.77 | 2.79 |
| Yuma County; Yuma planning area, AZ | PM ₁₀ (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 1.73 | 5.16 | 3.87 | 5.65 |

^a Reductions are shown as positive values. Negative values are emissions increases. Values of less than 0.005 tons per year are rounded to zero.

^b Nonattainment or maintenance status as of 5/13/2016. Source: U.S. EPA, The Green Book Nonattainment Areas for Criteria Pollutants; <http://www.epa.gov/airquality/greenbook/>. "--" indicates that no severity classification has been established for the NAAQS pollutant.

^c Emissions thresholds in tons per year. Where the threshold differs by precursor pollutant, the smallest of the precursor thresholds is shown. These thresholds are provided for information only; a general conformity determination is not required for the Proposed Action. Source: 40 CFR 93.853.

Notes: CO = carbon monoxide; NAAQS =National Ambient Air Quality Standards; NO₂ = nitrogen dioxide; PM = particulate matter; SO₂ = sulfur dioxide

Table A1-16

Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Direct and Indirect Impacts
 Volatile Organic Compounds (VOC) 2050

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Ada County; Boise, ID | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 6.23 | 18.16 | 13.99 | 20.11 |
| Adams, Denver, and Boulder Counties; Denver Metropolitan area, CO | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 25.05 | 74.29 | 56.23 | 81.36 |
| Ajo, AZ | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Albuquerque Area, NM | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 6.98 | 21.75 | 15.66 | 23.07 |
| Allegheny County Air Basin: Hazelwood monitor, PA | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Allegheny County, PA | PM2.5 (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 7.34 | 23.72 | 16.47 | 24.60 |
| Allegheny County; The area including Liberty, Lincoln, Port Vue, and Glassport Boroughs and the City of Clairton, PA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.09 | 0.26 | 0.19 | 0.28 |
| Allegheny, PA | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.41 | 1.29 | 0.91 | 1.35 |
| Allentown, PA | PM2.5 (2006 24-hour) | Maintenance, Moderate | 100 | 0 | 4.32 | 14.34 | 9.70 | 14.63 |
| Allentown-Bethlehem-Easton, PA | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Anchorage Area, AK | CO (1971 8-hour) | Maintenance, Serious | 100 | 0 | 3.46 | 9.71 | 7.77 | 11.03 |
| Anchorage; Eagle River, AK | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.21 | 0.60 | 0.48 | 0.68 |
| AQCR 012: Portions of Grant County, NM | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| AQCR 109-Millinocket, ME | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| AQCR 131: Anoka, Carver, Dakota, Hennepin, Ramsey, Scott, and Washington counties (Minneapolis-St. Paul), MN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| AQCR 237: Brown County: Green Bay sub-city area, WI | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| AQCR 238: Marathon County: Rothschild Sub-city area, Rib Mountain, Weston, WI | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| AQCR 238: Oneida County: Rhinelander Sub-city area, WI | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| AQCR 239: Milwaukee County: Milwaukee sub-city area, WI | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |

Appendix A Air Quality Non-Attainment Area Results

Table A1-16

Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Direct and Indirect Impacts

Volatile Organic Compounds (VOC) 2050

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| AQCR 240: Dane County: Madison sub-city area, WI | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Archuleta County; Pagosa Springs, CO | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.21 | 0.67 | 0.47 | 0.70 |
| Armstrong County: Madison Twp, Mahoning Twp, Boggs Twp, Washington Twp, Pine Twp, PA | SO ₂ (1971 24-hour/Annual) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Aroostock County; City of Presque Isle, ME | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.07 | 0.28 | 0.16 | 0.26 |
| Atlanta, GA | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Atlantic City Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.25 | 0.95 | 0.57 | 0.90 |
| Bakersfield Area, CA | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 4.37 | 14.20 | 9.80 | 14.66 |
| Baltimore Area, MD | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.14 | 0.44 | 0.32 | 0.47 |
| Baltimore, MD | Ozone (2008 8-hour) | Nonattainment, Moderate | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Baton Rouge, LA | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Beaver, PA | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.11 | 0.37 | 0.24 | 0.37 |
| Benton County; (part) TVA Johnsonville, TN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Billings Area, MT | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 13.66 | 36.72 | 30.70 | 42.93 |
| Billings, MT | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 10.38 | 27.58 | 23.32 | 32.49 |
| Birmingham, AL | PM2.5 (2006 24-hour) | Maintenance, -- | 100 | 0 | 15.75 | 48.37 | 35.35 | 51.80 |
| Boise-Northern Ada County Area, ID | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 6.23 | 18.16 | 13.99 | 20.11 |
| Bonner County; The Sandpoint Area, ID | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.26 | 0.77 | 0.59 | 0.85 |
| Boston Area, MA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 9.54 | 29.19 | 21.40 | 31.32 |
| Boyd County (part), KY | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Brooke; Follansbee area, WV | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.01 | 0.03 | 0.02 | 0.03 |
| Burlington Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.03 | 0.11 | 0.07 | 0.11 |
| Calaveras County, CA | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Campbell-Clermont Counties, KY-OH | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.31 | 1.01 | 0.69 | 1.03 |

Table A1-16
Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Direct and Indirect Impacts
Volatile Organic Compounds (VOC) 2050

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|---|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Canton-Massillon, OH | PM2.5 (2006 24-hour) | Maintenance, -- | 100 | 0 | 3.40 | 11.00 | 7.62 | 11.39 |
| Central New Hampshire, NH | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.65 | 2.84 | 1.45 | 2.45 |
| Central Steptoe Valley, NV | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Charleston, WV | PM2.5 (2006 24-hour) | Maintenance, -- | 100 | 0 | 2.74 | 9.16 | 6.15 | 9.30 |
| Charlotte Area, NC | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 6.40 | 23.48 | 14.32 | 22.50 |
| Charlotte-Rock Hill, NC-SC | Ozone (2008 8-hour) | Maintenance, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Chicago-Naperville, IL-IN-WI | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Chico (Butte County), CA | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Chico Area, CA | CO (1971 8-hour) | Maintenance, Moderate ≤ 12.7ppm | 100 | 0 | 0.52 | 1.88 | 1.16 | 1.81 |
| Chico, CA | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 1.02 | 3.71 | 2.29 | 3.58 |
| Cincinnati, OH-KY-IN | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Clark County; Las Vegas planning area, NV | PM10 (1987 24-hour) | Maintenance, Serious | 100 | 0 | 8.33 | 30.24 | 18.66 | 29.17 |
| Cleveland Area, OH | CO (1971 8-hour) | Maintenance, Moderate ≤ 12.7ppm | 100 | 0 | 8.50 | 27.44 | 19.06 | 28.46 |
| Cleveland, OH | PM2.5 (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 10.61 | 34.51 | 23.80 | 35.63 |
| Cleveland-Akron-Lorain, OH | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Cleveland-Akron-Lorain, OH | PM2.5 (2006 24-hour) | Maintenance, -- | 100 | 0 | 18.25 | 62.33 | 40.90 | 62.41 |
| Cochise County; Paul Spur/Douglas planning area, AZ | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.39 | 1.24 | 0.87 | 1.30 |
| Colorado Springs Area, CO | CO (1971 8-hour) | Maintenance, Moderate ≤ 12.7ppm | 100 | 0 | 9.44 | 27.84 | 21.18 | 30.59 |
| Columbus, OH | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Cook County; Lyons Township, IL | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.44 | 1.53 | 0.99 | 1.52 |
| Cook County; Southeast Chicago, IL | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.43 | 1.51 | 0.97 | 1.50 |
| Coshocton County; Franklin Township, OH | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Coso Junction, CA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Cuyahoga County (part), OH | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Cuyahoga County, OH | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 8.46 | 27.30 | 18.97 | 28.31 |

Appendix A Air Quality Non-Attainment Area Results

Table A1-16

**Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Direct and Indirect Impacts
Volatile Organic Compounds (VOC) 2050**

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Dallas-Fort Worth, TX | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Delaware County, PA | PM2.5 (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 4.37 | 13.35 | 9.80 | 14.34 |
| Denver-Boulder Area, CO | CO (1971 8-hour) | Maintenance, Serious | 100 | 0 | 49.15 | 143.54 | 110.34 | 158.79 |
| Denver-Boulder-Greeley-Ft Collins-Loveland, CO | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Detroit Area, MI | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 11.97 | 38.47 | 26.85 | 40.01 |
| Detroit, MI | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 5.72 | 17.26 | 12.84 | 18.70 |
| Detroit-Ann Arbor, MI | PM2.5 (2006 24-hour) | Maintenance, -- | 100 | 0 | 40.44 | 132.92 | 90.67 | 136.31 |
| Dona Ana County; Anthony, NM | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.23 | 0.67 | 0.52 | 0.75 |
| Douglas, AZ | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Dukes County, MA | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Duluth Area, MN | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 3.72 | 10.55 | 8.35 | 11.89 |
| East Chicago Area, IN | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 7.87 | 20.99 | 17.68 | 24.66 |
| East Helena Area, MT | SO ₂ (1971 24-hour/Annual) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| East Kern County Area, CA | PM10 (1987 24-hour) | Nonattainment, Serious | 70 | 0 | 2.32 | 6.28 | 5.22 | 7.31 |
| El Paso County, TX | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 5.67 | 17.16 | 12.72 | 18.54 |
| El Paso, TX | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 1.88 | 5.10 | 4.23 | 5.93 |
| Eugene-Springfield Area, OR | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 1.90 | 6.28 | 4.27 | 6.42 |
| Fairbanks Area, AK | CO (1971 8-hour) | Maintenance, Serious | 100 | 0 | 1.02 | 2.78 | 2.30 | 3.23 |
| Fairbanks, AK | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 1.52 | 4.22 | 3.41 | 4.82 |

Table A1-16
Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Direct and Indirect Impacts
Volatile Organic Compounds (VOC) 2050

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|---|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Flathead County; Columbia Falls and vicinity, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.03 | 0.08 | 0.07 | 0.09 |
| Flathead County; Kalispell and vicinity, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.80 | 2.32 | 1.79 | 2.57 |
| Flathead County; Whitefish and vicinity, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.09 | 0.25 | 0.20 | 0.28 |
| Fort Collins Area, CO | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 1.76 | 5.27 | 3.94 | 5.73 |
| Freehold Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.11 | 0.45 | 0.25 | 0.41 |
| Fremont County; Canon City Area, CO | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.35 | 1.14 | 0.79 | 1.18 |
| Fresno Area, CA | CO (1971 8-hour) | Maintenance, Moderate > 12.7ppm | 100 | 0 | 2.23 | 8.72 | 4.99 | 8.05 |
| Grants Pass Area, OR | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.49 | 1.55 | 1.10 | 1.63 |
| Great Falls Area, MT | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 1.59 | 4.24 | 3.58 | 4.99 |
| Greater Connecticut, CT | Ozone (2008 8-hour) | Nonattainment, Moderate | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Greeley Area, CO | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 6.22 | 18.48 | 13.95 | 20.21 |
| Hancock and Brooke Counties (Part); The city of Weirton, WV | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.48 | 1.31 | 1.07 | 1.51 |
| Hancock County (Part) The city of Weirton, including Butler and Clay: Magisterial Districts, WV | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Harrisburg-Lebanon-Carlisle-York, PA | PM2.5 (2006 24-hour) | Maintenance, Moderate | 100 | 0 | 13.13 | 41.42 | 29.45 | 43.59 |
| Hartford-New Britain-Middletown Area, CT | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 7.77 | 26.44 | 17.42 | 26.54 |
| Hayden, AZ | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.06 | 0.18 | 0.14 | 0.20 |
| Hayden, AZ | SO ₂ (1971 24-hour/Annual) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Hayden, AZ | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.06 | 0.17 | 0.13 | 0.19 |
| Hillsborough County, FL | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.49 | 1.38 | 1.10 | 1.56 |
| Houston-Galveston-Brazoria, TX | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Humphreys County; (part) TVA Johnsonville, TN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Imperial Co, CA | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 1.02 | 3.81 | 2.29 | 3.62 |

Appendix A Air Quality Non-Attainment Area Results

Table A1-16

Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Direct and Indirect Impacts

Volatile Organic Compounds (VOC) 2050

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Imperial County, CA | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Imperial County, CA | PM2.5 (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 1.02 | 3.81 | 2.29 | 3.62 |
| Imperial County; Imperial Valley planning area, CA | PM10 (1987 24-hour) | Nonattainment, Serious | 70 | 0 | 1.24 | 4.60 | 2.77 | 4.38 |
| Indian Wells, CA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 2.31 | 6.25 | 5.20 | 7.28 |
| Indiana, PA | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.44 | 1.64 | 0.98 | 1.55 |
| Indianapolis Area, IN | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.01 | 0.03 | 0.02 | 0.03 |
| Indianapolis, IN | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 3.57 | 11.83 | 8.00 | 12.07 |
| Inyo County; Owens Valley planning area, CA | PM10 (1987 24-hour) | Nonattainment, Serious | 70 | 0 | 0.03 | 0.14 | 0.08 | 0.13 |
| Jackson County, MO | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.91 | 2.70 | 2.04 | 2.96 |
| Jackson County; Medford-Ashland (including White City), OR | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 2.31 | 7.15 | 5.19 | 7.62 |
| Jamestown, NY | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Jefferson County, KY | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Jefferson County, MO | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 1.24 | 3.57 | 2.79 | 4.00 |
| Jefferson County; (part) Steubenville & Mingo Junction, OH | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Jefferson County; (part), OH | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.09 | 0.26 | 0.21 | 0.30 |
| Johnstown, PA | PM2.5 (2006 24-hour) | Maintenance, Moderate | 100 | 0 | 0.91 | 3.05 | 2.04 | 3.09 |
| Josephine County; Grants Pass, OR | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.49 | 1.55 | 1.10 | 1.63 |
| Juneau; Mendenhall Valley area, AK | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.22 | 0.63 | 0.50 | 0.71 |
| Kern County (Eastern Kern), CA | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| King County; Kent, WA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.28 | 0.88 | 0.63 | 0.93 |
| King County; Seattle, WA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.09 | 0.28 | 0.20 | 0.30 |
| Klamath County; Klamath Falls, OR | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.97 | 3.05 | 2.18 | 3.22 |
| Klamath Falls Area, OR | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.97 | 3.05 | 2.18 | 3.22 |
| Klamath Falls, OR | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 1.03 | 3.22 | 2.30 | 3.40 |

Table A1-16
Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Direct and Indirect Impacts
Volatile Organic Compounds (VOC) 2050

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Knoxville, TN | Ozone (2008 8-hour) | Maintenance, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Knoxville-Sevierville-La Follette, TN | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 11.87 | 36.63 | 26.64 | 39.11 |
| La Porte County: (part), IN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lake County (part); Lakeview, OR | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.16 | 0.53 | 0.36 | 0.54 |
| Lake County, OH | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 1.31 | 4.88 | 2.94 | 4.64 |
| Lake County: (part), IN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lake County; (part) Eastlake, Timberlake, Lakeline, Willoughby, Mentor, OH | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lake County; Cities of East Chicago, Hammond, Whiting, and Gary, IN | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 9.55 | 26.10 | 21.45 | 30.17 |
| Lake County; Polson, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.02 | 0.07 | 0.05 | 0.07 |
| Lake County; Ronan, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lake Tahoe Nevada Area, NV | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.12 | 0.40 | 0.28 | 0.41 |
| Lake Tahoe North Shore Area, CA | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.04 | 0.15 | 0.09 | 0.14 |
| Lake Tahoe South Shore Area, CA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.06 | 0.26 | 0.14 | 0.23 |
| Lancaster, PA | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lancaster, PA | PM2.5 (2006 24-hour) | Maintenance, Moderate | 100 | 0 | 2.56 | 9.46 | 5.72 | 9.02 |
| Lane County (part); Oakridge, OR | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.01 | 0.03 | 0.02 | 0.03 |
| Lane County; Eugene/Springfield, OR | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 1.90 | 6.28 | 4.27 | 6.42 |
| Las Vegas Area, NV | CO (1971 8-hour) | Maintenance, Serious | 100 | 0 | 8.31 | 30.15 | 18.61 | 29.09 |
| LaSalle County; Oglesby, IL | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.21 | 0.74 | 0.47 | 0.72 |
| Laurel Area, MT | SO ₂ (1971 24-hour/Annual) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lebanon County, PA | PM2.5 (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 2.57 | 7.74 | 5.76 | 8.39 |
| Lemont, IL | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 2.52 | 7.46 | 5.65 | 8.18 |
| Liberty-Clairton, PA | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.09 | 0.26 | 0.19 | 0.28 |

Appendix A Air Quality Non-Attainment Area Results

Table A1-16

Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Direct and Indirect Impacts

Volatile Organic Compounds (VOC) 2050

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Lincoln County; Libby and vicinity, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.07 | 0.20 | 0.15 | 0.21 |
| Logan, UT-ID | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 1.02 | 3.18 | 2.29 | 3.38 |
| Longmont Area, CO | CO (1971 8-hour) | Maintenance, Moderate ≤ 12.7ppm | 100 | 0 | 1.52 | 4.43 | 3.41 | 4.90 |
| Lorain County (part), OH | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Los Angeles, CA | PM2.5 (2006 24-hour) | Nonattainment, Serious | 100 | 0 | 70.25 | 264.09 | 157.27 | 249.47 |
| Los Angeles-San Bernardino Counties (West Mojave Desert), CA | Ozone (2008 8-hour) | Nonattainment, Severe 15 | 25 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Los Angeles-South Coast Air Basin Area, CA | CO (1971 8-hour) | Maintenance, Serious | 100 | 0 | 70.28 | 264.21 | 157.34 | 249.59 |
| Los Angeles-South Coast Air Basin Area, CA | NO ₂ (1971 Annual) | Maintenance, -- | 100 | 0 | 70.29 | 264.22 | 157.35 | 249.60 |
| Los Angeles-South Coast Air Basin, CA | Ozone (2008 8-hour) | Nonattainment, Extreme | 10 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Los Angeles-South Coast Air Basin, CA | PM2.5 (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 70.16 | 263.73 | 157.07 | 249.15 |
| Lowell Area, MA | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 1.21 | 3.75 | 2.71 | 3.98 |
| Lucas County (part), OH | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Madison County; Granite City Township and Nameoki Township, IL | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 5.52 | 14.88 | 12.40 | 17.36 |
| Manchester Area, NH | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.26 | 1.10 | 0.57 | 0.96 |
| Maricopa and Pinal Counties; Phoenix planning area, AZ | PM10 (1987 24-hour) | Nonattainment, Serious | 70 | 0 | 16.73 | 62.97 | 37.45 | 59.44 |
| Marion County; Lawrence, Washington, and Warrant Townships, IN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Mariposa County, CA | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Marshall, WV | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.50 | 1.40 | 1.13 | 1.60 |
| Medford Area, OR | CO (1971 8-hour) | Maintenance, Moderate ≤ 12.7ppm | 100 | 0 | 1.23 | 3.80 | 2.76 | 4.05 |
| Memphis Area, TN | CO (1971 8-hour) | Maintenance, Moderate ≤ 12.7ppm | 100 | 0 | 9.43 | 29.60 | 21.16 | 31.26 |

Table A1-16

Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Direct and Indirect Impacts
 Volatile Organic Compounds (VOC) 2050

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|---|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Memphis, TN-MS-AR | Ozone (2008 8-hour) | Nonattainment TN & Maintenance MS/AR, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Miami, AZ | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.07 | 0.21 | 0.16 | 0.23 |
| Miami, AZ | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Miami, AZ | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.07 | 0.21 | 0.16 | 0.23 |
| Milwaukee-Racine, WI | PM2.5 (2006 24-hour) | Maintenance, -- | 100 | 0 | 8.00 | 27.37 | 17.94 | 27.39 |
| Minneapolis-St. Paul Area, MN | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 43.64 | 131.73 | 97.96 | 142.64 |
| Missoula Area, MT | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 1.75 | 5.10 | 3.92 | 5.64 |
| Missoula county; Missoula and vicinity, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 1.66 | 4.86 | 3.74 | 5.38 |
| Modesto Area, CA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.97 | 3.48 | 2.18 | 3.39 |
| Mohave County (part); Bullhead City, AZ | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.99 | 3.15 | 2.21 | 3.29 |
| Mono County; Mammoth Lake planning area, CA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.11 | 0.49 | 0.25 | 0.42 |
| Mono County; Mono Basin, CA | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Morenci, AZ | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Morgan County, IN | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.16 | 0.60 | 0.37 | 0.57 |
| Morongo Band of Mission Indians | Ozone (2008 8-hour) | Nonattainment, Serious | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Morristown Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.19 | 0.73 | 0.43 | 0.68 |
| Muscatine County; (part), IA | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Muscatine, IA | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.76 | 2.13 | 1.71 | 2.42 |
| Muskingum River, OH | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.14 | 0.41 | 0.31 | 0.45 |
| Nashua Area, NH | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.25 | 1.07 | 0.55 | 0.93 |
| Nassau County, FL | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.09 | 0.25 | 0.20 | 0.28 |
| Nevada County (Western part), CA | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| New Haven County, CT | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.14 | 0.48 | 0.32 | 0.49 |

Appendix A Air Quality Non-Attainment Area Results

Table A1-16

**Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Direct and Indirect Impacts
Volatile Organic Compounds (VOC) 2050**

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| New Haven-Meriden-Waterbury Area, CT | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 6.86 | 22.62 | 15.37 | 23.15 |
| New Manchester-Grant magisterial district in Hancock County, WV | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| New York County, NY | PM ₁₀ (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 4.68 | 15.34 | 10.50 | 15.76 |
| New York, NY-NJ-CT | PM _{2.5} (2006 24-hour) | Maintenance, -- | 100 | 0 | 114.68 | 385.77 | 257.09 | 389.94 |
| New York-N. New Jersey-Long Island Area, NY-NJ-CT | CO (1971 8-hour) | Maintenance, Moderate > 12.7ppm | 100 | 0 | 64.54 | 216.61 | 144.70 | 219.27 |
| New York-N. New Jersey-Long Island, NY-NJ-CT | Ozone (2008 8-hour) | Nonattainment, Moderate | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| NJ portion of the Northeast Pennsylvania-Upper Delaware Valley Interstate AQCR: (part), NJ | SO ₂ (1971 24-hour/Annual) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Nogales, AZ | PM _{2.5} (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.45 | 1.45 | 1.01 | 1.51 |
| Oakridge, OR | PM _{2.5} (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.01 | 0.03 | 0.02 | 0.03 |
| Ogden Area, UT | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.42 | 1.40 | 0.95 | 1.43 |
| Ogden Area, UT | PM ₁₀ (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.42 | 1.40 | 0.95 | 1.43 |
| Olmsted County; (part), MN | PM ₁₀ (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.41 | 1.20 | 0.91 | 1.32 |
| Olmsted; City of Rochester, MN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |

Table A1-16
Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Direct and Indirect Impacts
Volatile Organic Compounds (VOC) 2050

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Pechanga Band of Luiseno Mission Indians of the Pechanga Reservation | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Pekin, IL | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.13 | 0.54 | 0.28 | 0.47 |
| Penns Grove Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Peoria County: Hollis Twp, IL | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Peoria County: Peoria, IL | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Perth Amboy Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 1.28 | 4.03 | 2.87 | 4.25 |
| Philadelphia-Camden County Area, PA-NJ | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 10.59 | 32.88 | 23.76 | 34.96 |
| Philadelphia-Wilmington, PA-NJ-DE | PM _{2.5} (2006 24-hour) | Maintenance, Moderate for PA and DE Subject to Former Subpart 1 for NJ | 100 | 0 | 43.47 | 137.18 | 97.53 | 144.36 |
| Philadelphia-Wilmington-Atlantic City, PA-NJ-MD-DE | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Phoenix Area, AZ | CO (1971 8-hour) | Maintenance, Serious | 100 | 0 | 15.62 | 59.20 | 34.97 | 55.66 |
| Phoenix-Mesa, AZ | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Pierce County; Tacoma, WA | PM ₁₀ (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.42 | 1.12 | 0.94 | 1.31 |
| Pima County; Ajo planning area, AZ | PM ₁₀ (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Pima County; Rillito planning area, AZ | PM ₁₀ (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.79 | 2.46 | 1.78 | 2.61 |
| Pinal and Gila Counties; Payson, AZ | PM ₁₀ (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.42 | 1.30 | 0.95 | 1.39 |
| Pinal County (part); West Pinal, AZ | PM ₁₀ (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 5.39 | 16.44 | 12.09 | 17.67 |
| Pitkin County; Aspen, CO | PM ₁₀ (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.26 | 0.83 | 0.59 | 0.87 |
| Pittsburgh Area, PA | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 1.51 | 4.85 | 3.38 | 5.04 |
| Pittsburgh-Beaver Valley, PA | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Pittsburgh-Beaver Valley, PA | PM _{2.5} (2006 24-hour) | Maintenance, Moderate | 100 | 0 | 15.43 | 50.08 | 34.62 | 51.78 |
| Plumas County, CA | PM _{2.5} (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Polk County, TN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |

Appendix A Air Quality Non-Attainment Area Results

Table A1-16

Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Direct and Indirect Impacts

Volatile Organic Compounds (VOC) 2050

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|-------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Portland Area: Portland Metro Service District Boundary, OR | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 7.18 | 25.00 | 16.08 | 24.73 |
| Power-Bannock Counties; Fort Hall Indian Reservation, ID | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Power-Bannock Counties; Portneuf Valley Area, ID | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 1.61 | 4.76 | 3.61 | 5.22 |
| Provo Area, UT | CO (1971 8-hour) | Maintenance, Moderate > 12.7ppm | 100 | 0 | 0.32 | 1.21 | 0.72 | 1.14 |
| Provo, UT | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 1.85 | 6.95 | 4.15 | 6.58 |
| Prowers County; Lamar, CO | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Raleigh-Durham Area, NC | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 12.12 | 39.22 | 27.19 | 40.62 |
| Ramsey County; (part), MN | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.04 | 0.11 | 0.08 | 0.12 |
| Reading, PA | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Reno Area, NV | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 3.10 | 9.83 | 6.94 | 10.31 |
| Rhinelander, WI | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 1.42 | 4.03 | 3.20 | 4.55 |
| Riverside County (Coachella Valley), CA | Ozone (2008 8-hour) | Nonattainment, Severe 15 | 25 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Riverside County; Coachella Valley planning area, CA | PM10 (1987 24-hour) | Nonattainment, Serious | 70 | 0 | 1.65 | 6.93 | 3.69 | 6.14 |
| Riverside, Los Angeles, Orange, and San Bernardino Counties; South Coast Air Basin, CA | PM10 (1987 24-hour) | Maintenance, Serious | 100 | 0 | 70.05 | 263.25 | 156.83 | 248.74 |
| Rosebud County; Lame Deer, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.45 | 1.36 | 1.01 | 1.47 |
| Routt County (part); Steamboat Springs, CO | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.34 | 1.06 | 0.77 | 1.13 |
| Sacramento Area, CA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 5.80 | 21.91 | 12.99 | 20.65 |
| Sacramento County, CA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 4.73 | 18.83 | 10.57 | 17.19 |
| Sacramento Metro, CA | Ozone (2008 8-hour) | Nonattainment, Severe 15 | 25 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Sacramento, CA | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 11.43 | 42.28 | 25.60 | 40.33 |
| Salem Area, OR | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 2.25 | 7.28 | 5.04 | 7.53 |
| Salt Lake City Area, UT | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 3.10 | 8.94 | 6.95 | 9.96 |
| Salt Lake City, UT | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 15.85 | 50.17 | 35.56 | 52.69 |

Table A1-16

Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Direct and Indirect Impacts
 Volatile Organic Compounds (VOC) 2050

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|---|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Salt Lake County, UT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 8.41 | 27.10 | 18.87 | 28.15 |
| Salt Lake County, UT | SO ₂ (1971 24-hour/Annual) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| San Bernardino County (part); excluding Searles Valley Planning area and South Coast Air Basin, CA | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 2.06 | 8.16 | 4.61 | 7.47 |
| San Diego Area, CA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 22.89 | 77.81 | 51.31 | 78.14 |
| San Diego County, CA | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| San Francisco Bay Area, CA | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| San Francisco Bay Area, CA | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 35.14 | 126.66 | 78.71 | 122.71 |
| San Francisco-Oakland-San Jose Area, CA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 32.48 | 116.71 | 72.76 | 113.29 |
| San Joaquin Valley Air Basin; Fresno, Kern, Kings, Madera, Merced, San Joaquin, Stanislaus, Tulare Counties, CA | PM10 (1987 24-hour) | Maintenance, Serious | 100 | 0 | 21.26 | 78.90 | 47.60 | 75.10 |
| San Joaquin Valley, CA | Ozone (2008 8-hour) | Nonattainment, Extreme | 10 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| San Joaquin Valley, CA | PM2.5 (2006 24-hour) | Nonattainment, Serious | 100 | 0 | 21.26 | 78.89 | 47.59 | 75.10 |
| San Joaquin Valley, CA | PM2.5 (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 21.26 | 78.89 | 47.59 | 75.10 |
| San Luis Obispo (Eastern San Luis Obispo), CA | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| San Manuel, AZ | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| San Miguel County; Telluride, CO | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.05 | 0.18 | 0.11 | 0.17 |
| Sanders County (part); Thompson Falls and vicinity, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Santa Cruz County; Nogales planning area, AZ | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.45 | 1.45 | 1.01 | 1.51 |
| Seaford, DE | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Seattle-Tacoma Area, WA | CO (1971 8-hour) | Maintenance, Moderate > 12.7ppm | 100 | 0 | 29.30 | 91.77 | 65.74 | 97.03 |
| Seattle-Tacoma, WA | PM2.5 (2006 24-hour) | Maintenance, Moderate | 100 | 0 | 4.70 | 14.69 | 10.54 | 15.55 |
| Sheboygan County, WI | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |

Appendix A Air Quality Non-Attainment Area Results

Table A1-16

Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Direct and Indirect Impacts

Volatile Organic Compounds (VOC) 2050

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|---|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Sheridan County; City of Sheridan, WY | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.61 | 1.75 | 1.36 | 1.95 |
| Shoshone County (part); excluding Pinehurst, ID | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.32 | 1.06 | 0.71 | 1.08 |
| Shoshone County; City of Pinehurst, ID | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Silver Bow County; Butte, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.29 | 0.97 | 0.64 | 0.98 |
| Somerville Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.12 | 0.41 | 0.28 | 0.42 |
| Southwest Indiana, IN | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.21 | 0.63 | 0.48 | 0.69 |
| Spokane Area, WA | CO (1971 8-hour) | Maintenance, Serious | 100 | 0 | 2.35 | 7.67 | 5.26 | 7.89 |
| Spokane County; (part), WA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 2.42 | 7.91 | 5.43 | 8.14 |
| Springfield Area, MA | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 1.43 | 4.68 | 3.21 | 4.82 |
| St. Bernard Parish, LA | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 1.56 | 4.24 | 3.50 | 4.92 |
| St. Louis Area, MO | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 22.95 | 65.28 | 51.54 | 73.47 |
| St. Louis-St. Charles-Farmington, MO-IL | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Steubenville, OH-WV | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 1.53 | 4.42 | 3.44 | 4.93 |
| Steubenville-Weirton, OH-WV | PM2.5 (2006 24-hour) | Maintenance, -- | 100 | 0 | 3.05 | 8.71 | 6.84 | 9.77 |
| Stockton Area, CA | CO (1971 8-hour) | Maintenance, Moderate ≤ 12.7ppm | 100 | 0 | 1.44 | 5.62 | 3.23 | 5.20 |
| Sullivan County, TN | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.38 | 1.10 | 0.86 | 1.23 |
| Syracuse Area; Onondaga County, NY | CO (1971 8-hour) | Maintenance, Moderate ≤ 12.7ppm | 100 | 0 | 5.78 | 18.12 | 12.97 | 19.15 |
| Tazewell County; Groveland Twp, IL | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Terre Haute, IN | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.69 | 1.99 | 1.54 | 2.21 |

Table A1-16

Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Direct and Indirect Impacts
 Volatile Organic Compounds (VOC) 2050

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|---|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Thurston County; Cities of Olympia, Tumwater, and Lacey, WA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.69 | 2.34 | 1.55 | 2.36 |
| Toms River Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.02 | 0.08 | 0.05 | 0.08 |
| Tooele County (part), UT | SO ₂ (1971 24-hour/Annual) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Trenton Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.55 | 1.91 | 1.23 | 1.89 |
| Trona, CA | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.22 | 0.57 | 0.48 | 0.67 |
| Tucson Area, AZ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 9.70 | 30.07 | 21.77 | 32.01 |
| Tuscan Buttes, CA | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Union County; LaGrande, OR | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.54 | 1.63 | 1.21 | 1.76 |
| Upper Green River Basin Area, WY | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Utah County, UT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 1.85 | 6.95 | 4.15 | 6.58 |
| Vancouver Area: Clark County (part), WA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 2.19 | 7.18 | 4.91 | 7.37 |
| Ventura County, CA | Ozone (2008 8-hour) | Nonattainment, Serious | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Vermillion County; Part of Clinton Township, IN | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Vigo County, IN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Walla Walla County; Wallula, WA | PM10 (1987 24-hour) | Maintenance, Serious | 100 | 0 | 0.09 | 0.26 | 0.20 | 0.29 |
| Waltham Area, MA | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.62 | 1.91 | 1.38 | 2.03 |
| Warren County: Conewago Twp, PA | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Warren County: Warren Boro, Pleasant Twp, Glade Twp, PA | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Warren, PA | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.27 | 0.83 | 0.61 | 0.90 |
| Washington Area, DC-MD-VA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 3.43 | 12.44 | 7.68 | 12.00 |
| Washington, DC-MD-VA | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Washoe County; Reno planning area, NV | PM10 (1987 24-hour) | Nonattainment, Serious | 70 | 0 | 3.06 | 9.73 | 6.87 | 10.20 |

Appendix A Air Quality Non-Attainment Area Results

Table A1-16

**Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Direct and Indirect Impacts
Volatile Organic Compounds (VOC) 2050**

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|---|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Wayne County: Boston, Center, Franklin, Wayne & Webster Townships, IN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Wayne County; (part), MI | PM ₁₀ (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 3.40 | 9.57 | 7.63 | 10.84 |
| West Central Pinal County, AZ | PM _{2.5} (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 1.16 | 3.53 | 2.60 | 3.80 |
| West Silver Valley, ID | PM _{2.5} (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 0.19 | 0.62 | 0.42 | 0.63 |
| Winston-Salem Area, NC | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 2.41 | 8.28 | 5.41 | 8.27 |
| Worcester Area, MA | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 1.94 | 6.39 | 4.36 | 6.55 |
| Yakima Area, WA | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.69 | 2.07 | 1.56 | 2.26 |
| Yakima County; (part), WA | PM ₁₀ (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 1.81 | 5.40 | 4.07 | 5.90 |
| Yuba City-Marysville, CA | PM _{2.5} (2006 24-hour) | Maintenance, Moderate | 100 | 0 | 0.92 | 3.40 | 2.05 | 3.24 |
| Yuma County; Yuma planning area, AZ | PM ₁₀ (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 1.98 | 6.07 | 4.44 | 6.50 |

^a Reductions are shown as positive values. Negative values are emissions increases. Values of less than 0.005 tons per year are rounded to zero.

^b Nonattainment or maintenance status as of 5/13/2016. Source: U.S. EPA, The Green Book Nonattainment Areas for Criteria Pollutants; <http://www.epa.gov/airquality/greenbook/>. "--" indicates that no severity classification has been established for the NAAQS pollutant.

^c Emissions thresholds in tons per year. Where the threshold differs by precursor pollutant, the smallest of the precursor thresholds is shown. These thresholds are provided for information only; a general conformity determination is not required for the Proposed Action. Source: 40 CFR 93.853.

Notes: CO = carbon monoxide; NAAQS =National Ambient Air Quality Standards; NO₂ = nitrogen dioxide; PM = particulate matter; SO₂ = sulfur dioxide

Table A1-17
Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Direct and Indirect Impacts
Carbon Monoxide (CO) 2018

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Ada County; Boise, ID | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | -0.13 | -0.14 | -0.17 | -0.21 |
| Adams, Denver, and Boulder Counties; Denver Metropolitan area, CO | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | -0.72 | -0.84 | -1.00 | -1.19 |
| Ajo, AZ | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Albuquerque Area, NM | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | -0.18 | -0.18 | -0.22 | -0.27 |
| Allegheny County Air Basin: Hazelwood monitor, PA | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Allegheny County, PA | PM2.5 (2012 Annual) | Nonattainment, Moderate | 100 | 0 | -0.37 | -0.43 | -0.51 | -0.61 |
| Allegheny County; The area including Liberty, Lincoln, Port Vue, and Glassport Boroughs and the City of Clairton, PA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | -0.01 |
| Allegheny, PA | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | -0.03 | -0.04 | -0.05 | -0.06 |
| Allentown, PA | PM2.5 (2006 24-hour) | Maintenance, Moderate | 100 | 0 | -0.25 | -0.28 | -0.34 | -0.40 |
| Allentown-Bethlehem-Easton, PA | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Anchorage Area, AK | CO (1971 8-hour) | Maintenance, Serious | 100 | 0 | -0.05 | -0.05 | -0.06 | -0.07 |
| Anchorage; Eagle River, AK | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| AQCR 012: Portions of Grant County, NM | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| AQCR 109-Millinocket, ME | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| AQCR 131: Anoka, Carver, Dakota, Hennepin, Ramsey, Scott, and Washington counties (Minneapolis-St. Paul), MN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| AQCR 237: Brown County: Green Bay sub-city area, WI | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| AQCR 238: Marathon County: Rothschild Sub-city area, Rib Mountain, Weston, WI | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| AQCR 238: Oneida County: Rhinelander Sub-city area, WI | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| AQCR 239: Milwaukee County: Milwaukee sub-city area, WI | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |

Appendix A Air Quality Non-Attainment Area Results

Table A1-17

Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Direct and Indirect Impacts

Carbon Monoxide (CO) 2018

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| AQCR 240: Dane County: Madison sub-city area, WI | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Archuleta County; Pagosa Springs, CO | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | -0.01 | -0.01 | -0.02 | -0.02 |
| Armstrong County: Madison Twp, Mahoning Twp, Boggs Twp, Washington Twp, Pine Twp, PA | SO ₂ (1971 24-hour/Annual) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Aroostock County; City of Presque Isle, ME | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | -0.01 | -0.01 | -0.01 | -0.01 |
| Atlanta, GA | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Atlantic City Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | -0.03 | -0.03 | -0.04 | -0.04 |
| Bakersfield Area, CA | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.02 | 0.10 | 0.10 | 0.11 |
| Baltimore Area, MD | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | -0.01 |
| Baltimore, MD | Ozone (2008 8-hour) | Nonattainment, Moderate | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Baton Rouge, LA | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Beaver, PA | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | -0.01 | -0.01 | -0.01 | -0.01 |
| Benton County; (part) TVA Johnsonville, TN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Billings Area, MT | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.41 | 0.61 | 0.69 | 0.83 |
| Billings, MT | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.45 | 0.66 | 0.75 | 0.89 |
| Birmingham, AL | PM2.5 (2006 24-hour) | Maintenance, -- | 100 | 0 | -0.59 | -0.69 | -0.82 | -0.98 |
| Boise-Northern Ada County Area, ID | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | -0.13 | -0.14 | -0.17 | -0.21 |
| Bonner County; The Sandpoint Area, ID | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | -0.01 | -0.01 | -0.01 |
| Boston Area, MA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | -0.31 | -0.36 | -0.43 | -0.51 |
| Boyd County (part), KY | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Brooke; Follansbee area, WV | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Burlington Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | -0.01 | -0.01 | -0.01 |
| Calaveras County, CA | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Campbell-Clermont Counties, KY-OH | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | -0.02 | -0.02 | -0.02 | -0.03 |

Table A1-17

Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Direct and Indirect Impacts
Carbon Monoxide (CO) 2018

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|---|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Canton-Massillon, OH | PM2.5 (2006 24-hour) | Maintenance, -- | 100 | 0 | 0.09 | 0.19 | 0.21 | 0.25 |
| Central New Hampshire, NH | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | -0.10 | -0.12 | -0.14 | -0.17 |
| Central Steptoe Valley, NV | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Charleston, WV | PM2.5 (2006 24-hour) | Maintenance, -- | 100 | 0 | -0.17 | -0.20 | -0.24 | -0.29 |
| Charlotte Area, NC | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | -0.60 | -0.70 | -0.84 | -1.00 |
| Charlotte-Rock Hill, NC-SC | Ozone (2008 8-hour) | Maintenance, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Chicago-Naperville, IL-IN-WI | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Chico (Butte County), CA | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Chico Area, CA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | -0.04 | -0.05 | -0.05 | -0.06 |
| Chico, CA | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | -0.09 | -0.11 | -0.13 | -0.15 |
| Cincinnati, OH-KY-IN | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Clark County; Las Vegas planning area, NV | PM10 (1987 24-hour) | Maintenance, Serious | 100 | 0 | -0.75 | -0.87 | -1.04 | -1.24 |
| Cleveland Area, OH | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | -0.45 | -0.52 | -0.62 | -0.74 |
| Cleveland, OH | PM2.5 (2012 Annual) | Nonattainment, Moderate | 100 | 0 | -0.58 | -0.68 | -0.81 | -0.97 |
| Cleveland-Akron-Lorain, OH | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Cleveland-Akron-Lorain, OH | PM2.5 (2006 24-hour) | Maintenance, -- | 100 | 0 | -1.28 | -1.50 | -1.78 | -2.13 |
| Cochise County; Paul Spur/Douglas planning area, AZ | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | -0.02 | -0.02 | -0.03 | -0.03 |
| Colorado Springs Area, CO | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | -0.22 | -0.25 | -0.30 | -0.35 |
| Columbus, OH | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Cook County; Lyons Township, IL | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | -0.01 | 0.00 | -0.01 | -0.01 |
| Cook County; Southeast Chicago, IL | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | -0.02 | -0.02 | -0.02 | -0.02 |
| Coshocton County; Franklin Township, OH | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Coso Junction, CA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Cuyahoga County (part), OH | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Cuyahoga County, OH | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | -0.45 | -0.52 | -0.62 | -0.74 |

Appendix A Air Quality Non-Attainment Area Results

Table A1-17

Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Direct and Indirect Impacts

Carbon Monoxide (CO) 2018

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Dallas-Fort Worth, TX | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Delaware County, PA | PM2.5 (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 0.58 | 0.91 | 1.03 | 1.22 |
| Denver-Boulder Area, CO | CO (1971 8-hour) | Maintenance, Serious | 100 | 0 | -0.74 | -0.72 | -0.89 | -1.07 |
| Denver-Boulder-Greeley-Ft Collins-Loveland, CO | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Detroit Area, MI | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | -0.68 | -0.76 | -0.91 | -1.09 |
| Detroit, MI | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.04 | 0.03 | 0.04 |
| Detroit-Ann Arbor, MI | PM2.5 (2006 24-hour) | Maintenance, -- | 100 | 0 | -2.23 | -2.57 | -3.07 | -3.66 |
| Dona Ana County; Anthony, NM | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | -0.01 | -0.01 | -0.01 |
| Douglas, AZ | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Dukes County, MA | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Duluth Area, MN | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | -0.05 | -0.06 | -0.07 | -0.08 |
| East Chicago Area, IN | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 1.18 | 1.73 | 1.98 | 2.36 |
| East Helena Area, MT | SO ₂ (1971 24-hour/Annual) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| East Kern County Area, CA | PM10 (1987 24-hour) | Nonattainment, Serious | 70 | 0 | 0.24 | 0.35 | 0.40 | 0.48 |
| El Paso County, TX | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | -0.08 | -0.05 | -0.07 | -0.09 |
| El Paso, TX | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.11 | 0.17 | 0.19 | 0.23 |
| Eugene-Springfield Area, OR | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | -0.10 | -0.12 | -0.15 | -0.17 |
| Fairbanks Area, AK | CO (1971 8-hour) | Maintenance, Serious | 100 | 0 | 0.04 | 0.06 | 0.07 | 0.08 |
| Fairbanks, AK | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.03 | 0.05 | 0.05 | 0.06 |

Table A1-17
Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Direct and Indirect Impacts
Carbon Monoxide (CO) 2018

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|---|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Flathead County; Columbia Falls and vicinity, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Flathead County; Kalispell and vicinity, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | -0.02 | -0.02 | -0.02 | -0.03 |
| Flathead County; Whitefish and vicinity, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Fort Collins Area, CO | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | -0.06 | -0.07 | -0.08 | -0.09 |
| Freehold Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | -0.01 | -0.01 | -0.01 | -0.02 |
| Fremont County; Canon City Area, CO | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | -0.02 | -0.02 | -0.03 | -0.03 |
| Fresno Area, CA | CO (1971 8-hour) | Maintenance, Moderate > 12.7ppm | 100 | 0 | -0.25 | -0.29 | -0.34 | -0.41 |
| Grants Pass Area, OR | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | -0.02 | -0.02 | -0.03 | -0.03 |
| Great Falls Area, MT | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.04 | 0.05 | 0.06 | 0.07 |
| Greater Connecticut, CT | Ozone (2008 8-hour) | Nonattainment, Moderate | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Greeley Area, CO | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | -0.15 | -0.17 | -0.20 | -0.24 |
| Hancock and Brooke Counties (Part); The city of Weirton, WV | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.01 | 0.01 | 0.01 | 0.01 |
| Hancock County (Part) The city of Weirton, including Butler and Clay: Magisterial Districts, WV | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Harrisburg-Lebanon-Carlisle-York, PA | PM2.5 (2006 24-hour) | Maintenance, Moderate | 100 | 0 | -0.59 | -0.69 | -0.82 | -0.97 |
| Hartford-New Britain-Middletown Area, CT | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | -0.53 | -0.62 | -0.74 | -0.89 |
| Hayden, AZ | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Hayden, AZ | SO ₂ (1971 24-hour/Annual) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Hayden, AZ | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Hillsborough County, FL | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | -0.01 | -0.01 | -0.01 | -0.01 |
| Houston-Galveston-Brazoria, TX | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Humphreys County; (part) TVA Johnsonville, TN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Imperial Co, CA | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | -0.10 | -0.11 | -0.14 | -0.16 |

Appendix A Air Quality Non-Attainment Area Results

Table A1-17

Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Direct and Indirect Impacts

Carbon Monoxide (CO) 2018

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Imperial County, CA | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Imperial County, CA | PM2.5 (2012 Annual) | Nonattainment, Moderate | 100 | 0 | -0.10 | -0.11 | -0.14 | -0.16 |
| Imperial County; Imperial Valley planning area, CA | PM10 (1987 24-hour) | Nonattainment, Serious | 70 | 0 | -0.12 | -0.14 | -0.17 | -0.20 |
| Indian Wells, CA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.24 | 0.35 | 0.40 | 0.48 |
| Indiana, PA | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | -0.04 | -0.05 | -0.06 | -0.07 |
| Indianapolis Area, IN | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Indianapolis, IN | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | -0.24 | -0.28 | -0.33 | -0.39 |
| Inyo County; Owens Valley planning area, CA | PM10 (1987 24-hour) | Nonattainment, Serious | 70 | 0 | 0.00 | 0.00 | -0.01 | -0.01 |
| Jackson County, MO | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | -0.02 | -0.03 | -0.03 | -0.04 |
| Jackson County; Medford-Ashland (including White City), OR | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | -0.09 | -0.10 | -0.12 | -0.14 |
| Jamestown, NY | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Jefferson County, KY | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Jefferson County, MO | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | -0.02 | -0.03 | -0.03 | -0.04 |
| Jefferson County; (part) Steubenville & Mingo Junction, OH | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Jefferson County; (part), OH | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Johnstown, PA | PM2.5 (2006 24-hour) | Maintenance, Moderate | 100 | 0 | -0.06 | -0.07 | -0.08 | -0.10 |
| Josephine County; Grants Pass, OR | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | -0.02 | -0.02 | -0.03 | -0.03 |
| Juneau; Mendenhall Valley area, AK | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | -0.01 | -0.01 |
| Kern County (Eastern Kern), CA | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| King County; Kent, WA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | -0.01 | -0.01 | -0.01 | -0.02 |
| King County; Seattle, WA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | -0.01 | -0.01 | -0.01 |
| Klamath County; Klamath Falls, OR | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | -0.03 | -0.03 | -0.04 | -0.05 |
| Klamath Falls Area, OR | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | -0.03 | -0.03 | -0.04 | -0.05 |
| Klamath Falls, OR | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | -0.03 | -0.04 | -0.04 | -0.05 |

Table A1-17

Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Direct and Indirect Impacts
Carbon Monoxide (CO) 2018

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Knoxville, TN | Ozone (2008 8-hour) | Maintenance, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Knoxville-Sevierville-La Follette, TN | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | -0.47 | -0.55 | -0.66 | -0.78 |
| La Porte County: (part), IN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lake County (part); Lakeview, OR | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lake County, OH | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | -0.13 | -0.15 | -0.18 | -0.21 |
| Lake County: (part), IN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lake County; (part) Eastlake, Timberlake, Lakeline, Willoughby, Mentor, OH | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lake County; Cities of East Chicago, Hammond, Whiting, and Gary, IN | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 1.10 | 1.64 | 1.87 | 2.23 |
| Lake County; Polson, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lake County; Ronan, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lake Tahoe Nevada Area, NV | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | -0.01 | -0.01 | -0.01 | -0.02 |
| Lake Tahoe North Shore Area, CA | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | -0.01 | -0.01 | -0.01 | -0.01 |
| Lake Tahoe South Shore Area, CA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | -0.02 | -0.02 | -0.02 | -0.03 |
| Lancaster, PA | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lancaster, PA | PM2.5 (2006 24-hour) | Maintenance, Moderate | 100 | 0 | -0.25 | -0.29 | -0.34 | -0.41 |
| Lane County (part); Oakridge, OR | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lane County; Eugene/Springfield, OR | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | -0.10 | -0.12 | -0.15 | -0.17 |
| Las Vegas Area, NV | CO (1971 8-hour) | Maintenance, Serious | 100 | 0 | -0.74 | -0.87 | -1.04 | -1.24 |
| LaSalle County; Oglesby, IL | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | -0.02 | -0.02 | -0.02 | -0.03 |
| Laurel Area, MT | SO ₂ (1971 24-hour/Annual) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lebanon County, PA | PM2.5 (2012 Annual) | Nonattainment, Moderate | 100 | 0 | -0.09 | -0.10 | -0.12 | -0.14 |
| Lemont, IL | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 2.40 | 3.56 | 4.06 | 4.83 |
| Liberty-Clairton, PA | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | -0.01 |

Appendix A Air Quality Non-Attainment Area Results

Table A1-17

Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Direct and Indirect Impacts

Carbon Monoxide (CO) 2018

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Lincoln County; Libby and vicinity, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | -0.01 |
| Logan, UT-ID | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | -0.04 | -0.05 | -0.06 | -0.07 |
| Longmont Area, CO | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | -0.03 | -0.04 | -0.05 | -0.06 |
| Lorain County (part), OH | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Los Angeles, CA | PM2.5 (2006 24-hour) | Nonattainment, Serious | 100 | 0 | -3.13 | -2.46 | -3.21 | -3.86 |
| Los Angeles-San Bernardino Counties (West Mojave Desert), CA | Ozone (2008 8-hour) | Nonattainment, Severe 15 | 25 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Los Angeles-South Coast Air Basin Area, CA | CO (1971 8-hour) | Maintenance, Serious | 100 | 0 | -3.13 | -2.46 | -3.22 | -3.86 |
| Los Angeles-South Coast Air Basin Area, CA | NO ₂ (1971 Annual) | Maintenance, -- | 100 | 0 | -3.13 | -2.46 | -3.22 | -3.86 |
| Los Angeles-South Coast Air Basin, CA | Ozone (2008 8-hour) | Nonattainment, Extreme | 10 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Los Angeles-South Coast Air Basin, CA | PM2.5 (2012 Annual) | Nonattainment, Moderate | 100 | 0 | -3.12 | -2.45 | -3.21 | -3.85 |
| Lowell Area, MA | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | -0.05 | -0.06 | -0.07 | -0.08 |
| Lucas County (part), OH | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Madison County; Granite City Township and Nameoki Township, IL | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.71 | 1.05 | 1.20 | 1.43 |
| Manchester Area, NH | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | -0.04 | -0.05 | -0.06 | -0.07 |
| Maricopa and Pinal Counties; Phoenix planning area, AZ | PM10 (1987 24-hour) | Nonattainment, Serious | 70 | 0 | -1.72 | -2.01 | -2.39 | -2.86 |
| Marion County; Lawrence, Washington, and Warrant Townships, IN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Mariposa County, CA | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Marshall, WV | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.04 | 0.07 | 0.07 | 0.09 |
| Medford Area, OR | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | -0.04 | -0.05 | -0.06 | -0.07 |
| Memphis Area, TN | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | -0.16 | -0.11 | -0.15 | -0.18 |

Table A1-17

Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Direct and Indirect Impacts
Carbon Monoxide (CO) 2018

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|---|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Memphis, TN-MS-AR | Ozone (2008 8-hour) | Nonattainment TN & Maintenance MS/AR, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Miami, AZ | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | -0.01 | -0.01 | -0.01 | -0.01 |
| Miami, AZ | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Miami, AZ | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | -0.01 | -0.01 | -0.01 | -0.01 |
| Milwaukee-Racine, WI | PM2.5 (2006 24-hour) | Maintenance, -- | 100 | 0 | -0.56 | -0.66 | -0.79 | -0.94 |
| Minneapolis-St. Paul Area, MN | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | -1.04 | -1.10 | -1.33 | -1.59 |
| Missoula Area, MT | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | -0.02 | -0.02 | -0.03 | -0.03 |
| Missoula county; Missoula and vicinity, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | -0.02 | -0.02 | -0.03 | -0.03 |
| Modesto Area, CA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | -0.09 | -0.11 | -0.13 | -0.16 |
| Mohave County (part); Bullhead City, AZ | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | -0.04 | -0.05 | -0.06 | -0.07 |
| Mono County; Mammoth Lake planning area, CA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | -0.01 | -0.02 | -0.02 | -0.02 |
| Mono County; Mono Basin, CA | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Morenci, AZ | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Morgan County, IN | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | -0.02 | -0.02 | -0.02 | -0.03 |
| Morongo Band of Mission Indians | Ozone (2008 8-hour) | Nonattainment, Serious | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Morristown Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | -0.02 | -0.02 | -0.02 | -0.03 |
| Muscatine County; (part), IA | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Muscatine, IA | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | -0.01 | -0.01 | -0.01 | -0.02 |
| Muskingum River, OH | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | -0.01 | -0.01 |
| Nashua Area, NH | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | -0.04 | -0.04 | -0.05 | -0.06 |
| Nassau County, FL | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | -0.01 |
| Nevada County (Western part), CA | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| New Haven County, CT | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | -0.01 | -0.01 | -0.01 | -0.02 |

Appendix A Air Quality Non-Attainment Area Results

Table A1-17

Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Direct and Indirect Impacts

Carbon Monoxide (CO) 2018

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| New Haven-Meriden-Waterbury Area, CT | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | -0.39 | -0.45 | -0.53 | -0.64 |
| New Manchester-Grant magisterial district in Hancock County, WV | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| New York County, NY | PM ₁₀ (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | -0.27 | -0.31 | -0.37 | -0.44 |
| New York, NY-NJ-CT | PM _{2.5} (2006 24-hour) | Maintenance, -- | 100 | 0 | -6.91 | -7.91 | -9.46 | -11.30 |
| New York-N. New Jersey-Long Island Area, NY-NJ-CT | CO (1971 8-hour) | Maintenance, Moderate > 12.7ppm | 100 | 0 | -3.95 | -4.56 | -5.45 | -6.50 |
| New York-N. New Jersey-Long Island, NY-NJ-CT | Ozone (2008 8-hour) | Nonattainment, Moderate | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| NJ portion of the Northeast Pennsylvania-Upper Delaware Valley Interstate AQCR: (part), NJ | SO ₂ (1971 24-hour/Annual) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Nogales, AZ | PM _{2.5} (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | -0.02 | -0.02 | -0.03 | -0.03 |
| Oakridge, OR | PM _{2.5} (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Ogden Area, UT | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | -0.03 | -0.03 | -0.04 | -0.04 |
| Ogden Area, UT | PM ₁₀ (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | -0.03 | -0.03 | -0.04 | -0.04 |
| Olmsted County; (part), MN | PM ₁₀ (1987 24-hour) | Maintenance, Moderate | 100 | 0 | -0.01 | -0.02 | -0.02 | -0.02 |
| Olmsted; City of Rochester, MN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |

Table A1-17
Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Direct and Indirect Impacts
Carbon Monoxide (CO) 2018

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Pechanga Band of Luiseno Mission Indians of the Pechanga Reservation | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Pekin, IL | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | -0.02 | -0.02 | -0.03 | -0.03 |
| Penns Grove Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Peoria County: Hollis Twp, IL | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Peoria County: Peoria, IL | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Perth Amboy Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.31 | 0.47 | 0.53 | 0.63 |
| Philadelphia-Camden County Area, PA-NJ | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | -0.21 | -0.17 | -0.22 | -0.27 |
| Philadelphia-Wilmington, PA-NJ-DE | PM _{2.5} (2006 24-hour) | Maintenance, Moderate for PA and DE Subject to Former Subpart 1 for NJ | 100 | 0 | -0.45 | -0.05 | -0.17 | -0.21 |
| Philadelphia-Wilmington-Atlantic City, PA-NJ-MD-DE | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Phoenix Area, AZ | CO (1971 8-hour) | Maintenance, Serious | 100 | 0 | -1.65 | -1.93 | -2.29 | -2.74 |
| Phoenix-Mesa, AZ | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Pierce County; Tacoma, WA | PM ₁₀ (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Pima County; Ajo planning area, AZ | PM ₁₀ (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Pima County; Rillito planning area, AZ | PM ₁₀ (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | -0.03 | -0.03 | -0.04 | -0.05 |
| Pinal and Gila Counties; Payson, AZ | PM ₁₀ (1987 24-hour) | Maintenance, Moderate | 100 | 0 | -0.01 | -0.01 | -0.02 | -0.02 |
| Pinal County (part); West Pinal, AZ | PM ₁₀ (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | -0.18 | -0.22 | -0.26 | -0.31 |
| Pitkin County; Aspen, CO | PM ₁₀ (1987 24-hour) | Maintenance, Moderate | 100 | 0 | -0.01 | -0.01 | -0.02 | -0.02 |
| Pittsburgh Area, PA | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | -0.09 | -0.10 | -0.12 | -0.15 |
| Pittsburgh-Beaver Valley, PA | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Pittsburgh-Beaver Valley, PA | PM _{2.5} (2006 24-hour) | Maintenance, Moderate | 100 | 0 | -0.81 | -0.94 | -1.12 | -1.34 |
| Plumas County, CA | PM _{2.5} (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | -0.01 |
| Polk County, TN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |

Appendix A Air Quality Non-Attainment Area Results

Table A1-17

Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Direct and Indirect Impacts

Carbon Monoxide (CO) 2018

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|-------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Portland Area: Portland Metro Service District Boundary, OR | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | -0.53 | -0.62 | -0.74 | -0.88 |
| Power-Bannock Counties; Fort Hall Indian Reservation, ID | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Power-Bannock Counties; Portneuf Valley Area, ID | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | -0.04 | -0.05 | -0.06 | -0.07 |
| Provo Area, UT | CO (1971 8-hour) | Maintenance, Moderate > 12.7ppm | 100 | 0 | -0.03 | -0.04 | -0.05 | -0.06 |
| Provo, UT | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | -0.19 | -0.22 | -0.26 | -0.31 |
| Prowers County; Lamar, CO | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | -0.01 | -0.01 | -0.01 | -0.01 |
| Raleigh-Durham Area, NC | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | -0.65 | -0.76 | -0.90 | -1.08 |
| Ramsey County; (part), MN | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Reading, PA | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Reno Area, NV | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | -0.16 | -0.18 | -0.22 | -0.26 |
| Rhinelander, WI | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | -0.02 | -0.02 | -0.02 | -0.03 |
| Riverside County (Coachella Valley), CA | Ozone (2008 8-hour) | Nonattainment, Severe 15 | 25 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Riverside County; Coachella Valley planning area, CA | PM10 (1987 24-hour) | Nonattainment, Serious | 70 | 0 | -0.26 | -0.30 | -0.36 | -0.43 |
| Riverside, Los Angeles, Orange, and San Bernardino Counties; South Coast Air Basin, CA | PM10 (1987 24-hour) | Maintenance, Serious | 100 | 0 | -3.10 | -2.42 | -3.17 | -3.80 |
| Rosebud County; Lame Deer, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | -0.01 | -0.01 | -0.01 | -0.01 |
| Routt County (part); Steamboat Springs, CO | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | -0.01 | -0.02 | -0.02 | -0.02 |
| Sacramento Area, CA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | -0.62 | -0.72 | -0.86 | -1.03 |
| Sacramento County, CA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | -0.57 | -0.67 | -0.80 | -0.95 |
| Sacramento Metro, CA | Ozone (2008 8-hour) | Nonattainment, Severe 15 | 25 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Sacramento, CA | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | -0.91 | -1.01 | -1.22 | -1.46 |
| Salem Area, OR | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | -0.11 | -0.13 | -0.16 | -0.19 |
| Salt Lake City Area, UT | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.54 | 0.82 | 0.93 | 1.11 |
| Salt Lake City, UT | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.56 | 1.04 | 1.15 | 1.36 |

Table A1-17

Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Direct and Indirect Impacts

Carbon Monoxide (CO) 2018

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|---|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Salt Lake County, UT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.18 | 0.39 | 0.42 | 0.50 |
| Salt Lake County, UT | SO ₂ (1971 24-hour/Annual) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| San Bernardino County (part); excluding Searles Valley Planning area and South Coast Air Basin, CA | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | -0.30 | -0.35 | -0.42 | -0.50 |
| San Diego Area, CA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | -1.57 | -1.83 | -2.18 | -2.60 |
| San Diego County, CA | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| San Francisco Bay Area, CA | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| San Francisco Bay Area, CA | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | -2.72 | -3.07 | -3.68 | -4.40 |
| San Francisco-Oakland-San Jose Area, CA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | -2.46 | -2.77 | -3.32 | -3.96 |
| San Joaquin Valley Air Basin; Fresno, Kern, Kings, Madera, Merced, San Joaquin, Stanislaus, Tulare Counties, CA | PM10 (1987 24-hour) | Maintenance, Serious | 100 | 0 | -1.77 | -1.99 | -2.39 | -2.85 |
| San Joaquin Valley, CA | Ozone (2008 8-hour) | Nonattainment, Extreme | 10 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| San Joaquin Valley, CA | PM2.5 (2006 24-hour) | Nonattainment, Serious | 100 | 0 | -1.77 | -1.99 | -2.38 | -2.85 |
| San Joaquin Valley, CA | PM2.5 (2012 Annual) | Nonattainment, Moderate | 100 | 0 | -1.77 | -1.99 | -2.38 | -2.85 |
| San Luis Obispo (Eastern San Luis Obispo), CA | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| San Manuel, AZ | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| San Miguel County; Telluride, CO | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | -0.01 | -0.01 | -0.01 |
| Sanders County (part); Thompson Falls and vicinity, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Santa Cruz County; Nogales planning area, AZ | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | -0.02 | -0.02 | -0.03 | -0.03 |
| Seaford, DE | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Seattle-Tacoma Area, WA | CO (1971 8-hour) | Maintenance, Moderate > 12.7ppm | 100 | 0 | -1.29 | -1.51 | -1.80 | -2.15 |
| Seattle-Tacoma, WA | PM2.5 (2006 24-hour) | Maintenance, Moderate | 100 | 0 | -0.21 | -0.25 | -0.29 | -0.35 |
| Sheboygan County, WI | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |

Appendix A Air Quality Non-Attainment Area Results

Table A1-17

Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Direct and Indirect Impacts

Carbon Monoxide (CO) 2018

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|---|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Sheridan County; City of Sheridan, WY | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | -0.01 | -0.01 | -0.02 | -0.02 |
| Shoshone County (part); excluding Pinehurst, ID | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | -0.02 | -0.02 | -0.03 | -0.03 |
| Shoshone County; City of Pinehurst, ID | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Silver Bow County; Butte, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | -0.02 | -0.02 | -0.03 | -0.03 |
| Somerville Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | -0.01 | -0.01 | -0.01 | -0.01 |
| Southwest Indiana, IN | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | -0.01 | -0.01 | -0.01 | -0.01 |
| Spokane Area, WA | CO (1971 8-hour) | Maintenance, Serious | 100 | 0 | -0.14 | -0.16 | -0.19 | -0.23 |
| Spokane County; (part), WA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | -0.14 | -0.17 | -0.20 | -0.24 |
| Springfield Area, MA | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | -0.07 | -0.09 | -0.10 | -0.12 |
| St. Bernard Parish, LA | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.25 | 0.37 | 0.42 | 0.50 |
| St. Louis Area, MO | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | -0.42 | -0.49 | -0.58 | -0.69 |
| St. Louis-St. Charles-Farmington, MO-IL | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Steubenville, OH-WV | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | -0.03 | -0.03 | -0.04 | -0.05 |
| Steubenville-Weirton, OH-WV | PM2.5 (2006 24-hour) | Maintenance, -- | 100 | 0 | -0.05 | -0.05 | -0.06 | -0.07 |
| Stockton Area, CA | CO (1971 8-hour) | Maintenance, Moderate ≤ 12.7ppm | 100 | 0 | -0.17 | -0.20 | -0.24 | -0.29 |
| Sullivan County, TN | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.69 | 1.01 | 1.16 | 1.38 |
| Syracuse Area; Onondaga County, NY | CO (1971 8-hour) | Maintenance, Moderate ≤ 12.7ppm | 100 | 0 | -0.26 | -0.30 | -0.36 | -0.42 |
| Tazewell County; Groveland Twp, IL | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Terre Haute, IN | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | -0.03 | -0.03 | -0.04 | -0.05 |

Table A1-17
Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Direct and Indirect Impacts
Carbon Monoxide (CO) 2018

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|---|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Thurston County; Cities of Olympia, Tumwater, and Lacey, WA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | -0.05 | -0.06 | -0.07 | -0.08 |
| Toms River Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Tooele County (part), UT | SO ₂ (1971 24-hour/Annual) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Trenton Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | -0.04 | -0.05 | -0.06 | -0.07 |
| Trona, CA | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Tucson Area, AZ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | -0.40 | -0.46 | -0.55 | -0.66 |
| Tuscan Buttes, CA | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Union County; LaGrande, OR | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | -0.01 | -0.01 | -0.02 | -0.02 |
| Upper Green River Basin Area, WY | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Utah County, UT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | -0.19 | -0.22 | -0.26 | -0.31 |
| Vancouver Area: Clark County (part), WA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | -0.13 | -0.15 | -0.18 | -0.21 |
| Ventura County, CA | Ozone (2008 8-hour) | Nonattainment, Serious | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Vermillion County; Part of Clinton Township, IN | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | -0.01 | -0.01 | -0.01 | -0.02 |
| Vigo County, IN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Walla Walla County; Wallula, WA | PM10 (1987 24-hour) | Maintenance, Serious | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Waltham Area, MA | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | -0.03 | -0.03 | -0.04 | -0.04 |
| Warren County: Conewago Twp, PA | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Warren County: Warren Boro, Pleasant Twp, Glade Twp, PA | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Warren, PA | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.10 | 0.15 | 0.17 | 0.21 |
| Washington Area, DC-MD-VA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | -0.31 | -0.36 | -0.43 | -0.51 |
| Washington, DC-MD-VA | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Washoe County; Reno planning area, NV | PM10 (1987 24-hour) | Nonattainment, Serious | 70 | 0 | -0.16 | -0.18 | -0.22 | -0.26 |

Appendix A Air Quality Non-Attainment Area Results

Table A1-17

Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Direct and Indirect Impacts

Carbon Monoxide (CO) 2018

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|---|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Wayne County: Boston, Center, Franklin, Wayne & Webster Townships, IN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Wayne County; (part), MI | PM ₁₀ (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.09 | 0.15 | 0.17 | 0.20 |
| West Central Pinal County, AZ | PM _{2.5} (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | -0.04 | -0.04 | -0.05 | -0.06 |
| West Silver Valley, ID | PM _{2.5} (2012 Annual) | Nonattainment, Moderate | 100 | 0 | -0.01 | -0.01 | -0.01 | -0.02 |
| Winston-Salem Area, NC | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | -0.17 | -0.20 | -0.24 | -0.29 |
| Worcester Area, MA | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | -0.10 | -0.12 | -0.14 | -0.17 |
| Yakima Area, WA | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | -0.02 | -0.02 | -0.02 | -0.03 |
| Yakima County; (part), WA | PM ₁₀ (1987 24-hour) | Maintenance, Moderate | 100 | 0 | -0.05 | -0.06 | -0.07 | -0.09 |
| Yuba City-Marysville, CA | PM _{2.5} (2006 24-hour) | Maintenance, Moderate | 100 | 0 | -0.09 | -0.10 | -0.12 | -0.15 |
| Yuma County; Yuma planning area, AZ | PM ₁₀ (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | -0.08 | -0.09 | -0.11 | -0.13 |

^a Reductions are shown as positive values. Negative values are emissions increases. Values of less than 0.005 tons per year are rounded to zero.

^b Nonattainment or maintenance status as of 5/13/2016. Source: U.S. EPA, The Green Book Nonattainment Areas for Criteria Pollutants; <http://www.epa.gov/airquality/greenbook/>. "--" indicates that no severity classification has been established for the NAAQS pollutant.

^c Emissions thresholds in tons per year. Where the threshold differs by precursor pollutant, the smallest of the precursor thresholds is shown. These thresholds are provided for information only; a general conformity determination is not required for the Proposed Action. Source: 40 CFR 93.853.

Notes: CO = carbon monoxide; NAAQS =National Ambient Air Quality Standards; NO₂ = nitrogen dioxide; PM = particulate matter; SO₂ = sulfur dioxide

Table A1-18
Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Direct and Indirect Impacts
Carbon Monoxide (CO) 2025

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Ada County; Boise, ID | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 5.59 | 8.77 | 17.63 | 21.77 |
| Adams, Denver, and Boulder Counties; Denver Metropolitan area, CO | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 25.45 | 38.86 | 81.48 | 99.60 |
| Ajo, AZ | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Albuquerque Area, NM | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 12.55 | 20.53 | 38.61 | 48.47 |
| Allegheny County Air Basin: Hazelwood monitor, PA | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Allegheny County, PA | PM2.5 (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 14.22 | 21.97 | 45.24 | 55.54 |
| Allegheny County; The area including Liberty, Lincoln, Port Vue, and Glassport Boroughs and the City of Clairton, PA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.20 | 0.32 | 0.62 | 0.78 |
| Allegheny, PA | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 1.24 | 1.94 | 3.94 | 4.85 |
| Allentown, PA | PM2.5 (2006 24-hour) | Maintenance, Moderate | 100 | 0 | 9.71 | 15.05 | 30.82 | 37.88 |
| Allentown-Bethlehem-Easton, PA | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Anchorage Area, AK | CO (1971 8-hour) | Maintenance, Serious | 100 | 0 | 1.88 | 2.94 | 5.94 | 7.33 |
| Anchorage; Eagle River, AK | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.12 | 0.20 | 0.38 | 0.47 |
| AQCR 012: Portions of Grant County, NM | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| AQCR 109-Millinocket, ME | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| AQCR 131: Anoka, Carver, Dakota, Hennepin, Ramsey, Scott, and Washington counties (Minneapolis-St. Paul), MN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| AQCR 237: Brown County: Green Bay sub-city area, WI | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| AQCR 238: Marathon County: Rothschild Sub-city area, Rib Mountain, Weston, WI | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| AQCR 238: Oneida County: Rhinelander Sub-city area, WI | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| AQCR 239: Milwaukee County: Milwaukee sub-city area, WI | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |

Appendix A Air Quality Non-Attainment Area Results

Table A1-18

Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Direct and Indirect Impacts

Carbon Monoxide (CO) 2025

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| AQCR 240: Dane County: Madison sub-city area, WI | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Archuleta County; Pagosa Springs, CO | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.40 | 0.60 | 1.27 | 1.55 |
| Armstrong County: Madison Twp, Mahoning Twp, Boggs Twp, Washington Twp, Pine Twp, PA | SO ₂ (1971 24-hour/Annual) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Aroostock County; City of Presque Isle, ME | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.24 | 0.36 | 0.76 | 0.93 |
| Atlanta, GA | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Atlantic City Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.91 | 1.39 | 2.92 | 3.57 |
| Bakersfield Area, CA | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 13.00 | 22.95 | 38.11 | 49.47 |
| Baltimore Area, MD | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.21 | 0.34 | 0.67 | 0.83 |
| Baltimore, MD | Ozone (2008 8-hour) | Nonattainment, Moderate | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Baton Rouge, LA | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Beaver, PA | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.24 | 0.37 | 0.78 | 0.96 |
| Benton County; (part) TVA Johnsonville, TN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Billings Area, MT | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 9.41 | 19.82 | 23.91 | 34.31 |
| Billings, MT | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 7.98 | 17.64 | 19.35 | 28.73 |
| Birmingham, AL | PM2.5 (2006 24-hour) | Maintenance, -- | 100 | 0 | 21.65 | 33.20 | 69.18 | 84.69 |
| Boise-Northern Ada County Area, ID | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 5.59 | 8.77 | 17.63 | 21.77 |
| Bonner County; The Sandpoint Area, ID | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.18 | 0.27 | 0.56 | 0.69 |
| Boston Area, MA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 13.01 | 20.29 | 41.19 | 50.74 |
| Boyd County (part), KY | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Brooke; Follansbee area, WV | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.01 | 0.02 | 0.04 | 0.05 |
| Burlington Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.14 | 0.22 | 0.46 | 0.56 |
| Calaveras County, CA | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Campbell-Clermont Counties, KY-OH | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.60 | 0.92 | 1.93 | 2.35 |

Table A1-18

Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Direct and Indirect Impacts
Carbon Monoxide (CO) 2025

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|---|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Canton-Massillon, OH | PM2.5 (2006 24-hour) | Maintenance, -- | 100 | 0 | 11.43 | 20.84 | 32.76 | 43.19 |
| Central New Hampshire, NH | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 3.66 | 5.60 | 11.74 | 14.34 |
| Central Steptoe Valley, NV | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Charleston, WV | PM2.5 (2006 24-hour) | Maintenance, -- | 100 | 0 | 6.18 | 9.43 | 19.78 | 24.18 |
| Charlotte Area, NC | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 21.35 | 32.60 | 68.35 | 83.55 |
| Charlotte-Rock Hill, NC-SC | Ozone (2008 8-hour) | Maintenance, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Chicago-Naperville, IL-IN-WI | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Chico (Butte County), CA | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Chico Area, CA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 1.44 | 2.20 | 4.61 | 5.63 |
| Chico, CA | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 3.27 | 4.99 | 10.46 | 12.79 |
| Cincinnati, OH-KY-IN | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Clark County; Las Vegas planning area, NV | PM10 (1987 24-hour) | Maintenance, Serious | 100 | 0 | 26.55 | 40.55 | 85.01 | 103.92 |
| Cleveland Area, OH | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 15.91 | 24.29 | 50.94 | 62.26 |
| Cleveland, OH | PM2.5 (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 20.76 | 31.70 | 66.47 | 81.25 |
| Cleveland-Akron-Lorain, OH | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Cleveland-Akron-Lorain, OH | PM2.5 (2006 24-hour) | Maintenance, -- | 100 | 0 | 45.50 | 69.47 | 145.68 | 178.07 |
| Cochise County; Paul Spur/Douglas planning area, AZ | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.69 | 1.06 | 2.22 | 2.71 |
| Colorado Springs Area, CO | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 9.66 | 15.18 | 30.47 | 37.63 |
| Columbus, OH | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Cook County; Lyons Township, IL | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 1.64 | 2.80 | 4.90 | 6.27 |
| Cook County; Southeast Chicago, IL | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 1.91 | 3.21 | 5.77 | 7.33 |
| Coshocton County; Franklin Township, OH | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Coso Junction, CA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Cuyahoga County (part), OH | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Cuyahoga County, OH | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 15.84 | 24.19 | 50.73 | 62.01 |

Appendix A Air Quality Non-Attainment Area Results

Table A1-18

**Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Direct and Indirect Impacts
Carbon Monoxide (CO) 2025**

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Dallas-Fort Worth, TX | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Delaware County, PA | PM2.5 (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 19.07 | 38.24 | 50.70 | 70.46 |
| Denver-Boulder Area, CO | CO (1971 8-hour) | Maintenance, Serious | 100 | 0 | 50.89 | 83.38 | 156.52 | 196.60 |
| Denver-Boulder-Greeley-Ft Collins-Loveland, CO | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Detroit Area, MI | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 29.86 | 47.17 | 93.85 | 116.17 |
| Detroit, MI | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 7.11 | 12.38 | 21.02 | 27.11 |
| Detroit-Ann Arbor, MI | PM2.5 (2006 24-hour) | Maintenance, -- | 100 | 0 | 86.18 | 133.20 | 274.12 | 336.57 |
| Dona Ana County; Anthony, NM | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.18 | 0.27 | 0.57 | 0.70 |
| Douglas, AZ | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Dukes County, MA | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Duluth Area, MN | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 1.86 | 2.83 | 5.94 | 7.26 |
| East Chicago Area, IN | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 21.39 | 47.11 | 52.06 | 77.09 |
| East Helena Area, MT | SO ₂ (1971 24-hour/Annual) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| East Kern County Area, CA | PM10 (1987 24-hour) | Nonattainment, Serious | 70 | 0 | 5.07 | 10.84 | 12.71 | 18.42 |
| El Paso County, TX | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 9.64 | 16.32 | 29.04 | 36.99 |
| El Paso, TX | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 2.57 | 5.43 | 6.53 | 9.37 |
| Eugene-Springfield Area, OR | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 3.79 | 5.79 | 12.13 | 14.83 |
| Fairbanks Area, AK | CO (1971 8-hour) | Maintenance, Serious | 100 | 0 | 1.09 | 2.23 | 2.84 | 4.00 |
| Fairbanks, AK | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 1.48 | 2.82 | 4.08 | 5.52 |

Table A1-18

Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Direct and Indirect Impacts
Carbon Monoxide (CO) 2025

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|---|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Flathead County; Columbia Falls and vicinity, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.03 | 0.05 | 0.10 | 0.12 |
| Flathead County; Kalispell and vicinity, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.62 | 0.94 | 1.98 | 2.42 |
| Flathead County; Whitefish and vicinity, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.08 | 0.12 | 0.25 | 0.31 |
| Fort Collins Area, CO | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 2.01 | 3.07 | 6.43 | 7.86 |
| Freehold Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.40 | 0.61 | 1.28 | 1.56 |
| Fremont County; Canon City Area, CO | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.67 | 1.02 | 2.14 | 2.62 |
| Fresno Area, CA | CO (1971 8-hour) | Maintenance, Moderate > 12.7ppm | 100 | 0 | 9.69 | 15.01 | 30.78 | 37.83 |
| Grants Pass Area, OR | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.72 | 1.10 | 2.31 | 2.82 |
| Great Falls Area, MT | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.65 | 1.44 | 1.58 | 2.35 |
| Greater Connecticut, CT | Ozone (2008 8-hour) | Nonattainment, Moderate | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Greeley Area, CO | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 7.03 | 11.10 | 22.07 | 27.33 |
| Hancock and Brooke Counties (Part); The city of Weirton, WV | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.39 | 0.74 | 1.10 | 1.48 |
| Hancock County (Part) The city of Weirton, including Butler and Clay: Magisterial Districts, WV | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Harrisburg-Lebanon-Carlisle-York, PA | PM2.5 (2006 24-hour) | Maintenance, Moderate | 100 | 0 | 21.84 | 33.55 | 69.69 | 85.38 |
| Hartford-New Britain-Middletown Area, CT | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 18.96 | 28.96 | 60.72 | 74.22 |
| Hayden, AZ | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.06 | 0.09 | 0.20 | 0.24 |
| Hayden, AZ | SO ₂ (1971 24-hour/Annual) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Hayden, AZ | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.04 | 0.07 | 0.14 | 0.17 |
| Hillsborough County, FL | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.27 | 0.42 | 0.84 | 1.04 |
| Houston-Galveston-Brazoria, TX | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Humphreys County; (part) TVA Johnsonville, TN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Imperial Co, CA | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 3.51 | 5.36 | 11.23 | 13.73 |

Appendix A Air Quality Non-Attainment Area Results

Table A1-18

Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Direct and Indirect Impacts

Carbon Monoxide (CO) 2025

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Imperial County, CA | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Imperial County, CA | PM2.5 (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 3.51 | 5.36 | 11.23 | 13.73 |
| Imperial County; Imperial Valley planning area, CA | PM10 (1987 24-hour) | Nonattainment, Serious | 70 | 0 | 4.28 | 6.54 | 13.71 | 16.76 |
| Indian Wells, CA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 5.06 | 10.82 | 12.67 | 18.37 |
| Indiana, PA | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 1.57 | 2.40 | 5.02 | 6.14 |
| Indianapolis Area, IN | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.03 | 0.04 | 0.09 | 0.11 |
| Indianapolis, IN | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 8.20 | 12.53 | 26.27 | 32.11 |
| Inyo County; Owens Valley planning area, CA | PM10 (1987 24-hour) | Nonattainment, Serious | 70 | 0 | 0.13 | 0.20 | 0.42 | 0.51 |
| Jackson County, MO | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.91 | 1.40 | 2.91 | 3.56 |
| Jackson County; Medford-Ashland (including White City), OR | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 3.13 | 4.78 | 10.02 | 12.25 |
| Jamestown, NY | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Jefferson County, KY | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Jefferson County, MO | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.88 | 1.34 | 2.81 | 3.43 |
| Jefferson County; (part) Steubenville & Mingo Junction, OH | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Jefferson County; (part), OH | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.08 | 0.13 | 0.26 | 0.32 |
| Johnstown, PA | PM2.5 (2006 24-hour) | Maintenance, Moderate | 100 | 0 | 2.10 | 3.20 | 6.72 | 8.21 |
| Josephine County; Grants Pass, OR | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.72 | 1.10 | 2.31 | 2.82 |
| Juneau; Mendenhall Valley area, AK | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.14 | 0.22 | 0.46 | 0.56 |
| Kern County (Eastern Kern), CA | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| King County; Kent, WA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.36 | 0.54 | 1.14 | 1.39 |
| King County; Seattle, WA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.15 | 0.23 | 0.49 | 0.60 |
| Klamath County; Klamath Falls, OR | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 1.12 | 1.71 | 3.59 | 4.39 |
| Klamath Falls Area, OR | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 1.11 | 1.70 | 3.56 | 4.35 |
| Klamath Falls, OR | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 1.22 | 1.86 | 3.90 | 4.76 |

Table A1-18
Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Direct and Indirect Impacts
Carbon Monoxide (CO) 2025

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Knoxville, TN | Ozone (2008 8-hour) | Maintenance, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Knoxville-Sevierville-La Follette, TN | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 16.75 | 25.57 | 53.62 | 65.55 |
| La Porte County: (part), IN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lake County (part); Lakeview, OR | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.09 | 0.14 | 0.30 | 0.37 |
| Lake County, OH | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 4.58 | 6.99 | 14.66 | 17.92 |
| Lake County: (part), IN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lake County; (part) Eastlake, Timberlake, Lakeline, Willoughby, Mentor, OH | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lake County; Cities of East Chicago, Hammond, Whiting, and Gary, IN | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 24.20 | 51.45 | 61.01 | 88.07 |
| Lake County; Polson, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.04 | 0.06 | 0.12 | 0.14 |
| Lake County; Ronan, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lake Tahoe Nevada Area, NV | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.31 | 0.47 | 0.98 | 1.20 |
| Lake Tahoe North Shore Area, CA | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.18 | 0.27 | 0.57 | 0.70 |
| Lake Tahoe South Shore Area, CA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.50 | 0.77 | 1.61 | 1.97 |
| Lancaster, PA | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lancaster, PA | PM2.5 (2006 24-hour) | Maintenance, Moderate | 100 | 0 | 8.78 | 13.41 | 28.11 | 34.36 |
| Lane County (part); Oakridge, OR | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.04 | 0.06 | 0.12 | 0.15 |
| Lane County; Eugene/Springfield, OR | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 3.79 | 5.79 | 12.13 | 14.83 |
| Las Vegas Area, NV | CO (1971 8-hour) | Maintenance, Serious | 100 | 0 | 26.48 | 40.44 | 84.79 | 103.65 |
| LaSalle County; Oglesby, IL | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.60 | 0.92 | 1.92 | 2.35 |
| Laurel Area, MT | SO ₂ (1971 24-hour/Annual) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lebanon County, PA | PM2.5 (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 3.03 | 4.62 | 9.69 | 11.84 |
| Lemont, IL | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 46.56 | 101.26 | 114.78 | 168.38 |
| Liberty-Clairton, PA | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.20 | 0.32 | 0.62 | 0.78 |

Appendix A Air Quality Non-Attainment Area Results

Table A1-18

Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Direct and Indirect Impacts

Carbon Monoxide (CO) 2025

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|---------------------------------------|--|---|---|--------|--------------------|--------|----------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Lincoln County; Libby and vicinity, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.10 | 0.16 | 0.33 | 0.40 |
| Logan, UT-ID | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 1.55 | 2.37 | 4.96 | 6.06 |
| Longmont Area, CO | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 1.26 | 1.92 | 4.03 | 4.92 |
| Lorain County (part), OH | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Los Angeles, CA | PM2.5 (2006 24-hour) | Nonattainment, Serious | 100 | 0 | 324.57 | 544.30 | 983.90 | 1,248.00 |
| Los Angeles-San Bernardino Counties (West Mojave Desert), CA | Ozone (2008 8-hour) | Nonattainment, Severe 15 | 25 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Los Angeles-South Coast Air Basin Area, CA | CO (1971 8-hour) | Maintenance, Serious | 100 | 0 | 324.74 | 544.56 | 984.46 | 1,248.68 |
| Los Angeles-South Coast Air Basin Area, CA | NO ₂ (1971 Annual) | Maintenance, -- | 100 | 0 | 324.75 | 544.57 | 984.48 | 1,248.70 |
| Los Angeles-South Coast Air Basin, CA | Ozone (2008 8-hour) | Nonattainment, Extreme | 10 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Los Angeles-South Coast Air Basin, CA | PM2.5 (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 324.32 | 543.93 | 983.13 | 1,247.04 |
| Lowell Area, MA | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 1.72 | 2.63 | 5.50 | 6.73 |
| Lucas County (part), OH | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Madison County; Granite City Township and Nameoki Township, IL | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 13.87 | 30.12 | 34.22 | 50.16 |
| Manchester Area, NH | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 1.48 | 2.26 | 4.74 | 5.80 |
| Maricopa and Pinal Counties; Phoenix planning area, AZ | PM10 (1987 24-hour) | Nonattainment, Serious | 70 | 0 | 60.99 | 93.14 | 195.30 | 238.73 |
| Marion County; Lawrence, Washington, and Warrant Townships, IN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Mariposa County, CA | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Marshall, WV | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 1.10 | 2.28 | 2.83 | 4.02 |
| Medford Area, OR | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 1.61 | 2.45 | 5.14 | 6.29 |
| Memphis Area, TN | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 19.58 | 33.07 | 59.07 | 75.16 |

Table A1-18
Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Direct and Indirect Impacts
Carbon Monoxide (CO) 2025

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|---|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Memphis, TN-MS-AR | Ozone (2008 8-hour) | Nonattainment TN & Maintenance MS/AR, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Miami, AZ | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.22 | 0.34 | 0.71 | 0.87 |
| Miami, AZ | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Miami, AZ | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.22 | 0.34 | 0.71 | 0.87 |
| Milwaukee-Racine, WI | PM2.5 (2006 24-hour) | Maintenance, -- | 100 | 0 | 20.07 | 30.66 | 64.27 | 78.57 |
| Minneapolis-St. Paul Area, MN | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 59.18 | 95.42 | 183.74 | 229.30 |
| Missoula Area, MT | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 1.88 | 3.11 | 5.74 | 7.24 |
| Missoula county; Missoula and vicinity, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 1.80 | 2.98 | 5.50 | 6.94 |
| Modesto Area, CA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 3.36 | 5.16 | 10.73 | 13.14 |
| Mohave County (part); Bullhead City, AZ | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 1.58 | 2.41 | 5.05 | 6.18 |
| Mono County; Mammoth Lake planning area, CA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.51 | 0.77 | 1.62 | 1.98 |
| Mono County; Mono Basin, CA | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.04 | 0.06 | 0.12 | 0.15 |
| Morenci, AZ | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Morgan County, IN | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.61 | 0.93 | 1.95 | 2.38 |
| Morongo Band of Mission Indians | Ozone (2008 8-hour) | Nonattainment, Serious | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Morristown Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.67 | 1.03 | 2.14 | 2.62 |
| Muscatine County; (part), IA | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Muscatine, IA | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.34 | 0.52 | 1.08 | 1.32 |
| Muskingum River, OH | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.14 | 0.21 | 0.43 | 0.53 |
| Nashua Area, NH | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 1.28 | 1.95 | 4.09 | 5.00 |
| Nassau County, FL | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.09 | 0.14 | 0.30 | 0.37 |
| Nevada County (Western part), CA | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| New Haven County, CT | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.36 | 0.55 | 1.13 | 1.39 |

Appendix A Air Quality Non-Attainment Area Results

Table A1-18

Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Direct and Indirect Impacts

Carbon Monoxide (CO) 2025

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|---------------------------------------|--|---|---|--------|--------------------|--------|----------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| New Haven-Meriden-Waterbury Area, CT | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 14.87 | 22.95 | 47.32 | 58.08 |
| New Manchester-Grant magisterial district in Hancock County, WV | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| New York County, NY | PM ₁₀ (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 9.54 | 14.56 | 30.54 | 37.33 |
| New York, NY-NJ-CT | PM _{2.5} (2006 24-hour) | Maintenance, -- | 100 | 0 | 277.11 | 430.36 | 879.13 | 1,081.31 |
| New York-N. New Jersey-Long Island Area, NY-NJ-CT | CO (1971 8-hour) | Maintenance, Moderate > 12.7ppm | 100 | 0 | 151.79 | 234.37 | 483.10 | 592.93 |
| New York-N. New Jersey-Long Island, NY-NJ-CT | Ozone (2008 8-hour) | Nonattainment, Moderate | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| NJ portion of the Northeast Pennsylvania-Upper Delaware Valley Interstate AQCR: (part), NJ | SO ₂ (1971 24-hour/Annual) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Nogales, AZ | PM _{2.5} (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.76 | 1.17 | 2.45 | 2.99 |
| Oakridge, OR | PM _{2.5} (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.04 | 0.06 | 0.12 | 0.15 |
| Ogden Area, UT | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.93 | 1.42 | 2.99 | 3.65 |
| Ogden Area, UT | PM ₁₀ (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.93 | 1.42 | 2.99 | 3.65 |
| Olmsted County; (part), MN | PM ₁₀ (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.48 | 0.73 | 1.53 | 1.87 |
| Olmsted; City of Rochester, MN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |

Table A1-18

Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Direct and Indirect Impacts
Carbon Monoxide (CO) 2025

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Pechanga Band of Luiseno Mission Indians of the Pechanga Reservation | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Pekin, IL | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.67 | 1.02 | 2.15 | 2.62 |
| Penns Grove Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Peoria County: Hollis Twp, IL | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Peoria County: Peoria, IL | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Perth Amboy Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 7.97 | 16.46 | 20.62 | 29.21 |
| Philadelphia-Camden County Area, PA-NJ | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 19.74 | 32.97 | 60.00 | 75.97 |
| Philadelphia-Wilmington, PA-NJ-DE | PM _{2.5} (2006 24-hour) | Maintenance, Moderate for PA and DE Subject to Former Subpart 1 for NJ | 100 | 0 | 99.20 | 170.54 | 295.94 | 379.50 |
| Philadelphia-Wilmington-Atlantic City, PA-NJ-MD-DE | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Phoenix Area, AZ | CO (1971 8-hour) | Maintenance, Serious | 100 | 0 | 58.41 | 89.19 | 187.03 | 228.61 |
| Phoenix-Mesa, AZ | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Pierce County; Tacoma, WA | PM ₁₀ (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.04 | 0.06 | 0.12 | 0.14 |
| Pima County; Ajo planning area, AZ | PM ₁₀ (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.01 | 0.02 | 0.04 | 0.05 |
| Pima County; Rillito planning area, AZ | PM ₁₀ (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 1.03 | 1.58 | 3.30 | 4.04 |
| Pinal and Gila Counties; Payson, AZ | PM ₁₀ (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.46 | 0.70 | 1.46 | 1.79 |
| Pinal County (part); West Pinal, AZ | PM ₁₀ (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 6.71 | 10.24 | 21.48 | 26.26 |
| Pitkin County; Aspen, CO | PM ₁₀ (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.42 | 0.64 | 1.35 | 1.65 |
| Pittsburgh Area, PA | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 3.37 | 5.22 | 10.71 | 13.16 |
| Pittsburgh-Beaver Valley, PA | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Pittsburgh-Beaver Valley, PA | PM _{2.5} (2006 24-hour) | Maintenance, Moderate | 100 | 0 | 30.32 | 46.65 | 96.70 | 118.52 |
| Plumas County, CA | PM _{2.5} (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 0.11 | 0.16 | 0.35 | 0.42 |
| Polk County, TN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |

Appendix A Air Quality Non-Attainment Area Results

Table A1-18

Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Direct and Indirect Impacts

Carbon Monoxide (CO) 2025

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|-------------------------------|--|---|---|--------|--------------------|--------|----------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Portland Area: Portland Metro Service District Boundary, OR | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 19.63 | 30.13 | 62.66 | 76.74 |
| Power-Bannock Counties; Fort Hall Indian Reservation, ID | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Power-Bannock Counties; Portneuf Valley Area, ID | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 1.52 | 2.32 | 4.87 | 5.95 |
| Provo Area, UT | CO (1971 8-hour) | Maintenance, Moderate > 12.7ppm | 100 | 0 | 1.24 | 1.91 | 3.97 | 4.86 |
| Provo, UT | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 6.66 | 10.18 | 21.31 | 26.06 |
| Prowers County; Lamar, CO | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.30 | 0.45 | 0.95 | 1.17 |
| Raleigh-Durham Area, NC | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 23.07 | 35.23 | 73.87 | 90.30 |
| Ramsey County; (part), MN | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.05 | 0.09 | 0.17 | 0.21 |
| Reading, PA | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Reno Area, NV | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 5.50 | 8.40 | 17.62 | 21.54 |
| Rhinelander, WI | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.60 | 0.91 | 1.92 | 2.34 |
| Riverside County (Coachella Valley), CA | Ozone (2008 8-hour) | Nonattainment, Severe 15 | 25 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Riverside County; Coachella Valley planning area, CA | PM10 (1987 24-hour) | Nonattainment, Serious | 70 | 0 | 8.85 | 13.51 | 28.32 | 34.62 |
| Riverside, Los Angeles, Orange, and San Bernardino Counties; South Coast Air Basin, CA | PM10 (1987 24-hour) | Maintenance, Serious | 100 | 0 | 323.46 | 542.61 | 980.37 | 1,243.68 |
| Rosebud County; Lame Deer, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.26 | 0.40 | 0.83 | 1.02 |
| Routt County (part); Steamboat Springs, CO | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.50 | 0.77 | 1.61 | 1.96 |
| Sacramento Area, CA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 22.83 | 35.09 | 72.82 | 89.23 |
| Sacramento County, CA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 20.74 | 31.74 | 66.32 | 81.14 |
| Sacramento Metro, CA | Ozone (2008 8-hour) | Nonattainment, Severe 15 | 25 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Sacramento, CA | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 42.01 | 66.33 | 132.04 | 163.43 |
| Salem Area, OR | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 4.12 | 6.29 | 13.20 | 16.13 |
| Salt Lake City Area, UT | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 13.65 | 28.38 | 35.15 | 49.97 |
| Salt Lake City, UT | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 49.60 | 91.60 | 140.79 | 186.85 |

Table A1-18
Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Direct and Indirect Impacts
Carbon Monoxide (CO) 2025

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|---|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Salt Lake County, UT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 26.64 | 48.21 | 76.72 | 100.79 |
| Salt Lake County, UT | SO ₂ (1971 24-hour/Annual) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| San Bernardino County (part); excluding Searles Valley Planning area and South Coast Air Basin, CA | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 10.24 | 15.66 | 32.76 | 40.07 |
| San Diego Area, CA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 55.93 | 85.48 | 179.03 | 218.90 |
| San Diego County, CA | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| San Francisco Bay Area, CA | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| San Francisco Bay Area, CA | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 115.66 | 180.97 | 365.38 | 450.68 |
| San Francisco-Oakland-San Jose Area, CA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 106.29 | 166.68 | 335.39 | 414.03 |
| San Joaquin Valley Air Basin; Fresno, Kern, Kings, Madera, Merced, San Joaquin, Stanislaus, Tulare Counties, CA | PM10 (1987 24-hour) | Maintenance, Serious | 100 | 0 | 78.17 | 122.81 | 246.41 | 304.40 |
| San Joaquin Valley, CA | Ozone (2008 8-hour) | Nonattainment, Extreme | 10 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| San Joaquin Valley, CA | PM2.5 (2006 24-hour) | Nonattainment, Serious | 100 | 0 | 78.15 | 122.78 | 246.35 | 304.32 |
| San Joaquin Valley, CA | PM2.5 (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 78.15 | 122.78 | 246.35 | 304.32 |
| San Luis Obispo (Eastern San Luis Obispo), CA | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| San Manuel, AZ | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| San Miguel County; Telluride, CO | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.16 | 0.25 | 0.53 | 0.64 |
| Sanders County (part); Thompson Falls and vicinity, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.01 | 0.01 |
| Santa Cruz County; Nogales planning area, AZ | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.76 | 1.17 | 2.45 | 2.99 |
| Seaford, DE | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Seattle-Tacoma Area, WA | CO (1971 8-hour) | Maintenance, Moderate > 12.7ppm | 100 | 0 | 45.89 | 70.08 | 146.95 | 179.62 |
| Seattle-Tacoma, WA | PM2.5 (2006 24-hour) | Maintenance, Moderate | 100 | 0 | 7.44 | 11.37 | 23.84 | 29.14 |
| Sheboygan County, WI | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |

Appendix A Air Quality Non-Attainment Area Results

Table A1-18

Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Direct and Indirect Impacts

Carbon Monoxide (CO) 2025

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|---|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Sheridan County; City of Sheridan, WY | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.43 | 0.65 | 1.37 | 1.67 |
| Shoshone County (part); excluding Pinehurst, ID | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.72 | 1.10 | 2.30 | 2.81 |
| Shoshone County; City of Pinehurst, ID | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Silver Bow County; Butte, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.68 | 1.04 | 2.19 | 2.67 |
| Somerville Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.30 | 0.45 | 0.95 | 1.16 |
| Southwest Indiana, IN | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.19 | 0.29 | 0.61 | 0.75 |
| Spokane Area, WA | CO (1971 8-hour) | Maintenance, Serious | 100 | 0 | 4.85 | 7.41 | 15.53 | 18.98 |
| Spokane County; (part), WA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 4.99 | 7.63 | 15.99 | 19.55 |
| Springfield Area, MA | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 2.70 | 4.12 | 8.64 | 10.57 |
| St. Bernard Parish, LA | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 4.94 | 10.71 | 12.23 | 17.89 |
| St. Louis Area, MO | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 14.69 | 22.44 | 47.04 | 57.50 |
| St. Louis-St. Charles-Farmington, MO-IL | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Steubenville, OH-WV | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 1.07 | 1.63 | 3.43 | 4.19 |
| Steubenville-Weirton, OH-WV | PM2.5 (2006 24-hour) | Maintenance, -- | 100 | 0 | 2.23 | 3.54 | 6.97 | 8.65 |
| Stockton Area, CA | CO (1971 8-hour) | Maintenance, Moderate ≤ 12.7ppm | 100 | 0 | 6.19 | 9.47 | 19.78 | 24.20 |
| Sullivan County, TN | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 12.79 | 28.02 | 31.27 | 46.13 |
| Syracuse Area; Onondaga County, NY | CO (1971 8-hour) | Maintenance, Moderate ≤ 12.7ppm | 100 | 0 | 9.06 | 13.83 | 29.00 | 35.45 |
| Tazewell County; Groveland Twp, IL | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Terre Haute, IN | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.96 | 1.46 | 3.06 | 3.74 |

Table A1-18

Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Direct and Indirect Impacts
Carbon Monoxide (CO) 2025

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|---|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Thurston County; Cities of Olympia, Tumwater, and Lacey, WA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 1.70 | 2.59 | 5.43 | 6.64 |
| Toms River Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.08 | 0.13 | 0.26 | 0.32 |
| Tooele County (part), UT | SO ₂ (1971 24-hour/Annual) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Trenton Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 1.43 | 2.19 | 4.59 | 5.61 |
| Trona, CA | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.01 | 0.02 | 0.04 | 0.05 |
| Tucson Area, AZ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 14.10 | 21.53 | 45.14 | 55.17 |
| Tuscan Buttes, CA | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Union County; LaGrande, OR | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.46 | 0.70 | 1.47 | 1.80 |
| Upper Green River Basin Area, WY | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Utah County, UT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 6.66 | 10.19 | 21.31 | 26.06 |
| Vancouver Area: Clark County (part), WA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 4.50 | 6.87 | 14.40 | 17.60 |
| Ventura County, CA | Ozone (2008 8-hour) | Nonattainment, Serious | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Vermillion County; Part of Clinton Township, IN | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.35 | 0.53 | 1.11 | 1.35 |
| Vigo County, IN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Walla Walla County; Wallula, WA | PM10 (1987 24-hour) | Maintenance, Serious | 100 | 0 | 0.07 | 0.11 | 0.23 | 0.28 |
| Waltham Area, MA | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.93 | 1.43 | 2.99 | 3.66 |
| Warren County: Conewago Twp, PA | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Warren County: Warren Boro, Pleasant Twp, Glade Twp, PA | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Warren, PA | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 2.36 | 4.96 | 6.01 | 8.61 |
| Washington Area, DC-MD-VA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 10.97 | 16.75 | 35.11 | 42.92 |
| Washington, DC-MD-VA | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Washoe County; Reno planning area, NV | PM10 (1987 24-hour) | Nonattainment, Serious | 70 | 0 | 5.46 | 8.34 | 17.49 | 21.38 |

Appendix A Air Quality Non-Attainment Area Results

Table A1-18

**Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Direct and Indirect Impacts
Carbon Monoxide (CO) 2025**

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|---|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Wayne County: Boston, Center, Franklin, Wayne & Webster Townships, IN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Wayne County; (part), MI | PM ₁₀ (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 3.42 | 6.74 | 9.21 | 12.67 |
| West Central Pinal County, AZ | PM _{2.5} (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 1.37 | 2.09 | 4.39 | 5.37 |
| West Silver Valley, ID | PM _{2.5} (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 0.36 | 0.56 | 1.17 | 1.43 |
| Winston-Salem Area, NC | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 6.16 | 9.41 | 19.72 | 24.11 |
| Worcester Area, MA | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 3.73 | 5.69 | 11.94 | 14.59 |
| Yakima Area, WA | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.65 | 0.99 | 2.09 | 2.55 |
| Yakima County; (part), WA | PM ₁₀ (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 1.90 | 2.90 | 6.08 | 7.43 |
| Yuba City-Marysville, CA | PM _{2.5} (2006 24-hour) | Maintenance, Moderate | 100 | 0 | 3.16 | 4.83 | 10.12 | 12.37 |
| Yuma County; Yuma planning area, AZ | PM ₁₀ (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 2.73 | 4.18 | 8.76 | 10.70 |

^a Reductions are shown as positive values. Negative values are emissions increases. Values of less than 0.005 tons per year are rounded to zero.

^b Nonattainment or maintenance status as of 5/13/2016. Source: U.S. EPA, The Green Book Nonattainment Areas for Criteria Pollutants; <http://www.epa.gov/airquality/greenbook/>. "--" indicates that no severity classification has been established for the NAAQS pollutant.

^c Emissions thresholds in tons per year. Where the threshold differs by precursor pollutant, the smallest of the precursor thresholds is shown. These thresholds are provided for information only; a general conformity determination is not required for the Proposed Action. Source: 40 CFR 93.853.

Notes: CO = carbon monoxide; NAAQS =National Ambient Air Quality Standards; NO₂ = nitrogen dioxide; PM = particulate matter; SO₂ = sulfur dioxide

Table A1-19
Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Direct and Indirect Impacts
Carbon Monoxide (CO) 2040

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Ada County; Boise, ID | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 19.65 | 33.40 | 53.66 | 61.35 |
| Adams, Denver, and Boulder Counties; Denver Metropolitan area, CO | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 89.72 | 146.65 | 246.83 | 278.60 |
| Ajo, AZ | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Albuquerque Area, NM | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 43.26 | 78.14 | 116.74 | 136.28 |
| Allegheny County Air Basin: Hazelwood monitor, PA | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Allegheny County, PA | PM2.5 (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 49.95 | 83.03 | 136.98 | 155.46 |
| Allegheny County; The area including Liberty, Lincoln, Port Vue, and Glassport Boroughs and the City of Clairton, PA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.54 | 0.97 | 1.45 | 1.69 |
| Allegheny, PA | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 3.35 | 5.65 | 9.17 | 10.45 |
| Allentown, PA | PM2.5 (2006 24-hour) | Maintenance, Moderate | 100 | 0 | 34.05 | 56.89 | 93.31 | 106.06 |
| Allentown-Bethlehem-Easton, PA | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Anchorage Area, AK | CO (1971 8-hour) | Maintenance, Serious | 100 | 0 | 6.40 | 10.82 | 17.49 | 19.96 |
| Anchorage; Eagle River, AK | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.41 | 0.72 | 1.10 | 1.28 |
| AQCR 012: Portions of Grant County, NM | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| AQCR 109-Millinocket, ME | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| AQCR 131: Anoka, Carver, Dakota, Hennepin, Ramsey, Scott, and Washington counties (Minneapolis-St. Paul), MN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| AQCR 237: Brown County: Green Bay sub-city area, WI | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| AQCR 238: Marathon County: Rothschild Sub-city area, Rib Mountain, Weston, WI | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| AQCR 238: Oneida County: Rhinelander Sub-city area, WI | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| AQCR 239: Milwaukee County: Milwaukee sub-city area, WI | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |

Appendix A Air Quality Non-Attainment Area Results

Table A1-19

Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Direct and Indirect Impacts

Carbon Monoxide (CO) 2040

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| AQCR 240: Dane County: Madison sub-city area, WI | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Archuleta County; Pagosa Springs, CO | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 1.39 | 2.28 | 3.84 | 4.33 |
| Armstrong County: Madison Twp, Mahoning Twp, Boggs Twp, Washington Twp, Pine Twp, PA | SO ₂ (1971 24-hour/Annual) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Aroostock County; City of Presque Isle, ME | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.93 | 1.52 | 2.56 | 2.89 |
| Atlanta, GA | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Atlantic City Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 3.19 | 5.22 | 8.78 | 9.92 |
| Bakersfield Area, CA | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 43.80 | 88.42 | 115.36 | 140.44 |
| Baltimore Area, MD | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.80 | 1.40 | 2.17 | 2.51 |
| Baltimore, MD | Ozone (2008 8-hour) | Nonattainment, Moderate | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Baton Rouge, LA | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Beaver, PA | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.91 | 1.49 | 2.50 | 2.83 |
| Benton County; (part) TVA Johnsonville, TN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Billings Area, MT | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 29.18 | 77.29 | 71.23 | 98.41 |
| Billings, MT | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 24.29 | 69.30 | 57.78 | 83.23 |
| Birmingham, AL | PM2.5 (2006 24-hour) | Maintenance, -- | 100 | 0 | 76.19 | 125.27 | 209.37 | 236.77 |
| Boise-Northern Ada County Area, ID | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 19.65 | 33.40 | 53.66 | 61.35 |
| Bonner County; The Sandpoint Area, ID | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.69 | 1.13 | 1.89 | 2.14 |
| Boston Area, MA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 46.16 | 77.70 | 126.29 | 143.92 |
| Boyd County (part), KY | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Brooke; Follansbee area, WV | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.03 | 0.05 | 0.09 | 0.10 |
| Burlington Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.41 | 0.66 | 1.12 | 1.26 |
| Calaveras County, CA | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Campbell-Clermont Counties, KY-OH | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 2.18 | 3.56 | 6.00 | 6.77 |

Table A1-19

Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Direct and Indirect Impacts
Carbon Monoxide (CO) 2040

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|---|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Canton-Massillon, OH | PM2.5 (2006 24-hour) | Maintenance, -- | 100 | 0 | 37.92 | 80.34 | 98.70 | 122.58 |
| Central New Hampshire, NH | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 12.92 | 21.11 | 35.53 | 40.11 |
| Central Steptoe Valley, NV | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Charleston, WV | PM2.5 (2006 24-hour) | Maintenance, -- | 100 | 0 | 21.77 | 35.59 | 59.90 | 67.61 |
| Charlotte Area, NC | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 75.26 | 123.01 | 207.05 | 233.69 |
| Charlotte-Rock Hill, NC-SC | Ozone (2008 8-hour) | Maintenance, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Chicago-Naperville, IL-IN-WI | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Chico (Butte County), CA | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Chico Area, CA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 5.56 | 9.09 | 15.30 | 17.27 |
| Chico, CA | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 11.58 | 18.93 | 31.85 | 35.95 |
| Cincinnati, OH-KY-IN | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Clark County; Las Vegas planning area, NV | PM10 (1987 24-hour) | Maintenance, Serious | 100 | 0 | 93.86 | 153.44 | 258.23 | 291.47 |
| Cleveland Area, OH | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 56.18 | 91.83 | 154.55 | 174.44 |
| Cleveland, OH | PM2.5 (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 73.26 | 119.75 | 201.56 | 227.50 |
| Cleveland-Akron-Lorain, OH | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Cleveland-Akron-Lorain, OH | PM2.5 (2006 24-hour) | Maintenance, -- | 100 | 0 | 160.47 | 262.30 | 441.47 | 498.29 |
| Cochise County; Paul Spur/Douglas planning area, AZ | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 2.41 | 3.94 | 6.63 | 7.48 |
| Colorado Springs Area, CO | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 33.94 | 57.77 | 92.66 | 105.98 |
| Columbus, OH | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Cook County; Lyons Township, IL | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 5.57 | 10.72 | 14.82 | 17.72 |
| Cook County; Southeast Chicago, IL | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 5.90 | 11.26 | 15.73 | 18.74 |
| Coshocton County; Franklin Township, OH | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Coso Junction, CA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Cuyahoga County (part), OH | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Cuyahoga County, OH | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 55.92 | 91.40 | 153.84 | 173.64 |

Appendix A Air Quality Non-Attainment Area Results

Table A1-19

Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Direct and Indirect Impacts

Carbon Monoxide (CO) 2040

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Dallas-Fort Worth, TX | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Delaware County, PA | PM2.5 (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 60.81 | 148.84 | 152.19 | 201.87 |
| Denver-Boulder Area, CO | CO (1971 8-hour) | Maintenance, Serious | 100 | 0 | 175.54 | 317.65 | 473.53 | 553.18 |
| Denver-Boulder-Greeley-Ft Collins-Loveland, CO | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Detroit Area, MI | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 93.76 | 161.73 | 255.37 | 293.39 |
| Detroit, MI | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 27.40 | 53.10 | 72.84 | 87.28 |
| Detroit-Ann Arbor, MI | PM2.5 (2006 24-hour) | Maintenance, -- | 100 | 0 | 302.73 | 503.52 | 830.19 | 942.32 |
| Dona Ana County; Anthony, NM | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.64 | 1.05 | 1.77 | 2.00 |
| Douglas, AZ | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Dukes County, MA | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Duluth Area, MN | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 7.30 | 11.93 | 20.08 | 22.66 |
| East Chicago Area, IN | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 65.32 | 185.16 | 155.75 | 223.51 |
| East Helena Area, MT | SO ₂ (1971 24-hour/Annual) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| East Kern County Area, CA | PM10 (1987 24-hour) | Nonattainment, Serious | 70 | 0 | 15.29 | 41.81 | 36.91 | 51.90 |
| El Paso County, TX | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 31.94 | 60.87 | 85.22 | 101.46 |
| El Paso, TX | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 7.81 | 20.90 | 18.99 | 26.39 |
| Eugene-Springfield Area, OR | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 13.85 | 22.63 | 38.09 | 42.99 |
| Fairbanks Area, AK | CO (1971 8-hour) | Maintenance, Serious | 100 | 0 | 3.30 | 8.46 | 8.13 | 11.05 |
| Fairbanks, AK | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 4.74 | 10.81 | 12.10 | 15.53 |

Table A1-19
Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Direct and Indirect Impacts
Carbon Monoxide (CO) 2040

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|---|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Flathead County; Columbia Falls and vicinity, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.09 | 0.15 | 0.24 | 0.28 |
| Flathead County; Kalispell and vicinity, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 2.22 | 3.63 | 6.11 | 6.89 |
| Flathead County; Whitefish and vicinity, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.25 | 0.41 | 0.70 | 0.79 |
| Fort Collins Area, CO | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 6.99 | 11.42 | 19.22 | 21.70 |
| Freehold Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 1.59 | 2.61 | 4.39 | 4.95 |
| Fremont County; Canon City Area, CO | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 2.36 | 3.85 | 6.48 | 7.32 |
| Fresno Area, CA | CO (1971 8-hour) | Maintenance, Moderate > 12.7ppm | 100 | 0 | 33.53 | 55.96 | 91.89 | 104.42 |
| Grants Pass Area, OR | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 2.72 | 4.45 | 7.49 | 8.45 |
| Great Falls Area, MT | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 1.99 | 5.67 | 4.73 | 6.81 |
| Greater Connecticut, CT | Ozone (2008 8-hour) | Nonattainment, Moderate | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Greeley Area, CO | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 24.50 | 42.09 | 66.79 | 76.62 |
| Hancock and Brooke Counties (Part); The city of Weirton, WV | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 1.24 | 2.77 | 3.17 | 4.04 |
| Hancock County (Part) The city of Weirton, including Butler and Clay: Magisterial Districts, WV | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Harrisburg-Lebanon-Carlisle-York, PA | PM2.5 (2006 24-hour) | Maintenance, Moderate | 100 | 0 | 76.84 | 126.70 | 211.05 | 238.88 |
| Hartford-New Britain-Middletown Area, CT | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 66.99 | 109.50 | 184.30 | 208.02 |
| Hayden, AZ | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.15 | 0.24 | 0.41 | 0.46 |
| Hayden, AZ | SO ₂ (1971 24-hour/Annual) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Hayden, AZ | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.14 | 0.22 | 0.38 | 0.42 |
| Hillsborough County, FL | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.99 | 1.69 | 2.69 | 3.09 |
| Houston-Galveston-Brazoria, TX | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Humphreys County; (part) TVA Johnsonville, TN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Imperial Co, CA | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 12.51 | 20.45 | 34.41 | 38.84 |

Appendix A Air Quality Non-Attainment Area Results

Table A1-19

Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Direct and Indirect Impacts

Carbon Monoxide (CO) 2040

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Imperial County, CA | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Imperial County, CA | PM2.5 (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 12.51 | 20.45 | 34.41 | 38.84 |
| Imperial County; Imperial Valley planning area, CA | PM10 (1987 24-hour) | Nonattainment, Serious | 70 | 0 | 15.17 | 24.79 | 41.73 | 47.10 |
| Indian Wells, CA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 15.19 | 41.65 | 36.65 | 51.60 |
| Indiana, PA | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 5.54 | 9.05 | 15.23 | 17.19 |
| Indianapolis Area, IN | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.08 | 0.13 | 0.23 | 0.25 |
| Indianapolis, IN | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 27.89 | 45.59 | 76.74 | 86.61 |
| Inyo County; Owens Valley planning area, CA | PM10 (1987 24-hour) | Nonattainment, Serious | 70 | 0 | 0.48 | 0.78 | 1.32 | 1.49 |
| Jackson County, MO | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 3.25 | 5.36 | 8.93 | 10.10 |
| Jackson County; Medford-Ashland (including White City), OR | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 11.42 | 18.67 | 31.43 | 35.48 |
| Jamestown, NY | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Jefferson County, KY | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Jefferson County, MO | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 3.11 | 5.08 | 8.55 | 9.65 |
| Jefferson County; (part) Steubenville & Mingo Junction, OH | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Jefferson County; (part), OH | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.27 | 0.44 | 0.74 | 0.83 |
| Johnstown, PA | PM2.5 (2006 24-hour) | Maintenance, Moderate | 100 | 0 | 7.34 | 12.00 | 20.19 | 22.79 |
| Josephine County; Grants Pass, OR | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 2.72 | 4.45 | 7.49 | 8.45 |
| Juneau; Mendenhall Valley area, AK | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.51 | 0.84 | 1.42 | 1.60 |
| Kern County (Eastern Kern), CA | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| King County; Kent, WA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 1.40 | 2.30 | 3.86 | 4.36 |
| King County; Seattle, WA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.49 | 0.80 | 1.35 | 1.53 |
| Klamath County; Klamath Falls, OR | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 4.71 | 7.70 | 12.97 | 14.63 |
| Klamath Falls Area, OR | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 4.70 | 7.68 | 12.92 | 14.58 |
| Klamath Falls, OR | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 5.07 | 8.29 | 13.95 | 15.74 |

Table A1-19

Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Direct and Indirect Impacts
Carbon Monoxide (CO) 2040

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Knoxville, TN | Ozone (2008 8-hour) | Maintenance, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Knoxville-Sevierville-La Follette, TN | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 59.02 | 96.47 | 162.37 | 183.26 |
| La Porte County: (part), IN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lake County (part); Lakeview, OR | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.41 | 0.68 | 1.14 | 1.29 |
| Lake County, OH | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 16.14 | 26.37 | 44.39 | 50.10 |
| Lake County: (part), IN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lake County; (part) Eastlake, Timberlake, Lakeline, Willoughby, Mentor, OH | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lake County; Cities of East Chicago, Hammond, Whiting, and Gary, IN | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 73.79 | 199.20 | 178.99 | 249.86 |
| Lake County; Polson, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.12 | 0.20 | 0.33 | 0.37 |
| Lake County; Ronan, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lake Tahoe Nevada Area, NV | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.93 | 1.52 | 2.55 | 2.88 |
| Lake Tahoe North Shore Area, CA | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.52 | 0.85 | 1.42 | 1.61 |
| Lake Tahoe South Shore Area, CA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 1.37 | 2.23 | 3.76 | 4.24 |
| Lancaster, PA | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lancaster, PA | PM2.5 (2006 24-hour) | Maintenance, Moderate | 100 | 0 | 30.95 | 50.61 | 85.13 | 96.10 |
| Lane County (part); Oakridge, OR | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.09 | 0.15 | 0.25 | 0.28 |
| Lane County; Eugene/Springfield, OR | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 13.85 | 22.63 | 38.09 | 42.99 |
| Las Vegas Area, NV | CO (1971 8-hour) | Maintenance, Serious | 100 | 0 | 93.61 | 153.02 | 257.52 | 290.67 |
| LaSalle County; Oglesby, IL | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 2.16 | 3.53 | 5.94 | 6.70 |
| Laurel Area, MT | SO ₂ (1971 24-hour/Annual) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lebanon County, PA | PM2.5 (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 10.66 | 17.43 | 29.34 | 33.11 |
| Lemont, IL | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 143.12 | 397.58 | 343.75 | 487.59 |
| Liberty-Clairton, PA | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.54 | 0.97 | 1.45 | 1.69 |

Appendix A Air Quality Non-Attainment Area Results

Table A1-19

Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Direct and Indirect Impacts

Carbon Monoxide (CO) 2040

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|---------------------------------------|--|---|---|----------|--------------------|----------|----------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Lincoln County; Libby and vicinity, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.31 | 0.50 | 0.84 | 0.95 |
| Logan, UT-ID | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 5.48 | 8.96 | 15.07 | 17.01 |
| Longmont Area, CO | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 4.57 | 7.46 | 12.56 | 14.18 |
| Lorain County (part), OH | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Los Angeles, CA | PM2.5 (2006 24-hour) | Nonattainment, Serious | 100 | 0 | 1,113.30 | 2,083.83 | 2,982.15 | 3,526.67 |
| Los Angeles-San Bernardino Counties (West Mojave Desert), CA | Ozone (2008 8-hour) | Nonattainment, Severe 15 | 25 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Los Angeles-South Coast Air Basin Area, CA | CO (1971 8-hour) | Maintenance, Serious | 100 | 0 | 1,113.75 | 2,084.55 | 2,983.37 | 3,528.04 |
| Los Angeles-South Coast Air Basin Area, CA | NO ₂ (1971 Annual) | Maintenance, -- | 100 | 0 | 1,113.80 | 2,084.64 | 2,983.51 | 3,528.20 |
| Los Angeles-South Coast Air Basin, CA | Ozone (2008 8-hour) | Nonattainment, Extreme | 10 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Los Angeles-South Coast Air Basin, CA | PM2.5 (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 1,112.01 | 2,081.72 | 2,978.60 | 3,522.66 |
| Lowell Area, MA | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 6.24 | 10.20 | 17.16 | 19.37 |
| Lucas County (part), OH | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Madison County; Granite City Township and Nameoki Township, IL | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 42.38 | 117.77 | 101.77 | 144.39 |
| Manchester Area, NH | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 5.00 | 8.17 | 13.75 | 15.51 |
| Maricopa and Pinal Counties; Phoenix planning area, AZ | PM10 (1987 24-hour) | Nonattainment, Serious | 70 | 0 | 214.84 | 351.17 | 591.06 | 667.12 |
| Marion County; Lawrence, Washington, and Warrant Townships, IN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Mariposa County, CA | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Marshall, WV | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 3.47 | 8.96 | 8.56 | 11.65 |
| Medford Area, OR | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 6.00 | 9.81 | 16.51 | 18.63 |
| Memphis Area, TN | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 66.77 | 126.37 | 178.44 | 211.88 |

Table A1-19
Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Direct and Indirect Impacts
Carbon Monoxide (CO) 2040

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|---|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Memphis, TN-MS-AR | Ozone (2008 8-hour) | Nonattainment TN & Maintenance MS/AR, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Miami, AZ | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.53 | 0.87 | 1.46 | 1.65 |
| Miami, AZ | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Miami, AZ | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.53 | 0.87 | 1.46 | 1.65 |
| Milwaukee-Racine, WI | PM2.5 (2006 24-hour) | Maintenance, -- | 100 | 0 | 70.80 | 115.75 | 194.78 | 219.85 |
| Minneapolis-St. Paul Area, MN | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 205.31 | 362.99 | 556.45 | 644.75 |
| Missoula Area, MT | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 6.48 | 11.91 | 17.41 | 20.46 |
| Missoula county; Missoula and vicinity, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 6.18 | 11.37 | 16.63 | 19.54 |
| Modesto Area, CA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 11.01 | 18.16 | 30.23 | 34.22 |
| Mohave County (part); Bullhead City, AZ | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 5.90 | 9.65 | 16.23 | 18.32 |
| Mono County; Mammoth Lake planning area, CA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 2.08 | 3.40 | 5.73 | 6.47 |
| Mono County; Mono Basin, CA | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.01 | 0.01 | 0.02 | 0.03 |
| Morenci, AZ | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Morgan County, IN | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 2.01 | 3.28 | 5.52 | 6.23 |
| Morongo Band of Mission Indians | Ozone (2008 8-hour) | Nonattainment, Serious | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Morristown Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 2.50 | 4.12 | 6.88 | 7.78 |
| Muscatine County; (part), IA | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Muscatine, IA | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 1.24 | 2.03 | 3.42 | 3.86 |
| Muskingum River, OH | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.52 | 0.85 | 1.43 | 1.61 |
| Nashua Area, NH | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 4.64 | 7.59 | 12.77 | 14.42 |
| Nassau County, FL | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.24 | 0.40 | 0.67 | 0.75 |
| Nevada County (Western part), CA | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| New Haven County, CT | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 1.16 | 1.92 | 3.17 | 3.60 |

Appendix A Air Quality Non-Attainment Area Results

Table A1-19

Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Direct and Indirect Impacts

Carbon Monoxide (CO) 2040

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|---------------------------------------|--|---|---|--------|--------------------|----------|----------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| New Haven-Meriden-Waterbury Area, CT | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 52.20 | 86.68 | 143.20 | 162.45 |
| New Manchester-Grant magisterial district in Hancock County, WV | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| New York County, NY | PM ₁₀ (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 33.62 | 54.96 | 92.50 | 104.40 |
| New York, NY-NJ-CT | PM _{2.5} (2006 24-hour) | Maintenance, -- | 100 | 0 | 972.07 | 1,627.94 | 2,662.35 | 3,028.74 |
| New York-N. New Jersey-Long Island Area, NY-NJ-CT | CO (1971 8-hour) | Maintenance, Moderate > 12.7ppm | 100 | 0 | 534.19 | 887.15 | 1,465.36 | 1,662.45 |
| New York-N. New Jersey-Long Island, NY-NJ-CT | Ozone (2008 8-hour) | Nonattainment, Moderate | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| NJ portion of the Northeast Pennsylvania-Upper Delaware Valley Interstate AQCR: (part), NJ | SO ₂ (1971 24-hour/Annual) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Nogales, AZ | PM _{2.5} (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 2.82 | 4.61 | 7.75 | 8.75 |
| Oakridge, OR | PM _{2.5} (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.09 | 0.15 | 0.25 | 0.28 |
| Ogden Area, UT | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 3.23 | 5.29 | 8.90 | 10.04 |
| Ogden Area, UT | PM ₁₀ (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 3.23 | 5.29 | 8.90 | 10.04 |
| Olmsted County; (part), MN | PM ₁₀ (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 1.53 | 2.51 | 4.22 | 4.76 |
| Olmsted; City of Rochester, MN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |

Table A1-19
Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Direct and Indirect Impacts
Carbon Monoxide (CO) 2040

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|---------------------------------------|--|---|---|--------|--------------------|--------|----------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Pechanga Band of Luiseno Mission Indians of the Pechanga Reservation | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Pekin, IL | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 2.41 | 3.94 | 6.62 | 7.48 |
| Penns Grove Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Peoria County: Hollis Twp, IL | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Peoria County: Peoria, IL | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Perth Amboy Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 25.94 | 65.72 | 64.25 | 86.71 |
| Philadelphia-Camden County Area, PA-NJ | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 67.60 | 125.81 | 181.29 | 213.94 |
| Philadelphia-Wilmington, PA-NJ-DE | PM _{2.5} (2006 24-hour) | Maintenance, Moderate for PA and DE Subject to Former Subpart 1 for NJ | 100 | 0 | 336.24 | 653.04 | 893.44 | 1,071.38 |
| Philadelphia-Wilmington-Atlantic City, PA-NJ-MD-DE | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Phoenix Area, AZ | CO (1971 8-hour) | Maintenance, Serious | 100 | 0 | 205.42 | 335.77 | 565.14 | 637.87 |
| Phoenix-Mesa, AZ | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Pierce County; Tacoma, WA | PM ₁₀ (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.10 | 0.16 | 0.28 | 0.31 |
| Pima County; Ajo planning area, AZ | PM ₁₀ (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Pima County; Rillito planning area, AZ | PM ₁₀ (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 3.92 | 6.41 | 10.80 | 12.19 |
| Pinal and Gila Counties; Payson, AZ | PM ₁₀ (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 1.87 | 3.06 | 5.15 | 5.82 |
| Pinal County (part); West Pinal, AZ | PM ₁₀ (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 24.38 | 39.86 | 67.08 | 75.71 |
| Pitkin County; Aspen, CO | PM ₁₀ (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 1.49 | 2.43 | 4.09 | 4.62 |
| Pittsburgh Area, PA | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 10.85 | 18.10 | 29.74 | 33.79 |
| Pittsburgh-Beaver Valley, PA | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Pittsburgh-Beaver Valley, PA | PM _{2.5} (2006 24-hour) | Maintenance, Moderate | 100 | 0 | 106.75 | 176.37 | 293.10 | 331.96 |
| Plumas County, CA | PM _{2.5} (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Polk County, TN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |

Appendix A Air Quality Non-Attainment Area Results

Table A1-19

Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Direct and Indirect Impacts

Carbon Monoxide (CO) 2040

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|-------------------------------|--|---|---|----------|--------------------|----------|----------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Portland Area: Portland Metro Service District Boundary, OR | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 69.43 | 114.36 | 190.73 | 215.81 |
| Power-Bannock Counties; Fort Hall Indian Reservation, ID | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Power-Bannock Counties; Portneuf Valley Area, ID | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 5.55 | 9.08 | 15.28 | 17.25 |
| Provo Area, UT | CO (1971 8-hour) | Maintenance, Moderate > 12.7ppm | 100 | 0 | 4.20 | 6.94 | 11.52 | 13.06 |
| Provo, UT | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 23.47 | 38.45 | 64.55 | 72.90 |
| Prowers County; Lamar, CO | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Raleigh-Durham Area, NC | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 81.32 | 132.93 | 223.74 | 252.53 |
| Ramsey County; (part), MN | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.18 | 0.32 | 0.49 | 0.57 |
| Reading, PA | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Reno Area, NV | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 18.91 | 30.91 | 52.02 | 58.71 |
| Rhinelander, WI | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 2.48 | 4.05 | 6.82 | 7.70 |
| Riverside County (Coachella Valley), CA | Ozone (2008 8-hour) | Nonattainment, Severe 15 | 25 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Riverside County; Coachella Valley planning area, CA | PM10 (1987 24-hour) | Nonattainment, Serious | 70 | 0 | 29.97 | 48.99 | 82.46 | 93.07 |
| Riverside, Los Angeles, Orange, and San Bernardino Counties; South Coast Air Basin, CA | PM10 (1987 24-hour) | Maintenance, Serious | 100 | 0 | 1,109.52 | 2,077.65 | 2,971.74 | 3,514.93 |
| Rosebud County; Lame Deer, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 1.68 | 2.75 | 4.63 | 5.22 |
| Routt County (part); Steamboat Springs, CO | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 1.77 | 2.89 | 4.87 | 5.49 |
| Sacramento Area, CA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 77.87 | 128.56 | 213.83 | 242.13 |
| Sacramento County, CA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 73.06 | 119.81 | 200.86 | 226.95 |
| Sacramento Metro, CA | Ozone (2008 8-hour) | Nonattainment, Severe 15 | 25 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Sacramento, CA | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 147.33 | 252.64 | 401.72 | 460.61 |
| Salem Area, OR | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 14.93 | 24.40 | 41.06 | 46.35 |
| Salt Lake City Area, UT | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 42.21 | 109.87 | 103.65 | 141.86 |
| Salt Lake City, UT | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 163.89 | 353.93 | 424.58 | 531.59 |

Table A1-19

Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Direct and Indirect Impacts

Carbon Monoxide (CO) 2040

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|---|---------------------------------------|--|---|---|--------|--------------------|----------|----------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Salt Lake County, UT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 88.58 | 185.66 | 231.22 | 285.85 |
| Salt Lake County, UT | SO ₂ (1971 24-hour/Annual) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| San Bernardino County (part); excluding Searles Valley Planning area and South Coast Air Basin, CA | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 32.92 | 53.91 | 90.53 | 102.24 |
| San Diego Area, CA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 197.25 | 322.77 | 542.55 | 612.58 |
| San Diego County, CA | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| San Francisco Bay Area, CA | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| San Francisco Bay Area, CA | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 405.16 | 685.91 | 1,107.42 | 1,264.34 |
| San Francisco-Oakland-San Jose Area, CA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 371.87 | 631.50 | 1,015.84 | 1,160.97 |
| San Joaquin Valley Air Basin; Fresno, Kern, Kings, Madera, Merced, San Joaquin, Stanislaus, Tulare Counties, CA | PM10 (1987 24-hour) | Maintenance, Serious | 100 | 0 | 274.60 | 467.49 | 749.76 | 857.59 |
| San Joaquin Valley, CA | Ozone (2008 8-hour) | Nonattainment, Extreme | 10 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| San Joaquin Valley, CA | PM2.5 (2006 24-hour) | Nonattainment, Serious | 100 | 0 | 274.55 | 467.41 | 749.63 | 857.44 |
| San Joaquin Valley, CA | PM2.5 (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 274.55 | 467.41 | 749.63 | 857.44 |
| San Luis Obispo (Eastern San Luis Obispo), CA | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| San Manuel, AZ | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| San Miguel County; Telluride, CO | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.58 | 0.95 | 1.59 | 1.80 |
| Sanders County (part); Thompson Falls and vicinity, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Santa Cruz County; Nogales planning area, AZ | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 2.82 | 4.61 | 7.75 | 8.75 |
| Seaford, DE | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Seattle-Tacoma Area, WA | CO (1971 8-hour) | Maintenance, Moderate > 12.7ppm | 100 | 0 | 161.60 | 264.14 | 444.57 | 501.79 |
| Seattle-Tacoma, WA | PM2.5 (2006 24-hour) | Maintenance, Moderate | 100 | 0 | 25.86 | 42.26 | 71.13 | 80.28 |
| Sheboygan County, WI | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |

Appendix A Air Quality Non-Attainment Area Results

Table A1-19

Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Direct and Indirect Impacts

Carbon Monoxide (CO) 2040

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|---|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Sheridan County; City of Sheridan, WY | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 1.54 | 2.51 | 4.23 | 4.77 |
| Shoshone County (part); excluding Pinehurst, ID | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 2.53 | 4.14 | 6.96 | 7.86 |
| Shoshone County; City of Pinehurst, ID | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Silver Bow County; Butte, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 2.47 | 4.03 | 6.79 | 7.66 |
| Somerville Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.96 | 1.57 | 2.65 | 2.99 |
| Southwest Indiana, IN | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.70 | 1.14 | 1.92 | 2.16 |
| Spokane Area, WA | CO (1971 8-hour) | Maintenance, Serious | 100 | 0 | 16.79 | 27.44 | 46.18 | 52.12 |
| Spokane County; (part), WA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 17.30 | 28.28 | 47.61 | 53.73 |
| Springfield Area, MA | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 9.91 | 16.20 | 27.27 | 30.78 |
| St. Bernard Parish, LA | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 15.19 | 41.99 | 36.56 | 51.71 |
| St. Louis Area, MO | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 50.66 | 82.83 | 139.36 | 157.31 |
| St. Louis-St. Charles-Farmington, MO-IL | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Steubenville, OH-WV | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 3.92 | 6.41 | 10.78 | 12.17 |
| Steubenville-Weirton, OH-WV | PM2.5 (2006 24-hour) | Maintenance, -- | 100 | 0 | 7.75 | 13.41 | 21.08 | 24.25 |
| Stockton Area, CA | CO (1971 8-hour) | Maintenance, Moderate ≤ 12.7ppm | 100 | 0 | 21.11 | 34.64 | 58.03 | 65.58 |
| Sullivan County, TN | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 38.88 | 109.68 | 92.87 | 132.90 |
| Syracuse Area; Onondaga County, NY | CO (1971 8-hour) | Maintenance, Moderate ≤ 12.7ppm | 100 | 0 | 31.92 | 52.18 | 87.83 | 99.13 |
| Tazewell County; Groveland Twp, IL | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Terre Haute, IN | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 2.60 | 4.25 | 7.16 | 8.08 |

Table A1-19
Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Direct and Indirect Impacts
Carbon Monoxide (CO) 2040

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|---|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Thurston County; Cities of Olympia, Tumwater, and Lacey, WA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 5.82 | 9.51 | 16.00 | 18.06 |
| Toms River Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.30 | 0.49 | 0.82 | 0.92 |
| Tooele County (part), UT | SO ₂ (1971 24-hour/Annual) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Trenton Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 5.18 | 8.48 | 14.26 | 16.10 |
| Trona, CA | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Tucson Area, AZ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 49.79 | 81.39 | 136.98 | 154.61 |
| Tuscan Buttes, CA | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Union County; LaGrande, OR | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 2.05 | 3.34 | 5.63 | 6.35 |
| Upper Green River Basin Area, WY | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Utah County, UT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 23.47 | 38.45 | 64.55 | 72.90 |
| Vancouver Area: Clark County (part), WA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 15.82 | 25.86 | 43.53 | 49.13 |
| Ventura County, CA | Ozone (2008 8-hour) | Nonattainment, Serious | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Vermillion County; Part of Clinton Township, IN | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 2.37 | 3.88 | 6.52 | 7.36 |
| Vigo County, IN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Walla Walla County; Wallula, WA | PM10 (1987 24-hour) | Maintenance, Serious | 100 | 0 | 0.24 | 0.39 | 0.65 | 0.73 |
| Waltham Area, MA | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 3.26 | 5.32 | 8.96 | 10.11 |
| Warren County: Conewago Twp, PA | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Warren County: Warren Boro, Pleasant Twp, Glade Twp, PA | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Warren, PA | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 7.27 | 19.23 | 17.77 | 24.52 |
| Washington Area, DC-MD-VA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 38.66 | 63.19 | 106.35 | 120.04 |
| Washington, DC-MD-VA | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Washoe County; Reno planning area, NV | PM10 (1987 24-hour) | Nonattainment, Serious | 70 | 0 | 18.73 | 30.61 | 51.52 | 58.15 |

Appendix A Air Quality Non-Attainment Area Results

Table A1-19

Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Direct and Indirect Impacts

Carbon Monoxide (CO) 2040

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|---|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Wayne County: Boston, Center, Franklin, Wayne & Webster Townships, IN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Wayne County; (part), MI | PM ₁₀ (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 12.08 | 28.01 | 30.72 | 39.70 |
| West Central Pinal County, AZ | PM _{2.5} (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 5.09 | 8.33 | 14.01 | 15.82 |
| West Silver Valley, ID | PM _{2.5} (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 1.39 | 2.27 | 3.82 | 4.31 |
| Winston-Salem Area, NC | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 21.67 | 35.43 | 59.63 | 67.30 |
| Worcester Area, MA | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 13.80 | 22.56 | 37.97 | 42.86 |
| Yakima Area, WA | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 2.49 | 4.06 | 6.84 | 7.72 |
| Yakima County; (part), WA | PM ₁₀ (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 6.74 | 11.01 | 18.53 | 20.92 |
| Yuba City-Marysville, CA | PM _{2.5} (2006 24-hour) | Maintenance, Moderate | 100 | 0 | 11.19 | 18.30 | 30.80 | 34.76 |
| Yuma County; Yuma planning area, AZ | PM ₁₀ (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 9.55 | 15.61 | 26.27 | 29.65 |

^a Reductions are shown as positive values. Negative values are emissions increases. Values of less than 0.005 tons per year are rounded to zero.

^b Nonattainment or maintenance status as of 5/13/2016. Source: U.S. EPA, The Green Book Nonattainment Areas for Criteria Pollutants; <http://www.epa.gov/airquality/greenbook/>. "--" indicates that no severity classification has been established for the NAAQS pollutant.

^c Emissions thresholds in tons per year. Where the threshold differs by precursor pollutant, the smallest of the precursor thresholds is shown. These thresholds are provided for information only; a general conformity determination is not required for the Proposed Action. Source: 40 CFR 93.853.

Notes: CO = carbon monoxide; NAAQS =National Ambient Air Quality Standards; NO₂ = nitrogen dioxide; PM = particulate matter; SO₂ = sulfur dioxide

Table A1-20
Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Direct and Indirect Impacts
Carbon Monoxide (CO) 2050

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Ada County; Boise, ID | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 23.65 | 40.55 | 63.99 | 72.77 |
| Adams, Denver, and Boulder Counties; Denver Metropolitan area, CO | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 107.90 | 177.81 | 293.88 | 329.88 |
| Ajo, AZ | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Albuquerque Area, NM | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 51.81 | 94.51 | 138.72 | 161.13 |
| Allegheny County Air Basin: Hazelwood monitor, PA | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Allegheny County, PA | PM2.5 (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 60.02 | 100.62 | 163.03 | 184.01 |
| Allegheny County; The area including Liberty, Lincoln, Port Vue, and Glassport Boroughs and the City of Clairton, PA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.50 | 0.94 | 1.34 | 1.57 |
| Allegheny, PA | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 3.12 | 5.32 | 8.45 | 9.59 |
| Allentown, PA | PM2.5 (2006 24-hour) | Maintenance, Moderate | 100 | 0 | 40.91 | 68.94 | 111.04 | 125.54 |
| Allentown-Bethlehem-Easton, PA | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Anchorage Area, AK | CO (1971 8-hour) | Maintenance, Serious | 100 | 0 | 7.57 | 12.91 | 20.49 | 23.26 |
| Anchorage; Eagle River, AK | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.48 | 0.86 | 1.28 | 1.48 |
| AQCR 012: Portions of Grant County, NM | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| AQCR 109-Millinocket, ME | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| AQCR 131: Anoka, Carver, Dakota, Hennepin, Ramsey, Scott, and Washington counties (Minneapolis-St. Paul), MN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| AQCR 237: Brown County: Green Bay sub-city area, WI | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| AQCR 238: Marathon County: Rothschild Sub-city area, Rib Mountain, Weston, WI | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| AQCR 238: Oneida County: Rhinelander Sub-city area, WI | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| AQCR 239: Milwaukee County: Milwaukee sub-city area, WI | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |

Appendix A Air Quality Non-Attainment Area Results

Table A1-20

Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Direct and Indirect Impacts

Carbon Monoxide (CO) 2050

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| AQCR 240: Dane County: Madison sub-city area, WI | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Archuleta County; Pagosa Springs, CO | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 1.68 | 2.76 | 4.57 | 5.13 |
| Armstrong County: Madison Twp, Mahoning Twp, Boggs Twp, Washington Twp, Pine Twp, PA | SO ₂ (1971 24-hour/Annual) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Aroostock County; City of Presque Isle, ME | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 1.22 | 2.01 | 3.33 | 3.74 |
| Atlanta, GA | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Atlantic City Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 3.82 | 6.30 | 10.41 | 11.69 |
| Bakersfield Area, CA | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 52.29 | 106.84 | 137.00 | 166.03 |
| Baltimore Area, MD | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 1.00 | 1.78 | 2.70 | 3.10 |
| Baltimore, MD | Ozone (2008 8-hour) | Nonattainment, Moderate | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Baton Rouge, LA | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Beaver, PA | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 1.14 | 1.88 | 3.11 | 3.49 |
| Benton County; (part) TVA Johnsonville, TN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Billings Area, MT | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 34.20 | 92.71 | 83.59 | 115.39 |
| Billings, MT | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 28.39 | 83.15 | 67.79 | 97.65 |
| Birmingham, AL | PM2.5 (2006 24-hour) | Maintenance, -- | 100 | 0 | 91.54 | 151.76 | 249.08 | 280.13 |
| Boise-Northern Ada County Area, ID | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 23.65 | 40.55 | 63.99 | 72.77 |
| Bonner County; The Sandpoint Area, ID | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.88 | 1.45 | 2.40 | 2.70 |
| Boston Area, MA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 55.86 | 94.83 | 151.42 | 171.61 |
| Boyd County (part), KY | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Brooke; Follansbee area, WV | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.03 | 0.05 | 0.08 | 0.08 |
| Burlington Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.40 | 0.66 | 1.09 | 1.22 |
| Calaveras County, CA | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Campbell-Clermont Counties, KY-OH | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 2.66 | 4.39 | 7.25 | 8.14 |

Table A1-20

Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Direct and Indirect Impacts
Carbon Monoxide (CO) 2050

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|---|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Canton-Massillon, OH | PM2.5 (2006 24-hour) | Maintenance, -- | 100 | 0 | 45.09 | 96.86 | 116.89 | 144.58 |
| Central New Hampshire, NH | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 15.53 | 25.59 | 42.30 | 47.48 |
| Central Steptoe Valley, NV | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Charleston, WV | PM2.5 (2006 24-hour) | Maintenance, -- | 100 | 0 | 26.18 | 43.15 | 71.31 | 80.05 |
| Charlotte Area, NC | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 90.50 | 149.14 | 246.51 | 276.70 |
| Charlotte-Rock Hill, NC-SC | Ozone (2008 8-hour) | Maintenance, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Chicago-Naperville, IL-IN-WI | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Chico (Butte County), CA | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Chico Area, CA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 7.07 | 11.65 | 19.26 | 21.62 |
| Chico, CA | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 13.97 | 23.02 | 38.05 | 42.71 |
| Cincinnati, OH-KY-IN | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Clark County; Las Vegas planning area, NV | PM10 (1987 24-hour) | Maintenance, Serious | 100 | 0 | 113.02 | 186.27 | 307.83 | 345.54 |
| Cleveland Area, OH | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 67.65 | 111.49 | 184.27 | 206.84 |
| Cleveland, OH | PM2.5 (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 88.18 | 145.31 | 240.18 | 269.59 |
| Cleveland-Akron-Lorain, OH | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Cleveland-Akron-Lorain, OH | PM2.5 (2006 24-hour) | Maintenance, -- | 100 | 0 | 193.04 | 318.12 | 525.80 | 590.20 |
| Cochise County; Paul Spur/Douglas planning area, AZ | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 2.87 | 4.74 | 7.83 | 8.79 |
| Colorado Springs Area, CO | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 40.83 | 70.12 | 110.48 | 125.69 |
| Columbus, OH | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Cook County; Lyons Township, IL | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 6.66 | 12.96 | 17.61 | 20.94 |
| Cook County; Southeast Chicago, IL | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 6.59 | 12.85 | 17.42 | 20.74 |
| Coshocton County; Franklin Township, OH | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Coso Junction, CA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Cuyahoga County (part), OH | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Cuyahoga County, OH | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 67.31 | 110.92 | 183.33 | 205.78 |

Appendix A Air Quality Non-Attainment Area Results

Table A1-20

**Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Direct and Indirect Impacts
Carbon Monoxide (CO) 2050**

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|---------------------------------------|--|---|---|--------|--------------------|--------|----------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Dallas-Fort Worth, TX | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Delaware County, PA | PM2.5 (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 71.76 | 179.00 | 179.51 | 237.52 |
| Denver-Boulder Area, CO | CO (1971 8-hour) | Maintenance, Serious | 100 | 0 | 210.31 | 384.32 | 562.91 | 654.24 |
| Denver-Boulder-Greeley-Ft Collins-Loveland, CO | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Detroit Area, MI | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 101.07 | 176.92 | 272.57 | 312.09 |
| Detroit, MI | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 36.76 | 70.81 | 97.43 | 115.43 |
| Detroit-Ann Arbor, MI | PM2.5 (2006 24-hour) | Maintenance, -- | 100 | 0 | 363.80 | 610.21 | 988.10 | 1,115.44 |
| Dona Ana County; Anthony, NM | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.78 | 1.29 | 2.13 | 2.39 |
| Douglas, AZ | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Dukes County, MA | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Duluth Area, MN | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 9.40 | 15.48 | 25.59 | 28.72 |
| East Chicago Area, IN | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 76.45 | 222.28 | 182.94 | 262.46 |
| East Helena Area, MT | SO ₂ (1971 24-hour/Annual) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| East Kern County Area, CA | PM10 (1987 24-hour) | Nonattainment, Serious | 70 | 0 | 17.69 | 49.82 | 42.76 | 60.26 |
| El Paso County, TX | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 37.64 | 72.65 | 99.72 | 118.24 |
| El Paso, TX | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 9.05 | 24.91 | 22.02 | 30.65 |
| Eugene-Springfield Area, OR | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 16.99 | 28.00 | 46.27 | 51.94 |
| Fairbanks Area, AK | CO (1971 8-hour) | Maintenance, Serious | 100 | 0 | 3.79 | 10.02 | 9.34 | 12.72 |
| Fairbanks, AK | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 5.57 | 12.95 | 14.19 | 18.17 |

Table A1-20

Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Direct and Indirect Impacts
Carbon Monoxide (CO) 2050

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|---|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Flathead County; Columbia Falls and vicinity, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.10 | 0.16 | 0.27 | 0.30 |
| Flathead County; Kalispell and vicinity, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 2.69 | 4.44 | 7.33 | 8.23 |
| Flathead County; Whitefish and vicinity, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.29 | 0.48 | 0.80 | 0.90 |
| Fort Collins Area, CO | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 8.34 | 13.75 | 22.73 | 25.51 |
| Freehold Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 2.07 | 3.41 | 5.63 | 6.32 |
| Fremont County; Canon City Area, CO | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 2.83 | 4.67 | 7.72 | 8.66 |
| Fresno Area, CA | CO (1971 8-hour) | Maintenance, Moderate > 12.7ppm | 100 | 0 | 40.00 | 67.32 | 108.57 | 122.71 |
| Grants Pass Area, OR | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 3.41 | 5.62 | 9.29 | 10.42 |
| Great Falls Area, MT | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 2.32 | 6.81 | 5.55 | 7.99 |
| Greater Connecticut, CT | Ozone (2008 8-hour) | Nonattainment, Moderate | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Greeley Area, CO | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 29.41 | 50.96 | 79.44 | 90.66 |
| Hancock and Brooke Counties (Part); The city of Weirton, WV | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 1.41 | 3.24 | 3.60 | 4.59 |
| Hancock County (Part) The city of Weirton, including Butler and Clay: Magisterial Districts, WV | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Harrisburg-Lebanon-Carlisle-York, PA | PM2.5 (2006 24-hour) | Maintenance, Moderate | 100 | 0 | 92.36 | 153.57 | 251.22 | 282.79 |
| Hartford-New Britain-Middletown Area, CT | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 80.66 | 132.92 | 219.70 | 246.60 |
| Hayden, AZ | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.17 | 0.28 | 0.47 | 0.53 |
| Hayden, AZ | SO ₂ (1971 24-hour/Annual) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Hayden, AZ | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.16 | 0.27 | 0.44 | 0.50 |
| Hillsborough County, FL | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 1.22 | 2.10 | 3.29 | 3.74 |
| Houston-Galveston-Brazoria, TX | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Humphreys County; (part) TVA Johnsonville, TN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Imperial Co, CA | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 15.12 | 24.91 | 41.18 | 46.22 |

Appendix A Air Quality Non-Attainment Area Results

Table A1-20

Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Direct and Indirect Impacts

Carbon Monoxide (CO) 2050

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Imperial County, CA | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Imperial County, CA | PM2.5 (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 15.12 | 24.91 | 41.18 | 46.22 |
| Imperial County; Imperial Valley planning area, CA | PM10 (1987 24-hour) | Nonattainment, Serious | 70 | 0 | 18.28 | 30.12 | 49.79 | 55.89 |
| Indian Wells, CA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 17.55 | 49.58 | 42.36 | 59.81 |
| Indiana, PA | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 6.67 | 10.98 | 18.15 | 20.38 |
| Indianapolis Area, IN | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.09 | 0.14 | 0.23 | 0.26 |
| Indianapolis, IN | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 32.88 | 54.18 | 89.55 | 100.51 |
| Inyo County; Owens Valley planning area, CA | PM10 (1987 24-hour) | Nonattainment, Serious | 70 | 0 | 0.70 | 1.16 | 1.91 | 2.14 |
| Jackson County, MO | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 3.94 | 6.55 | 10.71 | 12.06 |
| Jackson County; Medford-Ashland (including White City), OR | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 14.00 | 23.07 | 38.13 | 42.80 |
| Jamestown, NY | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Jefferson County, KY | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Jefferson County, MO | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 3.75 | 6.18 | 10.21 | 11.46 |
| Jefferson County; (part) Steubenville & Mingo Junction, OH | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Jefferson County; (part), OH | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.30 | 0.49 | 0.81 | 0.90 |
| Johnstown, PA | PM2.5 (2006 24-hour) | Maintenance, Moderate | 100 | 0 | 8.77 | 14.45 | 23.88 | 26.81 |
| Josephine County; Grants Pass, OR | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 3.41 | 5.62 | 9.29 | 10.42 |
| Juneau; Mendenhall Valley area, AK | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.62 | 1.03 | 1.70 | 1.91 |
| Kern County (Eastern Kern), CA | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| King County; Kent, WA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 1.78 | 2.94 | 4.85 | 5.45 |
| King County; Seattle, WA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.56 | 0.93 | 1.53 | 1.72 |
| Klamath County; Klamath Falls, OR | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 6.48 | 10.68 | 17.66 | 19.82 |
| Klamath Falls Area, OR | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 6.48 | 10.68 | 17.66 | 19.82 |
| Klamath Falls, OR | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 6.84 | 11.27 | 18.63 | 20.91 |

Table A1-20

Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Direct and Indirect Impacts
Carbon Monoxide (CO) 2050

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Knoxville, TN | Ozone (2008 8-hour) | Maintenance, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Knoxville-Sevierville-La Follette, TN | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 70.95 | 116.93 | 193.26 | 216.93 |
| La Porte County: (part), IN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lake County (part); Lakeview, OR | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 1.37 | 2.25 | 3.72 | 4.18 |
| Lake County, OH | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 19.40 | 31.97 | 52.85 | 59.32 |
| Lake County: (part), IN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lake County; (part) Eastlake, Timberlake, Lakeline, Willoughby, Mentor, OH | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lake County; Cities of East Chicago, Hammond, Whiting, and Gary, IN | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 85.65 | 237.66 | 207.93 | 290.65 |
| Lake County; Polson, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.14 | 0.22 | 0.37 | 0.41 |
| Lake County; Ronan, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lake Tahoe Nevada Area, NV | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.99 | 1.63 | 2.69 | 3.02 |
| Lake Tahoe North Shore Area, CA | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.55 | 0.91 | 1.51 | 1.69 |
| Lake Tahoe South Shore Area, CA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 1.30 | 2.14 | 3.54 | 3.97 |
| Lancaster, PA | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lancaster, PA | PM2.5 (2006 24-hour) | Maintenance, Moderate | 100 | 0 | 37.21 | 61.35 | 101.35 | 113.78 |
| Lane County (part); Oakridge, OR | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.08 | 0.13 | 0.21 | 0.24 |
| Lane County; Eugene/Springfield, OR | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 16.99 | 28.00 | 46.27 | 51.94 |
| Las Vegas Area, NV | CO (1971 8-hour) | Maintenance, Serious | 100 | 0 | 112.70 | 185.74 | 306.96 | 344.56 |
| LaSalle County; Oglesby, IL | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 2.64 | 4.34 | 7.18 | 8.06 |
| Laurel Area, MT | SO ₂ (1971 24-hour/Annual) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lebanon County, PA | PM2.5 (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 12.82 | 21.13 | 34.93 | 39.21 |
| Lemont, IL | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 167.76 | 477.47 | 404.12 | 572.84 |
| Liberty-Clairton, PA | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.50 | 0.94 | 1.34 | 1.57 |

Appendix A Air Quality Non-Attainment Area Results

Table A1-20

Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Direct and Indirect Impacts

Carbon Monoxide (CO) 2050

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|---------------------------------------|--|---|---|----------|--------------------|----------|----------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Lincoln County; Libby and vicinity, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.32 | 0.52 | 0.87 | 0.97 |
| Logan, UT-ID | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 6.60 | 10.88 | 17.98 | 20.18 |
| Longmont Area, CO | CO (1971 8-hour) | Maintenance, Moderate ≤ 12.7ppm | 100 | 0 | 5.58 | 9.19 | 15.19 | 17.05 |
| Lorain County (part), OH | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Los Angeles, CA | PM2.5 (2006 24-hour) | Nonattainment, Serious | 100 | 0 | 1,333.34 | 2,521.64 | 3,546.42 | 4,173.16 |
| Los Angeles-San Bernardino Counties (West Mojave Desert), CA | Ozone (2008 8-hour) | Nonattainment, Severe 15 | 25 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Los Angeles-South Coast Air Basin Area, CA | CO (1971 8-hour) | Maintenance, Serious | 100 | 0 | 1,333.92 | 2,522.60 | 3,548.01 | 4,174.94 |
| Los Angeles-South Coast Air Basin Area, CA | NO ₂ (1971 Annual) | Maintenance, -- | 100 | 0 | 1,333.97 | 2,522.69 | 3,548.15 | 4,175.10 |
| Los Angeles-South Coast Air Basin, CA | Ozone (2008 8-hour) | Nonattainment, Extreme | 10 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Los Angeles-South Coast Air Basin, CA | PM2.5 (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 1,331.66 | 2,518.86 | 3,541.84 | 4,168.01 |
| Lowell Area, MA | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 7.63 | 12.57 | 20.78 | 23.33 |
| Lucas County (part), OH | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Madison County; Granite City Township and Nameoki Township, IL | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 49.48 | 141.09 | 119.12 | 169.03 |
| Manchester Area, NH | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 5.85 | 9.64 | 15.93 | 17.88 |
| Maricopa and Pinal Counties; Phoenix planning area, AZ | PM10 (1987 24-hour) | Nonattainment, Serious | 70 | 0 | 258.28 | 425.62 | 703.48 | 789.63 |
| Marion County; Lawrence, Washington, and Warrant Townships, IN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Mariposa County, CA | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Marshall, WV | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 4.12 | 10.82 | 10.17 | 13.81 |
| Medford Area, OR | CO (1971 8-hour) | Maintenance, Moderate ≤ 12.7ppm | 100 | 0 | 7.44 | 12.26 | 20.26 | 22.75 |
| Memphis Area, TN | CO (1971 8-hour) | Maintenance, Moderate ≤ 12.7ppm | 100 | 0 | 79.82 | 152.69 | 211.85 | 250.34 |

Table A1-20

Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Direct and Indirect Impacts
Carbon Monoxide (CO) 2050

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|---|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Memphis, TN-MS-AR | Ozone (2008 8-hour) | Nonattainment TN & Maintenance MS/AR, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Miami, AZ | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.41 | 0.68 | 1.12 | 1.26 |
| Miami, AZ | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Miami, AZ | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.41 | 0.68 | 1.12 | 1.26 |
| Milwaukee-Racine, WI | PM2.5 (2006 24-hour) | Maintenance, -- | 100 | 0 | 85.16 | 140.37 | 231.96 | 260.38 |
| Minneapolis-St. Paul Area, MN | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 246.27 | 439.50 | 661.92 | 762.96 |
| Missoula Area, MT | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 7.77 | 14.43 | 20.72 | 24.23 |
| Missoula county; Missoula and vicinity, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 7.40 | 13.75 | 19.75 | 23.09 |
| Modesto Area, CA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 12.64 | 21.04 | 34.39 | 38.72 |
| Mohave County (part); Bullhead City, AZ | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 7.33 | 12.07 | 19.95 | 22.39 |
| Mono County; Mammoth Lake planning area, CA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 2.77 | 4.56 | 7.53 | 8.46 |
| Mono County; Mono Basin, CA | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Morenci, AZ | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Morgan County, IN | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 2.31 | 3.81 | 6.30 | 7.07 |
| Morongo Band of Mission Indians | Ozone (2008 8-hour) | Nonattainment, Serious | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Morristown Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 3.12 | 5.18 | 8.48 | 9.54 |
| Muscatine County; (part), IA | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Muscatine, IA | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 1.53 | 2.52 | 4.16 | 4.67 |
| Muskingum River, OH | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.69 | 1.14 | 1.88 | 2.11 |
| Nashua Area, NH | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 5.68 | 9.37 | 15.48 | 17.38 |
| Nassau County, FL | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.25 | 0.40 | 0.67 | 0.75 |
| Nevada County (Western part), CA | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| New Haven County, CT | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 1.32 | 2.22 | 3.60 | 4.06 |

Appendix A Air Quality Non-Attainment Area Results

Table A1-20

Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Direct and Indirect Impacts

Carbon Monoxide (CO) 2050

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|---------------------------------------|--|---|---|----------|--------------------|----------|----------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| New Haven-Meriden-Waterbury Area, CT | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 62.72 | 105.01 | 170.39 | 192.25 |
| New Manchester-Grant magisterial district in Hancock County, WV | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| New York County, NY | PM ₁₀ (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 40.43 | 66.62 | 110.12 | 123.60 |
| New York, NY-NJ-CT | PM _{2.5} (2006 24-hour) | Maintenance, -- | 100 | 0 | 1,168.14 | 1,972.97 | 3,169.09 | 3,585.65 |
| New York-N. New Jersey-Long Island Area, NY-NJ-CT | CO (1971 8-hour) | Maintenance, Moderate > 12.7ppm | 100 | 0 | 642.69 | 1,076.28 | 1,746.00 | 1,970.01 |
| New York-N. New Jersey-Long Island, NY-NJ-CT | Ozone (2008 8-hour) | Nonattainment, Moderate | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| NJ portion of the Northeast Pennsylvania-Upper Delaware Valley Interstate AQCR: (part), NJ | SO ₂ (1971 24-hour/Annual) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Nogales, AZ | PM _{2.5} (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 3.46 | 5.70 | 9.42 | 10.58 |
| Oakridge, OR | PM _{2.5} (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.08 | 0.13 | 0.21 | 0.24 |
| Ogden Area, UT | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 3.85 | 6.35 | 10.50 | 11.78 |
| Ogden Area, UT | PM ₁₀ (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 3.85 | 6.35 | 10.50 | 11.78 |
| Olmsted County; (part), MN | PM ₁₀ (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 1.76 | 2.90 | 4.79 | 5.38 |
| Olmsted; City of Rochester, MN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |

Table A1-20
Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Direct and Indirect Impacts
Carbon Monoxide (CO) 2050

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|---------------------------------------|--|---|---|--------|--------------------|----------|----------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Pechanga Band of Luiseno Mission Indians of the Pechanga Reservation | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Pekin, IL | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 2.93 | 4.82 | 7.97 | 8.94 |
| Penns Grove Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Peoria County: Hollis Twp, IL | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Peoria County: Peoria, IL | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Perth Amboy Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 31.19 | 80.04 | 77.43 | 103.90 |
| Philadelphia-Camden County Area, PA-NJ | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 80.86 | 152.07 | 215.30 | 252.83 |
| Philadelphia-Wilmington, PA-NJ-DE | PM _{2.5} (2006 24-hour) | Maintenance, Moderate for PA and DE Subject to Former Subpart 1 for NJ | 100 | 0 | 401.48 | 788.68 | 1,060.15 | 1,265.35 |
| Philadelphia-Wilmington-Atlantic City, PA-NJ-MD-DE | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Phoenix Area, AZ | CO (1971 8-hour) | Maintenance, Serious | 100 | 0 | 246.74 | 406.62 | 672.07 | 754.37 |
| Phoenix-Mesa, AZ | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Pierce County; Tacoma, WA | PM ₁₀ (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.10 | 0.17 | 0.28 | 0.32 |
| Pima County; Ajo planning area, AZ | PM ₁₀ (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Pima County; Rillito planning area, AZ | PM ₁₀ (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 4.90 | 8.07 | 13.34 | 14.97 |
| Pinal and Gila Counties; Payson, AZ | PM ₁₀ (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 2.50 | 4.11 | 6.80 | 7.63 |
| Pinal County (part); West Pinal, AZ | PM ₁₀ (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 29.67 | 48.89 | 80.81 | 90.71 |
| Pitkin County; Aspen, CO | PM ₁₀ (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 1.79 | 2.95 | 4.87 | 5.46 |
| Pittsburgh Area, PA | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 12.16 | 20.46 | 33.00 | 37.29 |
| Pittsburgh-Beaver Valley, PA | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Pittsburgh-Beaver Valley, PA | PM _{2.5} (2006 24-hour) | Maintenance, Moderate | 100 | 0 | 128.38 | 213.88 | 349.06 | 393.19 |
| Plumas County, CA | PM _{2.5} (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Polk County, TN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |

Appendix A Air Quality Non-Attainment Area Results

Table A1-20

Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Direct and Indirect Impacts

Carbon Monoxide (CO) 2050

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|-------------------------------|--|---|---|----------|--------------------|----------|----------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Portland Area: Portland Metro Service District Boundary, OR | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 83.68 | 138.98 | 227.63 | 256.15 |
| Power-Bannock Counties; Fort Hall Indian Reservation, ID | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Power-Bannock Counties; Portneuf Valley Area, ID | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 6.82 | 11.24 | 18.57 | 20.85 |
| Provo Area, UT | CO (1971 8-hour) | Maintenance, Moderate > 12.7ppm | 100 | 0 | 4.96 | 8.27 | 13.48 | 15.19 |
| Provo, UT | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 28.22 | 46.61 | 76.84 | 86.31 |
| Prowers County; Lamar, CO | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Raleigh-Durham Area, NC | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 97.79 | 161.16 | 266.36 | 298.98 |
| Ramsey County; (part), MN | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.21 | 0.38 | 0.57 | 0.66 |
| Reading, PA | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Reno Area, NV | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 22.44 | 36.97 | 61.11 | 68.59 |
| Rhinelander, WI | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 3.48 | 5.74 | 9.48 | 10.64 |
| Riverside County (Coachella Valley), CA | Ozone (2008 8-hour) | Nonattainment, Severe 15 | 25 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Riverside County; Coachella Valley planning area, CA | PM10 (1987 24-hour) | Nonattainment, Serious | 70 | 0 | 35.40 | 58.33 | 96.41 | 108.21 |
| Riverside, Los Angeles, Orange, and San Bernardino Counties; South Coast Air Basin, CA | PM10 (1987 24-hour) | Maintenance, Serious | 100 | 0 | 1,328.91 | 2,514.34 | 3,534.35 | 4,159.60 |
| Rosebud County; Lame Deer, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 2.27 | 3.74 | 6.18 | 6.94 |
| Routt County (part); Steamboat Springs, CO | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 2.13 | 3.50 | 5.79 | 6.50 |
| Sacramento Area, CA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 91.77 | 152.81 | 249.55 | 281.05 |
| Sacramento County, CA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 87.84 | 145.24 | 239.12 | 268.69 |
| Sacramento Metro, CA | Ozone (2008 8-hour) | Nonattainment, Severe 15 | 25 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Sacramento, CA | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 177.37 | 306.81 | 479.29 | 546.59 |
| Salem Area, OR | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 18.19 | 29.98 | 49.55 | 55.62 |
| Salt Lake City Area, UT | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 49.25 | 131.36 | 120.95 | 165.54 |
| Salt Lake City, UT | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 194.83 | 426.77 | 502.90 | 627.18 |

Table A1-20

Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Direct and Indirect Impacts

Carbon Monoxide (CO) 2050

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|---|---------------------------------------|--|---|---|--------|--------------------|----------|----------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Salt Lake County, UT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 105.40 | 223.89 | 273.88 | 337.21 |
| Salt Lake County, UT | SO ₂ (1971 24-hour/Annual) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| San Bernardino County (part); excluding Searles Valley Planning area and South Coast Air Basin, CA | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 37.56 | 62.02 | 102.28 | 114.88 |
| San Diego Area, CA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 237.26 | 391.42 | 646.12 | 725.50 |
| San Diego County, CA | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| San Francisco Bay Area, CA | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| San Francisco Bay Area, CA | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 487.02 | 831.63 | 1,318.88 | 1,497.63 |
| San Francisco-Oakland-San Jose Area, CA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 446.81 | 765.37 | 1,209.36 | 1,374.70 |
| San Joaquin Valley Air Basin; Fresno, Kern, Kings, Madera, Merced, San Joaquin, Stanislaus, Tulare Counties, CA | PM10 (1987 24-hour) | Maintenance, Serious | 100 | 0 | 330.49 | 567.53 | 894.16 | 1,017.25 |
| San Joaquin Valley, CA | Ozone (2008 8-hour) | Nonattainment, Extreme | 10 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| San Joaquin Valley, CA | PM2.5 (2006 24-hour) | Nonattainment, Serious | 100 | 0 | 330.45 | 567.45 | 894.04 | 1,017.11 |
| San Joaquin Valley, CA | PM2.5 (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 330.45 | 567.45 | 894.04 | 1,017.11 |
| San Luis Obispo (Eastern San Luis Obispo), CA | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| San Manuel, AZ | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| San Miguel County; Telluride, CO | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.70 | 1.15 | 1.89 | 2.13 |
| Sanders County (part); Thompson Falls and vicinity, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Santa Cruz County; Nogales planning area, AZ | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 3.46 | 5.70 | 9.42 | 10.58 |
| Seaford, DE | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Seattle-Tacoma Area, WA | CO (1971 8-hour) | Maintenance, Moderate > 12.7ppm | 100 | 0 | 194.20 | 320.03 | 528.95 | 593.72 |
| Seattle-Tacoma, WA | PM2.5 (2006 24-hour) | Maintenance, Moderate | 100 | 0 | 30.84 | 50.82 | 84.00 | 94.29 |
| Sheboygan County, WI | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |

Appendix A Air Quality Non-Attainment Area Results

Table A1-20

Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Direct and Indirect Impacts

Carbon Monoxide (CO) 2050

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|---|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Sheridan County; City of Sheridan, WY | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 1.87 | 3.08 | 5.09 | 5.72 |
| Shoshone County (part); excluding Pinehurst, ID | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 3.04 | 5.02 | 8.29 | 9.31 |
| Shoshone County; City of Pinehurst, ID | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Silver Bow County; Butte, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 3.01 | 4.96 | 8.20 | 9.20 |
| Somerville Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 1.10 | 1.82 | 3.01 | 3.38 |
| Southwest Indiana, IN | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.88 | 1.45 | 2.40 | 2.69 |
| Spokane Area, WA | CO (1971 8-hour) | Maintenance, Serious | 100 | 0 | 19.98 | 32.93 | 54.43 | 61.10 |
| Spokane County; (part), WA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 20.61 | 33.97 | 56.14 | 63.02 |
| Springfield Area, MA | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 12.22 | 20.14 | 33.29 | 37.36 |
| St. Bernard Parish, LA | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 17.80 | 50.40 | 42.94 | 60.70 |
| St. Louis Area, MO | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 60.06 | 99.01 | 163.59 | 183.64 |
| St. Louis-St. Charles-Farmington, MO-IL | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Steubenville, OH-WV | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 4.89 | 8.06 | 13.33 | 14.96 |
| Steubenville-Weirton, OH-WV | PM2.5 (2006 24-hour) | Maintenance, -- | 100 | 0 | 9.30 | 16.24 | 25.08 | 28.69 |
| Stockton Area, CA | CO (1971 8-hour) | Maintenance, Moderate ≤ 12.7ppm | 100 | 0 | 24.91 | 41.22 | 67.81 | 76.22 |
| Sullivan County, TN | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 45.34 | 131.38 | 108.60 | 155.52 |
| Syracuse Area; Onondaga County, NY | CO (1971 8-hour) | Maintenance, Moderate ≤ 12.7ppm | 100 | 0 | 38.39 | 63.26 | 104.56 | 117.37 |
| Tazewell County; Groveland Twp, IL | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Terre Haute, IN | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 2.36 | 3.89 | 6.43 | 7.22 |

Table A1-20
Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Direct and Indirect Impacts
Carbon Monoxide (CO) 2050

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|---|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Thurston County; Cities of Olympia, Tumwater, and Lacey, WA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 6.90 | 11.37 | 18.79 | 21.09 |
| Toms River Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.36 | 0.60 | 0.99 | 1.11 |
| Tooele County (part), UT | SO ₂ (1971 24-hour/Annual) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Trenton Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 6.33 | 10.44 | 17.25 | 19.36 |
| Trona, CA | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Tucson Area, AZ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 59.93 | 98.77 | 163.25 | 183.24 |
| Tuscan Buttes, CA | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Union County; LaGrande, OR | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 2.88 | 4.75 | 7.84 | 8.80 |
| Upper Green River Basin Area, WY | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Utah County, UT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 28.22 | 46.61 | 76.84 | 86.31 |
| Vancouver Area: Clark County (part), WA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 19.01 | 31.32 | 51.77 | 58.11 |
| Ventura County, CA | Ozone (2008 8-hour) | Nonattainment, Serious | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Vermillion County; Part of Clinton Township, IN | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Vigo County, IN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Walla Walla County; Wallula, WA | PM10 (1987 24-hour) | Maintenance, Serious | 100 | 0 | 0.28 | 0.45 | 0.75 | 0.84 |
| Waltham Area, MA | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 3.89 | 6.41 | 10.60 | 11.90 |
| Warren County: Conewago Twp, PA | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Warren County: Warren Boro, Pleasant Twp, Glade Twp, PA | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Warren, PA | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 8.45 | 22.90 | 20.64 | 28.50 |
| Washington Area, DC-MD-VA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 46.48 | 76.60 | 126.61 | 142.12 |
| Washington, DC-MD-VA | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Washoe County; Reno planning area, NV | PM10 (1987 24-hour) | Nonattainment, Serious | 70 | 0 | 22.20 | 36.58 | 60.46 | 67.86 |

Appendix A Air Quality Non-Attainment Area Results

Table A1-20

Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Direct and Indirect Impacts

Carbon Monoxide (CO) 2050

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|---|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Wayne County: Boston, Center, Franklin, Wayne & Webster Townships, IN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Wayne County; (part), MI | PM ₁₀ (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 15.61 | 35.88 | 39.86 | 50.76 |
| West Central Pinal County, AZ | PM _{2.5} (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 6.25 | 10.30 | 17.02 | 19.10 |
| West Silver Valley, ID | PM _{2.5} (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 1.79 | 2.95 | 4.87 | 5.47 |
| Winston-Salem Area, NC | CO (1971 8-hour) | Maintenance, Moderate ≤ 12.7ppm | 100 | 0 | 26.04 | 42.91 | 70.92 | 79.61 |
| Worcester Area, MA | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 17.10 | 28.18 | 46.57 | 52.27 |
| Yakima Area, WA | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 3.11 | 5.12 | 8.47 | 9.50 |
| Yakima County; (part), WA | PM ₁₀ (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 8.13 | 13.39 | 22.13 | 24.84 |
| Yuba City-Marysville, CA | PM _{2.5} (2006 24-hour) | Maintenance, Moderate | 100 | 0 | 13.49 | 22.23 | 36.75 | 41.25 |
| Yuma County; Yuma planning area, AZ | PM ₁₀ (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 11.43 | 18.83 | 31.13 | 34.94 |

^a Reductions are shown as positive values. Negative values are emissions increases. Values of less than 0.005 tons per year are rounded to zero.

^b Nonattainment or maintenance status as of 5/13/2016. Source: U.S. EPA, The Green Book Nonattainment Areas for Criteria Pollutants; <http://www.epa.gov/airquality/greenbook/>. "--" indicates that no severity classification has been established for the NAAQS pollutant.

^c Emissions thresholds in tons per year. Where the threshold differs by precursor pollutant, the smallest of the precursor thresholds is shown. These thresholds are provided for information only; a general conformity determination is not required for the Proposed Action. Source: 40 CFR 93.853.

Notes: CO = carbon monoxide; NAAQS = National Ambient Air Quality Standards; NO₂ = nitrogen dioxide; PM = particulate matter; SO₂ = sulfur dioxide

Table A1-21
Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Direct and Indirect Impacts
Acetaldehyde 2018

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Ada County; Boise, ID | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Adams, Denver, and Boulder Counties; Denver Metropolitan area, CO | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Ajo, AZ | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Albuquerque Area, NM | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Allegheny County Air Basin: Hazelwood monitor, PA | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Allegheny County, PA | PM2.5 (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Allegheny County; The area including Liberty, Lincoln, Port Vue, and Glassport Boroughs and the City of Clairton, PA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Allegheny, PA | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Allentown, PA | PM2.5 (2006 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Allentown-Bethlehem-Easton, PA | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Anchorage Area, AK | CO (1971 8-hour) | Maintenance, Serious | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Anchorage; Eagle River, AK | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| AQCR 012: Portions of Grant County, NM | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| AQCR 109-Millinocket, ME | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| AQCR 131: Anoka, Carver, Dakota, Hennepin, Ramsey, Scott, and Washington counties (Minneapolis-St. Paul), MN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| AQCR 237: Brown County: Green Bay sub-city area, WI | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| AQCR 238: Marathon County: Rothschild Sub-city area, Rib Mountain, Weston, WI | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| AQCR 238: Oneida County: Rhinelander Sub-city area, WI | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| AQCR 239: Milwaukee County: Milwaukee sub-city area, WI | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |

Appendix A Air Quality Non-Attainment Area Results

Table A1-21

Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Direct and Indirect Impacts

Acetaldehyde 2018

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| AQCR 240: Dane County: Madison sub-city area, WI | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Archuleta County; Pagosa Springs, CO | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Armstrong County: Madison Twp, Mahoning Twp, Boggs Twp, Washington Twp, Pine Twp, PA | SO ₂ (1971 24-hour/Annual) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Aroostock County; City of Presque Isle, ME | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Atlanta, GA | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Atlantic City Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Bakersfield Area, CA | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Baltimore Area, MD | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Baltimore, MD | Ozone (2008 8-hour) | Nonattainment, Moderate | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Baton Rouge, LA | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Beaver, PA | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Benton County; (part) TVA Johnsonville, TN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Billings Area, MT | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Billings, MT | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Birmingham, AL | PM2.5 (2006 24-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Boise-Northern Ada County Area, ID | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Bonner County; The Sandpoint Area, ID | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Boston Area, MA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Boyd County (part), KY | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Brooke; Follansbee area, WV | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Burlington Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Calaveras County, CA | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Campbell-Clermont Counties, KY-OH | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |

Table A1-21
Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Direct and Indirect Impacts
Acetaldehyde 2018

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|---|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Canton-Massillon, OH | PM2.5 (2006 24-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Central New Hampshire, NH | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Central Steptoe Valley, NV | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Charleston, WV | PM2.5 (2006 24-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Charlotte Area, NC | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Charlotte-Rock Hill, NC-SC | Ozone (2008 8-hour) | Maintenance, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Chicago-Naperville, IL-IN-WI | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Chico (Butte County), CA | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Chico Area, CA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Chico, CA | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Cincinnati, OH-KY-IN | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Clark County; Las Vegas planning area, NV | PM10 (1987 24-hour) | Maintenance, Serious | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Cleveland Area, OH | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Cleveland, OH | PM2.5 (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Cleveland-Akron-Lorain, OH | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Cleveland-Akron-Lorain, OH | PM2.5 (2006 24-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Cochise County; Paul Spur/Douglas planning area, AZ | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Colorado Springs Area, CO | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Columbus, OH | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Cook County; Lyons Township, IL | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Cook County; Southeast Chicago, IL | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Coshocton County; Franklin Township, OH | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Coso Junction, CA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Cuyahoga County (part), OH | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Cuyahoga County, OH | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |

Appendix A Air Quality Non-Attainment Area Results

Table A1-21

Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Direct and Indirect Impacts

Acetaldehyde 2018

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Dallas-Fort Worth, TX | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Delaware County, PA | PM2.5 (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Denver-Boulder Area, CO | CO (1971 8-hour) | Maintenance, Serious | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Denver-Boulder-Greeley-Ft Collins-Loveland, CO | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Detroit Area, MI | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Detroit, MI | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Detroit-Ann Arbor, MI | PM2.5 (2006 24-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Dona Ana County; Anthony, NM | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Douglas, AZ | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Dukes County, MA | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Duluth Area, MN | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| East Chicago Area, IN | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| East Helena Area, MT | SO ₂ (1971 24-hour/Annual) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| East Kern County Area, CA | PM10 (1987 24-hour) | Nonattainment, Serious | 70 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| El Paso County, TX | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| El Paso, TX | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Eugene-Springfield Area, OR | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Fairbanks Area, AK | CO (1971 8-hour) | Maintenance, Serious | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Fairbanks, AK | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |

Table A1-21
Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Direct and Indirect Impacts
Acetaldehyde 2018

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|---|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Flathead County; Columbia Falls and vicinity, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Flathead County; Kalispell and vicinity, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Flathead County; Whitefish and vicinity, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Fort Collins Area, CO | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Freehold Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Fremont County; Canon City Area, CO | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Fresno Area, CA | CO (1971 8-hour) | Maintenance, Moderate > 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Grants Pass Area, OR | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Great Falls Area, MT | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Greater Connecticut, CT | Ozone (2008 8-hour) | Nonattainment, Moderate | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Greeley Area, CO | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Hancock and Brooke Counties (Part); The city of Weirton, WV | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Hancock County (Part) The city of Weirton, including Butler and Clay: Magisterial Districts, WV | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Harrisburg-Lebanon-Carlisle-York, PA | PM2.5 (2006 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Hartford-New Britain-Middletown Area, CT | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Hayden, AZ | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Hayden, AZ | SO ₂ (1971 24-hour/Annual) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Hayden, AZ | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Hillsborough County, FL | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Houston-Galveston-Brazoria, TX | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Humphreys County; (part) TVA Johnsonville, TN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Imperial Co, CA | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |

Appendix A Air Quality Non-Attainment Area Results

Table A1-21

Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Direct and Indirect Impacts

Acetaldehyde 2018

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Imperial County, CA | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Imperial County, CA | PM2.5 (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Imperial County; Imperial Valley planning area, CA | PM10 (1987 24-hour) | Nonattainment, Serious | 70 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Indian Wells, CA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Indiana, PA | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Indianapolis Area, IN | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Indianapolis, IN | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Inyo County; Owens Valley planning area, CA | PM10 (1987 24-hour) | Nonattainment, Serious | 70 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Jackson County, MO | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Jackson County; Medford-Ashland (including White City), OR | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Jamestown, NY | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Jefferson County, KY | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Jefferson County, MO | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Jefferson County; (part) Steubenville & Mingo Junction, OH | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Jefferson County; (part), OH | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Johnstown, PA | PM2.5 (2006 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Josephine County; Grants Pass, OR | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Juneau; Mendenhall Valley area, AK | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Kern County (Eastern Kern), CA | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| King County; Kent, WA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| King County; Seattle, WA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Klamath County; Klamath Falls, OR | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Klamath Falls Area, OR | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Klamath Falls, OR | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |

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Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Direct and Indirect Impacts
Acetaldehyde 2018

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Knoxville, TN | Ozone (2008 8-hour) | Maintenance, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Knoxville-Sevierville-La Follette, TN | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| La Porte County: (part), IN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lake County (part); Lakeview, OR | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lake County, OH | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lake County: (part), IN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lake County; (part) Eastlake, Timberlake, Lakeline, Willoughby, Mentor, OH | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lake County; Cities of East Chicago, Hammond, Whiting, and Gary, IN | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lake County; Polson, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lake County; Ronan, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lake Tahoe Nevada Area, NV | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lake Tahoe North Shore Area, CA | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lake Tahoe South Shore Area, CA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lancaster, PA | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lancaster, PA | PM2.5 (2006 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lane County (part); Oakridge, OR | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lane County; Eugene/Springfield, OR | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Las Vegas Area, NV | CO (1971 8-hour) | Maintenance, Serious | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| LaSalle County; Oglesby, IL | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Laurel Area, MT | SO ₂ (1971 24-hour/Annual) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lebanon County, PA | PM2.5 (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lemont, IL | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Liberty-Clairton, PA | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |

Appendix A Air Quality Non-Attainment Area Results

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Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Direct and Indirect Impacts

Acetaldehyde 2018

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Lincoln County; Libby and vicinity, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Logan, UT-ID | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Longmont Area, CO | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lorain County (part), OH | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Los Angeles, CA | PM2.5 (2006 24-hour) | Nonattainment, Serious | 100 | 0 | 0.01 | 0.01 | 0.01 | 0.02 |
| Los Angeles-San Bernardino Counties (West Mojave Desert), CA | Ozone (2008 8-hour) | Nonattainment, Severe 15 | 25 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Los Angeles-South Coast Air Basin Area, CA | CO (1971 8-hour) | Maintenance, Serious | 100 | 0 | 0.01 | 0.01 | 0.01 | 0.02 |
| Los Angeles-South Coast Air Basin Area, CA | NO ₂ (1971 Annual) | Maintenance, -- | 100 | 0 | 0.01 | 0.01 | 0.01 | 0.02 |
| Los Angeles-South Coast Air Basin, CA | Ozone (2008 8-hour) | Nonattainment, Extreme | 10 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Los Angeles-South Coast Air Basin, CA | PM2.5 (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 0.01 | 0.01 | 0.01 | 0.02 |
| Lowell Area, MA | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lucas County (part), OH | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Madison County; Granite City Township and Nameoki Township, IL | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Manchester Area, NH | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Maricopa and Pinal Counties; Phoenix planning area, AZ | PM10 (1987 24-hour) | Nonattainment, Serious | 70 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Marion County; Lawrence, Washington, and Warrant Townships, IN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Mariposa County, CA | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Marshall, WV | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Medford Area, OR | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Memphis Area, TN | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |

Table A1-21

Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Direct and Indirect Impacts

Acetaldehyde 2018

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|---|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Memphis, TN-MS-AR | Ozone (2008 8-hour) | Nonattainment TN & Maintenance MS/AR, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Miami, AZ | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Miami, AZ | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Miami, AZ | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Milwaukee-Racine, WI | PM2.5 (2006 24-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Minneapolis-St. Paul Area, MN | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Missoula Area, MT | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Missoula county; Missoula and vicinity, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Modesto Area, CA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Mohave County (part); Bullhead City, AZ | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Mono County; Mammoth Lake planning area, CA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Mono County; Mono Basin, CA | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Morenci, AZ | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Morgan County, IN | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Morongo Band of Mission Indians | Ozone (2008 8-hour) | Nonattainment, Serious | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Morristown Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Muscatine County; (part), IA | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Muscatine, IA | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Muskingum River, OH | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Nashua Area, NH | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Nassau County, FL | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Nevada County (Western part), CA | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| New Haven County, CT | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |

Appendix A Air Quality Non-Attainment Area Results

Table A1-21

Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Direct and Indirect Impacts

Acetaldehyde 2018

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| New Haven-Meriden-Waterbury Area, CT | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| New Manchester-Grant magisterial district in Hancock County, WV | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| New York County, NY | PM ₁₀ (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| New York, NY-NJ-CT | PM _{2.5} (2006 24-hour) | Maintenance, -- | 100 | 0 | -0.01 | -0.01 | -0.01 | -0.01 |
| New York-N. New Jersey-Long Island Area, NY-NJ-CT | CO (1971 8-hour) | Maintenance, Moderate > 12.7ppm | 100 | 0 | 0.00 | -0.01 | -0.01 | -0.01 |
| New York-N. New Jersey-Long Island, NY-NJ-CT | Ozone (2008 8-hour) | Nonattainment, Moderate | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| NJ portion of the Northeast Pennsylvania-Upper Delaware Valley Interstate AQCR: (part), NJ | SO ₂ (1971 24-hour/Annual) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Nogales, AZ | PM _{2.5} (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Oakridge, OR | PM _{2.5} (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Ogden Area, UT | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Ogden Area, UT | PM ₁₀ (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Olmsted County; (part), MN | PM ₁₀ (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Olmsted; City of Rochester, MN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |

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Acetaldehyde 2018

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Pechanga Band of Luiseno Mission Indians of the Pechanga Reservation | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Pekin, IL | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Penns Grove Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Peoria County: Hollis Twp, IL | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Peoria County: Peoria, IL | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Perth Amboy Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Philadelphia-Camden County Area, PA-NJ | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Philadelphia-Wilmington, PA-NJ-DE | PM _{2.5} (2006 24-hour) | Maintenance, Moderate for PA and DE Subject to Former Subpart 1 for NJ | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Philadelphia-Wilmington-Atlantic City, PA-NJ-MD-DE | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Phoenix Area, AZ | CO (1971 8-hour) | Maintenance, Serious | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Phoenix-Mesa, AZ | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Pierce County; Tacoma, WA | PM ₁₀ (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Pima County; Ajo planning area, AZ | PM ₁₀ (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Pima County; Rillito planning area, AZ | PM ₁₀ (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Pinal and Gila Counties; Payson, AZ | PM ₁₀ (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Pinal County (part); West Pinal, AZ | PM ₁₀ (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Pitkin County; Aspen, CO | PM ₁₀ (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Pittsburgh Area, PA | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Pittsburgh-Beaver Valley, PA | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Pittsburgh-Beaver Valley, PA | PM _{2.5} (2006 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Plumas County, CA | PM _{2.5} (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Polk County, TN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |

Appendix A Air Quality Non-Attainment Area Results

Table A1-21

Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Direct and Indirect Impacts

Acetaldehyde 2018

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|-------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Portland Area: Portland Metro Service District Boundary, OR | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Power-Bannock Counties; Fort Hall Indian Reservation, ID | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Power-Bannock Counties; Portneuf Valley Area, ID | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Provo Area, UT | CO (1971 8-hour) | Maintenance, Moderate > 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Provo, UT | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Prowers County; Lamar, CO | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Raleigh-Durham Area, NC | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Ramsey County; (part), MN | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Reading, PA | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Reno Area, NV | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Rhinelander, WI | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Riverside County (Coachella Valley), CA | Ozone (2008 8-hour) | Nonattainment, Severe 15 | 25 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Riverside County; Coachella Valley planning area, CA | PM10 (1987 24-hour) | Nonattainment, Serious | 70 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Riverside, Los Angeles, Orange, and San Bernardino Counties; South Coast Air Basin, CA | PM10 (1987 24-hour) | Maintenance, Serious | 100 | 0 | 0.01 | 0.01 | 0.01 | 0.02 |
| Rosebud County; Lame Deer, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Routt County (part); Steamboat Springs, CO | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Sacramento Area, CA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Sacramento County, CA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Sacramento Metro, CA | Ozone (2008 8-hour) | Nonattainment, Severe 15 | 25 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Sacramento, CA | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Salem Area, OR | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Salt Lake City Area, UT | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Salt Lake City, UT | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |

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| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|---|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Salt Lake County, UT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Salt Lake County, UT | SO ₂ (1971 24-hour/Annual) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| San Bernardino County (part); excluding Searles Valley Planning area and South Coast Air Basin, CA | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| San Diego Area, CA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| San Diego County, CA | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| San Francisco Bay Area, CA | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| San Francisco Bay Area, CA | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| San Francisco-Oakland-San Jose Area, CA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| San Joaquin Valley Air Basin; Fresno, Kern, Kings, Madera, Merced, San Joaquin, Stanislaus, Tulare Counties, CA | PM10 (1987 24-hour) | Maintenance, Serious | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| San Joaquin Valley, CA | Ozone (2008 8-hour) | Nonattainment, Extreme | 10 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| San Joaquin Valley, CA | PM2.5 (2006 24-hour) | Nonattainment, Serious | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| San Joaquin Valley, CA | PM2.5 (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| San Luis Obispo (Eastern San Luis Obispo), CA | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| San Manuel, AZ | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| San Miguel County; Telluride, CO | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Sanders County (part); Thompson Falls and vicinity, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Santa Cruz County; Nogales planning area, AZ | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Seaford, DE | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Seattle-Tacoma Area, WA | CO (1971 8-hour) | Maintenance, Moderate > 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Seattle-Tacoma, WA | PM2.5 (2006 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Sheboygan County, WI | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |

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|---|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Sheridan County; City of Sheridan, WY | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Shoshone County (part); excluding Pinehurst, ID | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Shoshone County; City of Pinehurst, ID | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Silver Bow County; Butte, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Somerville Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Southwest Indiana, IN | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Spokane Area, WA | CO (1971 8-hour) | Maintenance, Serious | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Spokane County; (part), WA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Springfield Area, MA | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| St. Bernard Parish, LA | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| St. Louis Area, MO | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| St. Louis-St. Charles-Farmington, MO-IL | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Steubenville, OH-WV | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Steubenville-Weirton, OH-WV | PM2.5 (2006 24-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Stockton Area, CA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Sullivan County, TN | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Syracuse Area; Onondaga County, NY | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Tazewell County; Groveland Twp, IL | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Terre Haute, IN | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |

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Acetaldehyde 2018

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|---|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Thurston County; Cities of Olympia, Tumwater, and Lacey, WA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Toms River Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Tooele County (part), UT | SO ₂ (1971 24-hour/Annual) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Trenton Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Trona, CA | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Tucson Area, AZ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Tuscan Buttes, CA | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Union County; LaGrande, OR | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Upper Green River Basin Area, WY | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Utah County, UT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Vancouver Area: Clark County (part), WA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Ventura County, CA | Ozone (2008 8-hour) | Nonattainment, Serious | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Vermillion County; Part of Clinton Township, IN | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Vigo County, IN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Walla Walla County; Wallula, WA | PM10 (1987 24-hour) | Maintenance, Serious | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Waltham Area, MA | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Warren County: Conewago Twp, PA | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Warren County: Warren Boro, Pleasant Twp, Glade Twp, PA | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Warren, PA | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Washington Area, DC-MD-VA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Washington, DC-MD-VA | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Washoe County; Reno planning area, NV | PM10 (1987 24-hour) | Nonattainment, Serious | 70 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |

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Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Direct and Indirect Impacts

Acetaldehyde 2018

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|---|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Wayne County: Boston, Center, Franklin, Wayne & Webster Townships, IN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Wayne County; (part), MI | PM ₁₀ (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| West Central Pinal County, AZ | PM _{2.5} (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| West Silver Valley, ID | PM _{2.5} (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Winston-Salem Area, NC | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Worcester Area, MA | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Yakima Area, WA | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Yakima County; (part), WA | PM ₁₀ (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Yuba City-Marysville, CA | PM _{2.5} (2006 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Yuma County; Yuma planning area, AZ | PM ₁₀ (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |

^a Reductions are shown as positive values. Negative values are emissions increases. Values of less than 0.005 tons per year are rounded to zero.

^b Nonattainment or maintenance status as of 5/13/2016. Source: U.S. EPA, The Green Book Nonattainment Areas for Criteria Pollutants; <http://www.epa.gov/airquality/greenbook/>. "--" indicates that no severity classification has been established for the NAAQS pollutant.

^c Emissions thresholds in tons per year. Where the threshold differs by precursor pollutant, the smallest of the precursor thresholds is shown. These thresholds are provided for information only; a general conformity determination is not required for the Proposed Action. Source: 40 CFR 93.853.

Notes: CO = carbon monoxide; NAAQS =National Ambient Air Quality Standards; NO₂ = nitrogen dioxide; PM = particulate matter; SO₂ = sulfur dioxide

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Acetaldehyde 2025

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Ada County; Boise, ID | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Adams, Denver, and Boulder Counties; Denver Metropolitan area, CO | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.01 | 0.01 | 0.01 |
| Ajo, AZ | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Albuquerque Area, NM | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.01 | 0.00 | 0.01 |
| Allegheny County Air Basin: Hazelwood monitor, PA | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Allegheny County, PA | PM2.5 (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.01 | 0.01 | 0.01 |
| Allegheny County; The area including Liberty, Lincoln, Port Vue, and Glassport Boroughs and the City of Clairton, PA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Allegheny, PA | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Allentown, PA | PM2.5 (2006 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.01 | 0.00 | 0.00 |
| Allentown-Bethlehem-Easton, PA | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Anchorage Area, AK | CO (1971 8-hour) | Maintenance, Serious | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Anchorage; Eagle River, AK | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| AQCR 012: Portions of Grant County, NM | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| AQCR 109-Millinocket, ME | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| AQCR 131: Anoka, Carver, Dakota, Hennepin, Ramsey, Scott, and Washington counties (Minneapolis-St. Paul), MN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| AQCR 237: Brown County: Green Bay sub-city area, WI | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| AQCR 238: Marathon County: Rothschild Sub-city area, Rib Mountain, Weston, WI | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| AQCR 238: Oneida County: Rhinelander Sub-city area, WI | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| AQCR 239: Milwaukee County: Milwaukee sub-city area, WI | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |

Appendix A Air Quality Non-Attainment Area Results

Table A1-22

Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Direct and Indirect Impacts

Acetaldehyde 2025

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| AQCR 240: Dane County: Madison sub-city area, WI | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Archuleta County; Pagosa Springs, CO | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Armstrong County: Madison Twp, Mahoning Twp, Boggs Twp, Washington Twp, Pine Twp, PA | SO ₂ (1971 24-hour/Annual) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Aroostock County; City of Presque Isle, ME | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Atlanta, GA | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Atlantic City Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Bakersfield Area, CA | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.01 | 0.01 | 0.01 |
| Baltimore Area, MD | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Baltimore, MD | Ozone (2008 8-hour) | Nonattainment, Moderate | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Baton Rouge, LA | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Beaver, PA | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Benton County; (part) TVA Johnsonville, TN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Billings Area, MT | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Billings, MT | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Birmingham, AL | PM2.5 (2006 24-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.01 | 0.01 | 0.01 |
| Boise-Northern Ada County Area, ID | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Bonner County; The Sandpoint Area, ID | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Boston Area, MA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.01 | 0.00 | 0.01 |
| Boyd County (part), KY | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Brooke; Follansbee area, WV | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Burlington Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Calaveras County, CA | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Campbell-Clermont Counties, KY-OH | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |

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| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|---|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Canton-Massillon, OH | PM2.5 (2006 24-hour) | Maintenance, -- | 100 | 0 | 0.01 | 0.02 | 0.02 | 0.02 |
| Central New Hampshire, NH | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Central Steptoe Valley, NV | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Charleston, WV | PM2.5 (2006 24-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Charlotte Area, NC | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.01 | 0.01 | 0.01 |
| Charlotte-Rock Hill, NC-SC | Ozone (2008 8-hour) | Maintenance, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Chicago-Naperville, IL-IN-WI | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Chico (Butte County), CA | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Chico Area, CA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Chico, CA | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Cincinnati, OH-KY-IN | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Clark County; Las Vegas planning area, NV | PM10 (1987 24-hour) | Maintenance, Serious | 100 | 0 | 0.00 | 0.02 | 0.01 | 0.01 |
| Cleveland Area, OH | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.01 | 0.01 | 0.01 |
| Cleveland, OH | PM2.5 (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.01 | 0.01 | 0.01 |
| Cleveland-Akron-Lorain, OH | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Cleveland-Akron-Lorain, OH | PM2.5 (2006 24-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.03 | 0.02 | 0.02 |
| Cochise County; Paul Spur/Douglas planning area, AZ | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Colorado Springs Area, CO | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.01 | 0.00 | 0.00 |
| Columbus, OH | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Cook County; Lyons Township, IL | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Cook County; Southeast Chicago, IL | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Coshocton County; Franklin Township, OH | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Coso Junction, CA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Cuyahoga County (part), OH | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Cuyahoga County, OH | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.01 | 0.01 | 0.01 |

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|--|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Dallas-Fort Worth, TX | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Delaware County, PA | PM2.5 (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Denver-Boulder Area, CO | CO (1971 8-hour) | Maintenance, Serious | 100 | 0 | 0.00 | 0.02 | 0.02 | 0.02 |
| Denver-Boulder-Greeley-Ft Collins-Loveland, CO | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Detroit Area, MI | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.02 | 0.01 | 0.02 |
| Detroit, MI | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.01 | 0.00 | 0.01 |
| Detroit-Ann Arbor, MI | PM2.5 (2006 24-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.05 | 0.03 | 0.05 |
| Dona Ana County; Anthony, NM | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Douglas, AZ | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Dukes County, MA | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Duluth Area, MN | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| East Chicago Area, IN | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| East Helena Area, MT | SO ₂ (1971 24-hour/Annual) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| East Kern County Area, CA | PM10 (1987 24-hour) | Nonattainment, Serious | 70 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| El Paso County, TX | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| El Paso, TX | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Eugene-Springfield Area, OR | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Fairbanks Area, AK | CO (1971 8-hour) | Maintenance, Serious | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Fairbanks, AK | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |

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|---|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Flathead County; Columbia Falls and vicinity, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Flathead County; Kalispell and vicinity, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Flathead County; Whitefish and vicinity, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Fort Collins Area, CO | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Freehold Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Fremont County; Canon City Area, CO | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Fresno Area, CA | CO (1971 8-hour) | Maintenance, Moderate > 12.7ppm | 100 | 0 | 0.00 | 0.01 | 0.00 | 0.00 |
| Grants Pass Area, OR | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Great Falls Area, MT | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Greater Connecticut, CT | Ozone (2008 8-hour) | Nonattainment, Moderate | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Greeley Area, CO | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Hancock and Brooke Counties (Part); The city of Weirton, WV | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Hancock County (Part) The city of Weirton, including Butler and Clay; Magisterial Districts, WV | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Harrisburg-Lebanon-Carlisle-York, PA | PM2.5 (2006 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.01 | 0.01 | 0.01 |
| Hartford-New Britain-Middletown Area, CT | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.01 | 0.01 | 0.01 |
| Hayden, AZ | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Hayden, AZ | SO ₂ (1971 24-hour/Annual) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Hayden, AZ | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Hillsborough County, FL | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Houston-Galveston-Brazoria, TX | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Humphreys County; (part) TVA Johnsonville, TN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Imperial Co, CA | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |

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|--|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Imperial County, CA | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Imperial County, CA | PM2.5 (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Imperial County; Imperial Valley planning area, CA | PM10 (1987 24-hour) | Nonattainment, Serious | 70 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Indian Wells, CA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Indiana, PA | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Indianapolis Area, IN | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Indianapolis, IN | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Inyo County; Owens Valley planning area, CA | PM10 (1987 24-hour) | Nonattainment, Serious | 70 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Jackson County, MO | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Jackson County; Medford-Ashland (including White City), OR | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Jamestown, NY | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Jefferson County, KY | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Jefferson County, MO | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Jefferson County; (part) Steubenville & Mingo Junction, OH | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Jefferson County; (part), OH | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Johnstown, PA | PM2.5 (2006 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Josephine County; Grants Pass, OR | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Juneau; Mendenhall Valley area, AK | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Kern County (Eastern Kern), CA | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| King County; Kent, WA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| King County; Seattle, WA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Klamath County; Klamath Falls, OR | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Klamath Falls Area, OR | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Klamath Falls, OR | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |

Table A1-22
Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Direct and Indirect Impacts
Acetaldehyde 2025

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Knoxville, TN | Ozone (2008 8-hour) | Maintenance, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Knoxville-Sevierville-La Follette, TN | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.01 | 0.01 | 0.01 |
| La Porte County: (part), IN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lake County (part); Lakeview, OR | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lake County, OH | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lake County: (part), IN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lake County; (part) Eastlake, Timberlake, Lakeline, Willoughby, Mentor, OH | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lake County; Cities of East Chicago, Hammond, Whiting, and Gary, IN | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lake County; Polson, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lake County; Ronan, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lake Tahoe Nevada Area, NV | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lake Tahoe North Shore Area, CA | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lake Tahoe South Shore Area, CA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lancaster, PA | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lancaster, PA | PM2.5 (2006 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lane County (part); Oakridge, OR | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lane County; Eugene/Springfield, OR | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Las Vegas Area, NV | CO (1971 8-hour) | Maintenance, Serious | 100 | 0 | 0.00 | 0.01 | 0.01 | 0.01 |
| LaSalle County; Oglesby, IL | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Laurel Area, MT | SO ₂ (1971 24-hour/Annual) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lebanon County, PA | PM2.5 (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lemont, IL | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Liberty-Clairton, PA | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |

Appendix A Air Quality Non-Attainment Area Results

Table A1-22

Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Direct and Indirect Impacts

Acetaldehyde 2025

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Lincoln County; Libby and vicinity, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Logan, UT-ID | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Longmont Area, CO | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lorain County (part), OH | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Los Angeles, CA | PM2.5 (2006 24-hour) | Nonattainment, Serious | 100 | 0 | 0.48 | 1.20 | 1.17 | 1.82 |
| Los Angeles-San Bernardino Counties (West Mojave Desert), CA | Ozone (2008 8-hour) | Nonattainment, Severe 15 | 25 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Los Angeles-South Coast Air Basin Area, CA | CO (1971 8-hour) | Maintenance, Serious | 100 | 0 | 0.48 | 1.20 | 1.17 | 1.82 |
| Los Angeles-South Coast Air Basin Area, CA | NO ₂ (1971 Annual) | Maintenance, -- | 100 | 0 | 0.48 | 1.20 | 1.17 | 1.82 |
| Los Angeles-South Coast Air Basin, CA | Ozone (2008 8-hour) | Nonattainment, Extreme | 10 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Los Angeles-South Coast Air Basin, CA | PM2.5 (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 0.48 | 1.20 | 1.17 | 1.82 |
| Lowell Area, MA | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lucas County (part), OH | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Madison County; Granite City Township and Nameoki Township, IL | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Manchester Area, NH | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Maricopa and Pinal Counties; Phoenix planning area, AZ | PM10 (1987 24-hour) | Nonattainment, Serious | 70 | 0 | 0.00 | 0.03 | 0.02 | 0.03 |
| Marion County; Lawrence, Washington, and Warrant Townships, IN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Mariposa County, CA | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Marshall, WV | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Medford Area, OR | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Memphis Area, TN | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.01 | 0.03 | 0.03 | 0.04 |

Table A1-22
Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Direct and Indirect Impacts
Acetaldehyde 2025

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|---|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Memphis, TN-MS-AR | Ozone (2008 8-hour) | Nonattainment TN & Maintenance MS/AR, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Miami, AZ | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Miami, AZ | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Miami, AZ | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Milwaukee-Racine, WI | PM2.5 (2006 24-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.01 | 0.01 | 0.01 |
| Minneapolis-St. Paul Area, MN | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.03 | 0.10 | 0.09 | 0.14 |
| Missoula Area, MT | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Missoula county; Missoula and vicinity, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Modesto Area, CA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Mohave County (part); Bullhead City, AZ | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Mono County; Mammoth Lake planning area, CA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Mono County; Mono Basin, CA | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Morenci, AZ | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Morgan County, IN | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Morongo Band of Mission Indians | Ozone (2008 8-hour) | Nonattainment, Serious | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Morristown Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Muscatine County; (part), IA | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Muscatine, IA | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Muskingum River, OH | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Nashua Area, NH | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Nassau County, FL | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Nevada County (Western part), CA | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| New Haven County, CT | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |

Appendix A Air Quality Non-Attainment Area Results

Table A1-22

Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Direct and Indirect Impacts

Acetaldehyde 2025

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| New Haven-Meriden-Waterbury Area, CT | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.01 | 0.01 | 0.01 |
| New Manchester-Grant magisterial district in Hancock County, WV | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| New York County, NY | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.01 | 0.00 | 0.00 |
| New York, NY-NJ-CT | PM2.5 (2006 24-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.15 | 0.10 | 0.14 |
| New York-N. New Jersey-Long Island Area, NY-NJ-CT | CO (1971 8-hour) | Maintenance, Moderate > 12.7ppm | 100 | 0 | 0.00 | 0.08 | 0.05 | 0.08 |
| New York-N. New Jersey-Long Island, NY-NJ-CT | Ozone (2008 8-hour) | Nonattainment, Moderate | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| NJ portion of the Northeast Pennsylvania-Upper Delaware Valley Interstate AQCR: (part), NJ | SO ₂ (1971 24-hour/Annual) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Nogales, AZ | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Oakridge, OR | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Ogden Area, UT | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Ogden Area, UT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Olmsted County; (part), MN | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Olmsted; City of Rochester, MN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |

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Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Direct and Indirect Impacts
Acetaldehyde 2025

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Pechanga Band of Luiseno Mission Indians of the Pechanga Reservation | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Pekin, IL | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Penns Grove Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Peoria County: Hollis Twp, IL | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Peoria County: Peoria, IL | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Perth Amboy Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Philadelphia-Camden County Area, PA-NJ | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.01 | 0.01 | 0.01 |
| Philadelphia-Wilmington, PA-NJ-DE | PM _{2.5} (2006 24-hour) | Maintenance, Moderate for PA and DE Subject to Former Subpart 1 for NJ | 100 | 0 | 0.00 | 0.04 | 0.03 | 0.04 |
| Philadelphia-Wilmington-Atlantic City, PA-NJ-MD-DE | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Phoenix Area, AZ | CO (1971 8-hour) | Maintenance, Serious | 100 | 0 | 0.00 | 0.03 | 0.02 | 0.03 |
| Phoenix-Mesa, AZ | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Pierce County; Tacoma, WA | PM ₁₀ (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Pima County; Ajo planning area, AZ | PM ₁₀ (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Pima County; Rillito planning area, AZ | PM ₁₀ (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Pinal and Gila Counties; Payson, AZ | PM ₁₀ (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Pinal County (part); West Pinal, AZ | PM ₁₀ (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Pitkin County; Aspen, CO | PM ₁₀ (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Pittsburgh Area, PA | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Pittsburgh-Beaver Valley, PA | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Pittsburgh-Beaver Valley, PA | PM _{2.5} (2006 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.02 | 0.01 | 0.02 |
| Plumas County, CA | PM _{2.5} (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Polk County, TN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |

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Acetaldehyde 2025

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|-------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Portland Area: Portland Metro Service District Boundary, OR | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.01 | 0.01 | 0.01 |
| Power-Bannock Counties; Fort Hall Indian Reservation, ID | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Power-Bannock Counties; Portneuf Valley Area, ID | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Provo Area, UT | CO (1971 8-hour) | Maintenance, Moderate > 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Provo, UT | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Prowers County; Lamar, CO | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Raleigh-Durham Area, NC | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.01 | 0.01 | 0.01 |
| Ramsey County; (part), MN | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Reading, PA | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Reno Area, NV | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Rhinelander, WI | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Riverside County (Coachella Valley), CA | Ozone (2008 8-hour) | Nonattainment, Severe 15 | 25 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Riverside County; Coachella Valley planning area, CA | PM10 (1987 24-hour) | Nonattainment, Serious | 70 | 0 | 0.00 | 0.01 | 0.00 | 0.00 |
| Riverside, Los Angeles, Orange, and San Bernardino Counties; South Coast Air Basin, CA | PM10 (1987 24-hour) | Maintenance, Serious | 100 | 0 | 0.48 | 1.20 | 1.17 | 1.82 |
| Rosebud County; Lame Deer, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Routt County (part); Steamboat Springs, CO | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Sacramento Area, CA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.01 | 0.01 | 0.01 |
| Sacramento County, CA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.01 | 0.01 | 0.01 |
| Sacramento Metro, CA | Ozone (2008 8-hour) | Nonattainment, Severe 15 | 25 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Sacramento, CA | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.03 | 0.02 | 0.03 |
| Salem Area, OR | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Salt Lake City Area, UT | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Salt Lake City, UT | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.01 | 0.01 | 0.01 |

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Acetaldehyde 2025

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|---|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Salt Lake County, UT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.01 | 0.01 | 0.01 |
| Salt Lake County, UT | SO ₂ (1971 24-hour/Annual) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| San Bernardino County (part); excluding Searles Valley Planning area and South Coast Air Basin, CA | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.01 | 0.00 | 0.01 |
| San Diego Area, CA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.03 | 0.02 | 0.03 |
| San Diego County, CA | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| San Francisco Bay Area, CA | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| San Francisco Bay Area, CA | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.05 | 0.18 | 0.16 | 0.24 |
| San Francisco-Oakland-San Jose Area, CA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.05 | 0.17 | 0.15 | 0.24 |
| San Joaquin Valley Air Basin; Fresno, Kern, Kings, Madera, Merced, San Joaquin, Stanislaus, Tulare Counties, CA | PM10 (1987 24-hour) | Maintenance, Serious | 100 | 0 | 0.00 | 0.04 | 0.03 | 0.04 |
| San Joaquin Valley, CA | Ozone (2008 8-hour) | Nonattainment, Extreme | 10 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| San Joaquin Valley, CA | PM2.5 (2006 24-hour) | Nonattainment, Serious | 100 | 0 | 0.00 | 0.04 | 0.03 | 0.04 |
| San Joaquin Valley, CA | PM2.5 (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.04 | 0.03 | 0.04 |
| San Luis Obispo (Eastern San Luis Obispo), CA | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| San Manuel, AZ | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| San Miguel County; Telluride, CO | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Sanders County (part); Thompson Falls and vicinity, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Santa Cruz County; Nogales planning area, AZ | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Seaford, DE | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Seattle-Tacoma Area, WA | CO (1971 8-hour) | Maintenance, Moderate > 12.7ppm | 100 | 0 | 0.00 | 0.03 | 0.02 | 0.02 |
| Seattle-Tacoma, WA | PM2.5 (2006 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Sheboygan County, WI | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |

Appendix A Air Quality Non-Attainment Area Results

Table A1-22

Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Direct and Indirect Impacts

Acetaldehyde 2025

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|---|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Sheridan County; City of Sheridan, WY | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Shoshone County (part); excluding Pinehurst, ID | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Shoshone County; City of Pinehurst, ID | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Silver Bow County; Butte, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Somerville Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Southwest Indiana, IN | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Spokane Area, WA | CO (1971 8-hour) | Maintenance, Serious | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Spokane County; (part), WA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Springfield Area, MA | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| St. Bernard Parish, LA | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.01 | 0.03 | 0.03 | 0.05 |
| St. Louis Area, MO | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.01 | 0.01 | 0.01 |
| St. Louis-St. Charles-Farmington, MO-IL | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Steubenville, OH-WV | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Steubenville-Weirton, OH-WV | PM2.5 (2006 24-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Stockton Area, CA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Sullivan County, TN | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Syracuse Area; Onondaga County, NY | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.01 | 0.00 | 0.00 |
| Tazewell County; Groveland Twp, IL | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Terre Haute, IN | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |

Table A1-22
Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Direct and Indirect Impacts
Acetaldehyde 2025

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|---|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Thurston County; Cities of Olympia, Tumwater, and Lacey, WA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Toms River Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Tooele County (part), UT | SO ₂ (1971 24-hour/Annual) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Trenton Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Trona, CA | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Tucson Area, AZ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.01 | 0.01 | 0.01 |
| Tuscan Buttes, CA | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Union County; LaGrande, OR | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Upper Green River Basin Area, WY | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Utah County, UT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Vancouver Area: Clark County (part), WA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Ventura County, CA | Ozone (2008 8-hour) | Nonattainment, Serious | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Vermillion County; Part of Clinton Township, IN | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Vigo County, IN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Walla Walla County; Wallula, WA | PM10 (1987 24-hour) | Maintenance, Serious | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Waltham Area, MA | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Warren County: Conewago Twp, PA | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Warren County: Warren Boro, Pleasant Twp, Glade Twp, PA | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Warren, PA | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Washington Area, DC-MD-VA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.01 | 0.00 | 0.01 |
| Washington, DC-MD-VA | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Washoe County; Reno planning area, NV | PM10 (1987 24-hour) | Nonattainment, Serious | 70 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |

Appendix A Air Quality Non-Attainment Area Results

Table A1-22

Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Direct and Indirect Impacts

Acetaldehyde 2025

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|---|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Wayne County: Boston, Center, Franklin, Wayne & Webster Townships, IN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Wayne County; (part), MI | PM ₁₀ (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| West Central Pinal County, AZ | PM _{2.5} (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| West Silver Valley, ID | PM _{2.5} (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Winston-Salem Area, NC | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Worcester Area, MA | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Yakima Area, WA | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Yakima County; (part), WA | PM ₁₀ (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Yuba City-Marysville, CA | PM _{2.5} (2006 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Yuma County; Yuma planning area, AZ | PM ₁₀ (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |

^a Reductions are shown as positive values. Negative values are emissions increases. Values of less than 0.005 tons per year are rounded to zero.

^b Nonattainment or maintenance status as of 5/13/2016. Source: U.S. EPA, The Green Book Nonattainment Areas for Criteria Pollutants; <http://www.epa.gov/airquality/greenbook/>. "--" indicates that no severity classification has been established for the NAAQS pollutant.

^c Emissions thresholds in tons per year. Where the threshold differs by precursor pollutant, the smallest of the precursor thresholds is shown. These thresholds are provided for information only; a general conformity determination is not required for the Proposed Action. Source: 40 CFR 93.853.

Notes: CO = carbon monoxide; NAAQS =National Ambient Air Quality Standards; NO₂ = nitrogen dioxide; PM = particulate matter; SO₂ = sulfur dioxide

Table A1-23
Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Direct and Indirect Impacts
Acetaldehyde 2040

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Ada County; Boise, ID | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.02 | 0.01 | 0.01 |
| Adams, Denver, and Boulder Counties; Denver Metropolitan area, CO | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.01 | 0.07 | 0.03 | 0.04 |
| Ajo, AZ | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Albuquerque Area, NM | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.03 | 0.01 | 0.02 |
| Allegheny County Air Basin: Hazelwood monitor, PA | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Allegheny County, PA | PM2.5 (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.04 | 0.02 | 0.02 |
| Allegheny County; The area including Liberty, Lincoln, Port Vue, and Glassport Boroughs and the City of Clairton, PA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Allegheny, PA | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Allentown, PA | PM2.5 (2006 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.03 | 0.01 | 0.01 |
| Allentown-Bethlehem-Easton, PA | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Anchorage Area, AK | CO (1971 8-hour) | Maintenance, Serious | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Anchorage; Eagle River, AK | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| AQCR 012: Portions of Grant County, NM | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| AQCR 109-Millinocket, ME | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| AQCR 131: Anoka, Carver, Dakota, Hennepin, Ramsey, Scott, and Washington counties (Minneapolis-St. Paul), MN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| AQCR 237: Brown County: Green Bay sub-city area, WI | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| AQCR 238: Marathon County: Rothschild Sub-city area, Rib Mountain, Weston, WI | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| AQCR 238: Oneida County: Rhinelander Sub-city area, WI | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| AQCR 239: Milwaukee County: Milwaukee sub-city area, WI | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |

Appendix A Air Quality Non-Attainment Area Results

Table A1-23

Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Direct and Indirect Impacts

Acetaldehyde 2040

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| AQCR 240: Dane County: Madison sub-city area, WI | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Archuleta County; Pagosa Springs, CO | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Armstrong County: Madison Twp, Mahoning Twp, Boggs Twp, Washington Twp, Pine Twp, PA | SO ₂ (1971 24-hour/Annual) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Aroostock County; City of Presque Isle, ME | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Atlanta, GA | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Atlantic City Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Bakersfield Area, CA | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.01 | 0.04 | 0.02 | 0.03 |
| Baltimore Area, MD | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Baltimore, MD | Ozone (2008 8-hour) | Nonattainment, Moderate | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Baton Rouge, LA | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Beaver, PA | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Benton County; (part) TVA Johnsonville, TN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Billings Area, MT | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Billings, MT | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Birmingham, AL | PM2.5 (2006 24-hour) | Maintenance, -- | 100 | 0 | 0.01 | 0.06 | 0.03 | 0.03 |
| Boise-Northern Ada County Area, ID | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.02 | 0.01 | 0.01 |
| Bonner County; The Sandpoint Area, ID | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Boston Area, MA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.04 | 0.02 | 0.02 |
| Boyd County (part), KY | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Brooke; Follansbee area, WV | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Burlington Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Calaveras County, CA | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Campbell-Clermont Counties, KY-OH | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |

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Acetaldehyde 2040

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|---|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Canton-Massillon, OH | PM2.5 (2006 24-hour) | Maintenance, -- | 100 | 0 | 0.02 | 0.07 | 0.05 | 0.08 |
| Central New Hampshire, NH | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.01 | 0.00 | 0.01 |
| Central Steptoe Valley, NV | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Charleston, WV | PM2.5 (2006 24-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.02 | 0.01 | 0.01 |
| Charlotte Area, NC | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.01 | 0.06 | 0.03 | 0.03 |
| Charlotte-Rock Hill, NC-SC | Ozone (2008 8-hour) | Maintenance, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Chicago-Naperville, IL-IN-WI | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Chico (Butte County), CA | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Chico Area, CA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Chico, CA | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.01 | 0.00 | 0.00 |
| Cincinnati, OH-KY-IN | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Clark County; Las Vegas planning area, NV | PM10 (1987 24-hour) | Maintenance, Serious | 100 | 0 | 0.01 | 0.08 | 0.03 | 0.04 |
| Cleveland Area, OH | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.05 | 0.02 | 0.02 |
| Cleveland, OH | PM2.5 (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 0.01 | 0.06 | 0.03 | 0.03 |
| Cleveland-Akron-Lorain, OH | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Cleveland-Akron-Lorain, OH | PM2.5 (2006 24-hour) | Maintenance, -- | 100 | 0 | 0.01 | 0.13 | 0.06 | 0.07 |
| Cochise County; Paul Spur/Douglas planning area, AZ | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Colorado Springs Area, CO | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.03 | 0.01 | 0.01 |
| Columbus, OH | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Cook County; Lyons Township, IL | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Cook County; Southeast Chicago, IL | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Coshocton County; Franklin Township, OH | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Coso Junction, CA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Cuyahoga County (part), OH | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Cuyahoga County, OH | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.05 | 0.02 | 0.02 |

Appendix A Air Quality Non-Attainment Area Results

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Acetaldehyde 2040

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Dallas-Fort Worth, TX | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Delaware County, PA | PM2.5 (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.02 | 0.01 | 0.01 |
| Denver-Boulder Area, CO | CO (1971 8-hour) | Maintenance, Serious | 100 | 0 | 0.01 | 0.12 | 0.05 | 0.06 |
| Denver-Boulder-Greeley-Ft Collins-Loveland, CO | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Detroit Area, MI | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.01 | 0.08 | 0.04 | 0.05 |
| Detroit, MI | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.01 | 0.03 | 0.02 | 0.02 |
| Detroit-Ann Arbor, MI | PM2.5 (2006 24-hour) | Maintenance, -- | 100 | 0 | 0.03 | 0.25 | 0.11 | 0.13 |
| Dona Ana County; Anthony, NM | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Douglas, AZ | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Dukes County, MA | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Duluth Area, MN | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.01 | 0.00 | 0.00 |
| East Chicago Area, IN | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| East Helena Area, MT | SO ₂ (1971 24-hour/Annual) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| East Kern County Area, CA | PM10 (1987 24-hour) | Nonattainment, Serious | 70 | 0 | 0.00 | 0.01 | 0.01 | 0.01 |
| El Paso County, TX | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.02 | 0.01 | 0.01 |
| El Paso, TX | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Eugene-Springfield Area, OR | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.01 | 0.00 | 0.01 |
| Fairbanks Area, AK | CO (1971 8-hour) | Maintenance, Serious | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Fairbanks, AK | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |

Table A1-23
Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Direct and Indirect Impacts
Acetaldehyde 2040

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|---|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Flathead County; Columbia Falls and vicinity, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Flathead County; Kalispell and vicinity, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Flathead County; Whitefish and vicinity, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Fort Collins Area, CO | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.01 | 0.00 | 0.00 |
| Freehold Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Fremont County; Canon City Area, CO | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Fresno Area, CA | CO (1971 8-hour) | Maintenance, Moderate > 12.7ppm | 100 | 0 | 0.00 | 0.03 | 0.01 | 0.01 |
| Grants Pass Area, OR | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Great Falls Area, MT | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Greater Connecticut, CT | Ozone (2008 8-hour) | Nonattainment, Moderate | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Greeley Area, CO | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.02 | 0.01 | 0.01 |
| Hancock and Brooke Counties (Part); The city of Weirton, WV | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Hancock County (Part) The city of Weirton, including Butler and Clay: Magisterial Districts, WV | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Harrisburg-Lebanon-Carlisle-York, PA | PM2.5 (2006 24-hour) | Maintenance, Moderate | 100 | 0 | 0.01 | 0.06 | 0.03 | 0.03 |
| Hartford-New Britain-Middletown Area, CT | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.01 | 0.05 | 0.02 | 0.03 |
| Hayden, AZ | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Hayden, AZ | SO ₂ (1971 24-hour/Annual) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Hayden, AZ | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Hillsborough County, FL | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Houston-Galveston-Brazoria, TX | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Humphreys County; (part) TVA Johnsonville, TN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Imperial Co, CA | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.01 | 0.00 | 0.01 |

Appendix A Air Quality Non-Attainment Area Results

Table A1-23

Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Direct and Indirect Impacts

Acetaldehyde 2040

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Imperial County, CA | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Imperial County, CA | PM2.5 (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.01 | 0.00 | 0.01 |
| Imperial County; Imperial Valley planning area, CA | PM10 (1987 24-hour) | Nonattainment, Serious | 70 | 0 | 0.00 | 0.01 | 0.01 | 0.01 |
| Indian Wells, CA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.01 | 0.01 | 0.01 |
| Indiana, PA | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Indianapolis Area, IN | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Indianapolis, IN | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.02 | 0.01 | 0.01 |
| Inyo County; Owens Valley planning area, CA | PM10 (1987 24-hour) | Nonattainment, Serious | 70 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Jackson County, MO | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Jackson County; Medford-Ashland (including White City), OR | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.01 | 0.00 | 0.00 |
| Jamestown, NY | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Jefferson County, KY | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Jefferson County, MO | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Jefferson County; (part) Steubenville & Mingo Junction, OH | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Jefferson County; (part), OH | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Johnstown, PA | PM2.5 (2006 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.01 | 0.00 | 0.00 |
| Josephine County; Grants Pass, OR | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Juneau; Mendenhall Valley area, AK | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Kern County (Eastern Kern), CA | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| King County; Kent, WA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| King County; Seattle, WA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Klamath County; Klamath Falls, OR | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Klamath Falls Area, OR | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Klamath Falls, OR | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |

Table A1-23
Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Direct and Indirect Impacts
Acetaldehyde 2040

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Knoxville, TN | Ozone (2008 8-hour) | Maintenance, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Knoxville-Sevierville-La Follette, TN | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.05 | 0.02 | 0.02 |
| La Porte County: (part), IN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lake County (part); Lakeview, OR | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lake County, OH | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.01 | 0.01 | 0.01 |
| Lake County: (part), IN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lake County; (part) Eastlake, Timberlake, Lakeline, Willoughby, Mentor, OH | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lake County; Cities of East Chicago, Hammond, Whiting, and Gary, IN | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.01 | 0.00 | 0.00 |
| Lake County; Polson, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lake County; Ronan, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lake Tahoe Nevada Area, NV | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lake Tahoe North Shore Area, CA | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lake Tahoe South Shore Area, CA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lancaster, PA | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lancaster, PA | PM2.5 (2006 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.03 | 0.01 | 0.01 |
| Lane County (part); Oakridge, OR | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lane County; Eugene/Springfield, OR | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.01 | 0.00 | 0.01 |
| Las Vegas Area, NV | CO (1971 8-hour) | Maintenance, Serious | 100 | 0 | 0.01 | 0.08 | 0.03 | 0.04 |
| LaSalle County; Oglesby, IL | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Laurel Area, MT | SO ₂ (1971 24-hour/Annual) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lebanon County, PA | PM2.5 (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.01 | 0.00 | 0.00 |
| Lemont, IL | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.01 | 0.00 | 0.00 |
| Liberty-Clairton, PA | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |

Appendix A Air Quality Non-Attainment Area Results

Table A1-23

Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Direct and Indirect Impacts

Acetaldehyde 2040

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Lincoln County; Libby and vicinity, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Logan, UT-ID | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Longmont Area, CO | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lorain County (part), OH | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Los Angeles, CA | PM2.5 (2006 24-hour) | Nonattainment, Serious | 100 | 0 | 1.65 | 5.09 | 3.87 | 5.54 |
| Los Angeles-San Bernardino Counties (West Mojave Desert), CA | Ozone (2008 8-hour) | Nonattainment, Severe 15 | 25 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Los Angeles-South Coast Air Basin Area, CA | CO (1971 8-hour) | Maintenance, Serious | 100 | 0 | 1.65 | 5.09 | 3.87 | 5.54 |
| Los Angeles-South Coast Air Basin Area, CA | NO ₂ (1971 Annual) | Maintenance, -- | 100 | 0 | 1.65 | 5.09 | 3.87 | 5.54 |
| Los Angeles-South Coast Air Basin, CA | Ozone (2008 8-hour) | Nonattainment, Extreme | 10 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Los Angeles-South Coast Air Basin, CA | PM2.5 (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 1.65 | 5.09 | 3.87 | 5.54 |
| Lowell Area, MA | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.01 | 0.00 | 0.00 |
| Lucas County (part), OH | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Madison County; Granite City Township and Nameoki Township, IL | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.01 | 0.00 | 0.01 |
| Manchester Area, NH | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Maricopa and Pinal Counties; Phoenix planning area, AZ | PM10 (1987 24-hour) | Nonattainment, Serious | 70 | 0 | 0.02 | 0.17 | 0.07 | 0.09 |
| Marion County; Lawrence, Washington, and Warrant Townships, IN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Mariposa County, CA | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Marshall, WV | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Medford Area, OR | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Memphis Area, TN | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.04 | 0.13 | 0.09 | 0.12 |

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Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Direct and Indirect Impacts
Acetaldehyde 2040

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|---|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Memphis, TN-MS-AR | Ozone (2008 8-hour) | Nonattainment TN & Maintenance MS/AR, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Miami, AZ | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Miami, AZ | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Miami, AZ | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Milwaukee-Racine, WI | PM2.5 (2006 24-hour) | Maintenance, -- | 100 | 0 | 0.01 | 0.06 | 0.02 | 0.03 |
| Minneapolis-St. Paul Area, MN | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.12 | 0.44 | 0.30 | 0.42 |
| Missoula Area, MT | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Missoula county; Missoula and vicinity, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Modesto Area, CA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.01 | 0.00 | 0.00 |
| Mohave County (part); Bullhead City, AZ | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Mono County; Mammoth Lake planning area, CA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Mono County; Mono Basin, CA | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Morenci, AZ | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Morgan County, IN | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Morongo Band of Mission Indians | Ozone (2008 8-hour) | Nonattainment, Serious | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Morristown Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Muscatine County; (part), IA | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Muscatine, IA | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Muskingum River, OH | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Nashua Area, NH | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Nassau County, FL | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Nevada County (Western part), CA | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| New Haven County, CT | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |

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Acetaldehyde 2040

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| New Haven-Meriden-Waterbury Area, CT | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.04 | 0.02 | 0.02 |
| New Manchester-Grant magisterial district in Hancock County, WV | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| New York County, NY | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.03 | 0.01 | 0.01 |
| New York, NY-NJ-CT | PM2.5 (2006 24-hour) | Maintenance, -- | 100 | 0 | 0.08 | 0.76 | 0.32 | 0.38 |
| New York-N. New Jersey-Long Island Area, NY-NJ-CT | CO (1971 8-hour) | Maintenance, Moderate > 12.7ppm | 100 | 0 | 0.04 | 0.42 | 0.18 | 0.21 |
| New York-N. New Jersey-Long Island, NY-NJ-CT | Ozone (2008 8-hour) | Nonattainment, Moderate | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| NJ portion of the Northeast Pennsylvania-Upper Delaware Valley Interstate AQCR: (part), NJ | SO ₂ (1971 24-hour/Annual) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Nogales, AZ | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Oakridge, OR | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Ogden Area, UT | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Ogden Area, UT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Olmsted County; (part), MN | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Olmsted; City of Rochester, MN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |

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Acetaldehyde 2040

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Pechanga Band of Luiseno Mission Indians of the Pechanga Reservation | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Pekin, IL | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Penns Grove Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Peoria County: Hollis Twp, IL | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Peoria County: Peoria, IL | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Perth Amboy Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.01 | 0.00 | 0.00 |
| Philadelphia-Camden County Area, PA-NJ | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.04 | 0.02 | 0.02 |
| Philadelphia-Wilmington, PA-NJ-DE | PM _{2.5} (2006 24-hour) | Maintenance, Moderate for PA and DE Subject to Former Subpart 1 for NJ | 100 | 0 | 0.02 | 0.20 | 0.09 | 0.10 |
| Philadelphia-Wilmington-Atlantic City, PA-NJ-MD-DE | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Phoenix Area, AZ | CO (1971 8-hour) | Maintenance, Serious | 100 | 0 | 0.02 | 0.17 | 0.07 | 0.08 |
| Phoenix-Mesa, AZ | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Pierce County; Tacoma, WA | PM ₁₀ (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Pima County; Ajo planning area, AZ | PM ₁₀ (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Pima County; Rillito planning area, AZ | PM ₁₀ (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Pinal and Gila Counties; Payson, AZ | PM ₁₀ (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Pinal County (part); West Pinal, AZ | PM ₁₀ (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.02 | 0.01 | 0.01 |
| Pitkin County; Aspen, CO | PM ₁₀ (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Pittsburgh Area, PA | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.01 | 0.00 | 0.00 |
| Pittsburgh-Beaver Valley, PA | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Pittsburgh-Beaver Valley, PA | PM _{2.5} (2006 24-hour) | Maintenance, Moderate | 100 | 0 | 0.01 | 0.09 | 0.04 | 0.04 |
| Plumas County, CA | PM _{2.5} (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Polk County, TN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |

Appendix A Air Quality Non-Attainment Area Results

Table A1-23

Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Direct and Indirect Impacts

Acetaldehyde 2040

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|-------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Portland Area: Portland Metro Service District Boundary, OR | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.01 | 0.06 | 0.02 | 0.03 |
| Power-Bannock Counties; Fort Hall Indian Reservation, ID | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Power-Bannock Counties; Portneuf Valley Area, ID | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Provo Area, UT | CO (1971 8-hour) | Maintenance, Moderate > 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Provo, UT | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.02 | 0.01 | 0.01 |
| Prowers County; Lamar, CO | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Raleigh-Durham Area, NC | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.01 | 0.07 | 0.03 | 0.03 |
| Ramsey County; (part), MN | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Reading, PA | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Reno Area, NV | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.02 | 0.01 | 0.01 |
| Rhineland, WI | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Riverside County (Coachella Valley), CA | Ozone (2008 8-hour) | Nonattainment, Severe 15 | 25 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Riverside County; Coachella Valley planning area, CA | PM10 (1987 24-hour) | Nonattainment, Serious | 70 | 0 | 0.00 | 0.02 | 0.01 | 0.01 |
| Riverside, Los Angeles, Orange, and San Bernardino Counties; South Coast Air Basin, CA | PM10 (1987 24-hour) | Maintenance, Serious | 100 | 0 | 1.65 | 5.09 | 3.87 | 5.54 |
| Rosebud County; Lame Deer, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Routt County (part); Steamboat Springs, CO | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Sacramento Area, CA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.01 | 0.06 | 0.03 | 0.03 |
| Sacramento County, CA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.01 | 0.06 | 0.03 | 0.03 |
| Sacramento Metro, CA | Ozone (2008 8-hour) | Nonattainment, Severe 15 | 25 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Sacramento, CA | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.02 | 0.13 | 0.06 | 0.07 |
| Salem Area, OR | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.01 | 0.01 | 0.01 |
| Salt Lake City Area, UT | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.01 | 0.00 | 0.00 |
| Salt Lake City, UT | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.01 | 0.08 | 0.03 | 0.04 |

Table A1-23
Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Direct and Indirect Impacts
Acetaldehyde 2040

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|---|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Salt Lake County, UT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.04 | 0.02 | 0.02 |
| Salt Lake County, UT | SO ₂ (1971 24-hour/Annual) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| San Bernardino County (part); excluding Searles Valley Planning area and South Coast Air Basin, CA | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.03 | 0.01 | 0.01 |
| San Diego Area, CA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.02 | 0.16 | 0.07 | 0.08 |
| San Diego County, CA | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| San Francisco Bay Area, CA | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| San Francisco Bay Area, CA | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.21 | 0.79 | 0.52 | 0.73 |
| San Francisco-Oakland-San Jose Area, CA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.20 | 0.76 | 0.51 | 0.71 |
| San Joaquin Valley Air Basin; Fresno, Kern, Kings, Madera, Merced, San Joaquin, Stanislaus, Tulare Counties, CA | PM10 (1987 24-hour) | Maintenance, Serious | 100 | 0 | 0.03 | 0.22 | 0.10 | 0.12 |
| San Joaquin Valley, CA | Ozone (2008 8-hour) | Nonattainment, Extreme | 10 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| San Joaquin Valley, CA | PM2.5 (2006 24-hour) | Nonattainment, Serious | 100 | 0 | 0.03 | 0.22 | 0.10 | 0.12 |
| San Joaquin Valley, CA | PM2.5 (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 0.03 | 0.22 | 0.10 | 0.12 |
| San Luis Obispo (Eastern San Luis Obispo), CA | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| San Manuel, AZ | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| San Miguel County; Telluride, CO | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Sanders County (part); Thompson Falls and vicinity, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Santa Cruz County; Nogales planning area, AZ | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Seaford, DE | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Seattle-Tacoma Area, WA | CO (1971 8-hour) | Maintenance, Moderate > 12.7ppm | 100 | 0 | 0.01 | 0.13 | 0.06 | 0.07 |
| Seattle-Tacoma, WA | PM2.5 (2006 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.02 | 0.01 | 0.01 |
| Sheboygan County, WI | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |

Appendix A Air Quality Non-Attainment Area Results

Table A1-23

Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Direct and Indirect Impacts

Acetaldehyde 2040

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|---|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Sheridan County; City of Sheridan, WY | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Shoshone County (part); excluding Pinehurst, ID | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Shoshone County; City of Pinehurst, ID | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Silver Bow County; Butte, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Somerville Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Southwest Indiana, IN | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Spokane Area, WA | CO (1971 8-hour) | Maintenance, Serious | 100 | 0 | 0.00 | 0.01 | 0.01 | 0.01 |
| Spokane County; (part), WA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.01 | 0.01 | 0.01 |
| Springfield Area, MA | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.01 | 0.00 | 0.00 |
| St. Bernard Parish, LA | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.04 | 0.12 | 0.10 | 0.15 |
| St. Louis Area, MO | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.04 | 0.02 | 0.02 |
| St. Louis-St. Charles-Farmington, MO-IL | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Steubenville, OH-WV | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Steubenville-Weirton, OH-WV | PM2.5 (2006 24-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.01 | 0.00 | 0.00 |
| Stockton Area, CA | CO (1971 8-hour) | Maintenance, Moderate ≤ 12.7ppm | 100 | 0 | 0.00 | 0.02 | 0.01 | 0.01 |
| Sullivan County, TN | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Syracuse Area; Onondaga County, NY | CO (1971 8-hour) | Maintenance, Moderate ≤ 12.7ppm | 100 | 0 | 0.00 | 0.03 | 0.01 | 0.01 |
| Tazewell County; Groveland Twp, IL | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Terre Haute, IN | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |

Table A1-23
Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Direct and Indirect Impacts
Acetaldehyde 2040

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|---|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Thurston County; Cities of Olympia, Tumwater, and Lacey, WA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Toms River Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Tooele County (part), UT | SO ₂ (1971 24-hour/Annual) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Trenton Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Trona, CA | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Tucson Area, AZ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.04 | 0.02 | 0.02 |
| Tuscan Buttes, CA | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Union County; LaGrande, OR | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Upper Green River Basin Area, WY | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Utah County, UT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.02 | 0.01 | 0.01 |
| Vancouver Area: Clark County (part), WA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.01 | 0.01 | 0.01 |
| Ventura County, CA | Ozone (2008 8-hour) | Nonattainment, Serious | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Vermillion County; Part of Clinton Township, IN | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Vigo County, IN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Walla Walla County; Wallula, WA | PM10 (1987 24-hour) | Maintenance, Serious | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Waltham Area, MA | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Warren County: Conewago Twp, PA | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Warren County: Warren Boro, Pleasant Twp, Glade Twp, PA | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Warren, PA | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Washington Area, DC-MD-VA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.03 | 0.01 | 0.02 |
| Washington, DC-MD-VA | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Washoe County; Reno planning area, NV | PM10 (1987 24-hour) | Nonattainment, Serious | 70 | 0 | 0.00 | 0.02 | 0.01 | 0.01 |

Appendix A Air Quality Non-Attainment Area Results

Table A1-23

Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Direct and Indirect Impacts

Acetaldehyde 2040

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|---|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Wayne County: Boston, Center, Franklin, Wayne & Webster Townships, IN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Wayne County; (part), MI | PM ₁₀ (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.01 | 0.01 | 0.01 |
| West Central Pinal County, AZ | PM _{2.5} (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| West Silver Valley, ID | PM _{2.5} (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Winston-Salem Area, NC | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.02 | 0.01 | 0.01 |
| Worcester Area, MA | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.01 | 0.00 | 0.01 |
| Yakima Area, WA | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Yakima County; (part), WA | PM ₁₀ (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.01 | 0.00 | 0.00 |
| Yuba City-Marysville, CA | PM _{2.5} (2006 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.01 | 0.00 | 0.00 |
| Yuma County; Yuma planning area, AZ | PM ₁₀ (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.01 | 0.00 | 0.00 |

^a Reductions are shown as positive values. Negative values are emissions increases. Values of less than 0.005 tons per year are rounded to zero.

^b Nonattainment or maintenance status as of 5/13/2016. Source: U.S. EPA, The Green Book Nonattainment Areas for Criteria Pollutants; <http://www.epa.gov/airquality/greenbook/>. "--" indicates that no severity classification has been established for the NAAQS pollutant.

^c Emissions thresholds in tons per year. Where the threshold differs by precursor pollutant, the smallest of the precursor thresholds is shown. These thresholds are provided for information only; a general conformity determination is not required for the Proposed Action. Source: 40 CFR 93.853.

Notes: CO = carbon monoxide; NAAQS =National Ambient Air Quality Standards; NO₂ = nitrogen dioxide; PM = particulate matter; SO₂ = sulfur dioxide

Table A1-24
Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Direct and Indirect Impacts
Acetaldehyde 2050

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Ada County; Boise, ID | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.02 | 0.01 | 0.01 |
| Adams, Denver, and Boulder Counties; Denver Metropolitan area, CO | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.01 | 0.09 | 0.04 | 0.05 |
| Ajo, AZ | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Albuquerque Area, NM | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.04 | 0.02 | 0.02 |
| Allegheny County Air Basin: Hazelwood monitor, PA | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Allegheny County, PA | PM2.5 (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 0.01 | 0.05 | 0.02 | 0.02 |
| Allegheny County; The area including Liberty, Lincoln, Port Vue, and Glassport Boroughs and the City of Clairton, PA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Allegheny, PA | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Allentown, PA | PM2.5 (2006 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.03 | 0.01 | 0.02 |
| Allentown-Bethlehem-Easton, PA | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Anchorage Area, AK | CO (1971 8-hour) | Maintenance, Serious | 100 | 0 | 0.00 | 0.01 | 0.00 | 0.00 |
| Anchorage; Eagle River, AK | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| AQCR 012: Portions of Grant County, NM | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| AQCR 109-Millinocket, ME | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| AQCR 131: Anoka, Carver, Dakota, Hennepin, Ramsey, Scott, and Washington counties (Minneapolis-St. Paul), MN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| AQCR 237: Brown County: Green Bay sub-city area, WI | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| AQCR 238: Marathon County: Rothschild Sub-city area, Rib Mountain, Weston, WI | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| AQCR 238: Oneida County: Rhinelander Sub-city area, WI | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| AQCR 239: Milwaukee County: Milwaukee sub-city area, WI | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |

Appendix A Air Quality Non-Attainment Area Results

Table A1-24

Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Direct and Indirect Impacts

Acetaldehyde 2050

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| AQCR 240: Dane County: Madison sub-city area, WI | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Archuleta County; Pagosa Springs, CO | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Armstrong County: Madison Twp, Mahoning Twp, Boggs Twp, Washington Twp, Pine Twp, PA | SO ₂ (1971 24-hour/Annual) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Aroostock County; City of Presque Isle, ME | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Atlanta, GA | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Atlantic City Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Bakersfield Area, CA | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.01 | 0.04 | 0.02 | 0.03 |
| Baltimore Area, MD | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Baltimore, MD | Ozone (2008 8-hour) | Nonattainment, Moderate | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Baton Rouge, LA | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Beaver, PA | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Benton County; (part) TVA Johnsonville, TN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Billings Area, MT | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Billings, MT | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Birmingham, AL | PM2.5 (2006 24-hour) | Maintenance, -- | 100 | 0 | 0.01 | 0.08 | 0.03 | 0.04 |
| Boise-Northern Ada County Area, ID | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.02 | 0.01 | 0.01 |
| Bonner County; The Sandpoint Area, ID | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Boston Area, MA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.04 | 0.02 | 0.02 |
| Boyd County (part), KY | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Brooke; Follansbee area, WV | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Burlington Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Calaveras County, CA | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Campbell-Clermont Counties, KY-OH | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |

Table A1-24
Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Direct and Indirect Impacts
Acetaldehyde 2050

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|---|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Canton-Massillon, OH | PM2.5 (2006 24-hour) | Maintenance, -- | 100 | 0 | 0.02 | 0.09 | 0.06 | 0.09 |
| Central New Hampshire, NH | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.01 | 0.01 | 0.01 |
| Central Steptoe Valley, NV | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Charleston, WV | PM2.5 (2006 24-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.02 | 0.01 | 0.01 |
| Charlotte Area, NC | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.01 | 0.08 | 0.03 | 0.04 |
| Charlotte-Rock Hill, NC-SC | Ozone (2008 8-hour) | Maintenance, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Chicago-Naperville, IL-IN-WI | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Chico (Butte County), CA | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Chico Area, CA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.01 | 0.00 | 0.00 |
| Chico, CA | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.01 | 0.01 | 0.01 |
| Cincinnati, OH-KY-IN | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Clark County; Las Vegas planning area, NV | PM10 (1987 24-hour) | Maintenance, Serious | 100 | 0 | 0.01 | 0.09 | 0.04 | 0.05 |
| Cleveland Area, OH | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.01 | 0.06 | 0.02 | 0.03 |
| Cleveland, OH | PM2.5 (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 0.01 | 0.07 | 0.03 | 0.04 |
| Cleveland-Akron-Lorain, OH | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Cleveland-Akron-Lorain, OH | PM2.5 (2006 24-hour) | Maintenance, -- | 100 | 0 | 0.02 | 0.16 | 0.07 | 0.08 |
| Cochise County; Paul Spur/Douglas planning area, AZ | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Colorado Springs Area, CO | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.03 | 0.01 | 0.02 |
| Columbus, OH | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Cook County; Lyons Township, IL | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Cook County; Southeast Chicago, IL | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Coshocton County; Franklin Township, OH | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Coso Junction, CA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Cuyahoga County (part), OH | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Cuyahoga County, OH | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.01 | 0.06 | 0.02 | 0.03 |

Appendix A Air Quality Non-Attainment Area Results

Table A1-24

Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Direct and Indirect Impacts

Acetaldehyde 2050

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Dallas-Fort Worth, TX | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Delaware County, PA | PM2.5 (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.02 | 0.01 | 0.01 |
| Denver-Boulder Area, CO | CO (1971 8-hour) | Maintenance, Serious | 100 | 0 | 0.02 | 0.15 | 0.07 | 0.08 |
| Denver-Boulder-Greeley-Ft Collins-Loveland, CO | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Detroit Area, MI | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.01 | 0.09 | 0.04 | 0.05 |
| Detroit, MI | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.01 | 0.03 | 0.02 | 0.02 |
| Detroit-Ann Arbor, MI | PM2.5 (2006 24-hour) | Maintenance, -- | 100 | 0 | 0.04 | 0.31 | 0.14 | 0.16 |
| Dona Ana County; Anthony, NM | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Douglas, AZ | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Dukes County, MA | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Duluth Area, MN | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.01 | 0.00 | 0.00 |
| East Chicago Area, IN | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| East Helena Area, MT | SO ₂ (1971 24-hour/Annual) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| East Kern County Area, CA | PM10 (1987 24-hour) | Nonattainment, Serious | 70 | 0 | 0.00 | 0.01 | 0.01 | 0.02 |
| El Paso County, TX | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.02 | 0.01 | 0.01 |
| El Paso, TX | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Eugene-Springfield Area, OR | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.01 | 0.01 | 0.01 |
| Fairbanks Area, AK | CO (1971 8-hour) | Maintenance, Serious | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Fairbanks, AK | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |

Table A1-24
Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Direct and Indirect Impacts
Acetaldehyde 2050

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|---|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Flathead County; Columbia Falls and vicinity, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Flathead County; Kalispell and vicinity, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Flathead County; Whitefish and vicinity, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Fort Collins Area, CO | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.01 | 0.00 | 0.00 |
| Freehold Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Fremont County; Canon City Area, CO | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Fresno Area, CA | CO (1971 8-hour) | Maintenance, Moderate > 12.7ppm | 100 | 0 | 0.00 | 0.03 | 0.01 | 0.02 |
| Grants Pass Area, OR | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Great Falls Area, MT | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Greater Connecticut, CT | Ozone (2008 8-hour) | Nonattainment, Moderate | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Greeley Area, CO | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.02 | 0.01 | 0.01 |
| Hancock and Brooke Counties (Part); The city of Weirton, WV | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Hancock County (Part) The city of Weirton, including Butler and Clay: Magisterial Districts, WV | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Harrisburg-Lebanon-Carlisle-York, PA | PM2.5 (2006 24-hour) | Maintenance, Moderate | 100 | 0 | 0.01 | 0.08 | 0.03 | 0.04 |
| Hartford-New Britain-Middletown Area, CT | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.01 | 0.07 | 0.03 | 0.03 |
| Hayden, AZ | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Hayden, AZ | SO ₂ (1971 24-hour/Annual) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Hayden, AZ | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Hillsborough County, FL | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Houston-Galveston-Brazoria, TX | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Humphreys County; (part) TVA Johnsonville, TN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Imperial Co, CA | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.01 | 0.01 | 0.01 |

Appendix A Air Quality Non-Attainment Area Results

Table A1-24

Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Direct and Indirect Impacts

Acetaldehyde 2050

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Imperial County, CA | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Imperial County, CA | PM2.5 (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.01 | 0.01 | 0.01 |
| Imperial County; Imperial Valley planning area, CA | PM10 (1987 24-hour) | Nonattainment, Serious | 70 | 0 | 0.00 | 0.02 | 0.01 | 0.01 |
| Indian Wells, CA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.01 | 0.01 | 0.02 |
| Indiana, PA | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.01 | 0.00 | 0.00 |
| Indianapolis Area, IN | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Indianapolis, IN | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.03 | 0.01 | 0.01 |
| Inyo County; Owens Valley planning area, CA | PM10 (1987 24-hour) | Nonattainment, Serious | 70 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Jackson County, MO | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Jackson County; Medford-Ashland (including White City), OR | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.01 | 0.01 | 0.01 |
| Jamestown, NY | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Jefferson County, KY | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Jefferson County, MO | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Jefferson County; (part) Steubenville & Mingo Junction, OH | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Jefferson County; (part), OH | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Johnstown, PA | PM2.5 (2006 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.01 | 0.00 | 0.00 |
| Josephine County; Grants Pass, OR | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Juneau; Mendenhall Valley area, AK | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Kern County (Eastern Kern), CA | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| King County; Kent, WA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| King County; Seattle, WA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Klamath County; Klamath Falls, OR | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.01 | 0.00 | 0.00 |
| Klamath Falls Area, OR | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.01 | 0.00 | 0.00 |
| Klamath Falls, OR | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.01 | 0.00 | 0.00 |

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Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Direct and Indirect Impacts
Acetaldehyde 2050

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Knoxville, TN | Ozone (2008 8-hour) | Maintenance, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Knoxville-Sevierville-La Follette, TN | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.01 | 0.06 | 0.03 | 0.03 |
| La Porte County: (part), IN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lake County (part); Lakeview, OR | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lake County, OH | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.02 | 0.01 | 0.01 |
| Lake County: (part), IN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lake County; (part) Eastlake, Timberlake, Lakeline, Willoughby, Mentor, OH | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lake County; Cities of East Chicago, Hammond, Whiting, and Gary, IN | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.01 | 0.00 | 0.00 |
| Lake County; Polson, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lake County; Ronan, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lake Tahoe Nevada Area, NV | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lake Tahoe North Shore Area, CA | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lake Tahoe South Shore Area, CA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lancaster, PA | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lancaster, PA | PM2.5 (2006 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.03 | 0.01 | 0.02 |
| Lane County (part); Oakridge, OR | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lane County; Eugene/Springfield, OR | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.01 | 0.01 | 0.01 |
| Las Vegas Area, NV | CO (1971 8-hour) | Maintenance, Serious | 100 | 0 | 0.01 | 0.09 | 0.04 | 0.05 |
| LaSalle County; Oglesby, IL | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Laurel Area, MT | SO ₂ (1971 24-hour/Annual) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lebanon County, PA | PM2.5 (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.01 | 0.00 | 0.01 |
| Lemont, IL | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.01 | 0.00 | 0.00 |
| Liberty-Clairton, PA | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |

Appendix A Air Quality Non-Attainment Area Results

Table A1-24

Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Direct and Indirect Impacts

Acetaldehyde 2050

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Lincoln County; Libby and vicinity, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Logan, UT-ID | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.01 | 0.00 | 0.00 |
| Longmont Area, CO | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lorain County (part), OH | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Los Angeles, CA | PM2.5 (2006 24-hour) | Nonattainment, Serious | 100 | 0 | 1.85 | 5.88 | 4.40 | 6.25 |
| Los Angeles-San Bernardino Counties (West Mojave Desert), CA | Ozone (2008 8-hour) | Nonattainment, Severe 15 | 25 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Los Angeles-South Coast Air Basin Area, CA | CO (1971 8-hour) | Maintenance, Serious | 100 | 0 | 1.85 | 5.88 | 4.40 | 6.25 |
| Los Angeles-South Coast Air Basin Area, CA | NO ₂ (1971 Annual) | Maintenance, -- | 100 | 0 | 1.85 | 5.88 | 4.40 | 6.25 |
| Los Angeles-South Coast Air Basin, CA | Ozone (2008 8-hour) | Nonattainment, Extreme | 10 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Los Angeles-South Coast Air Basin, CA | PM2.5 (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 1.85 | 5.88 | 4.40 | 6.25 |
| Lowell Area, MA | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.01 | 0.00 | 0.00 |
| Lucas County (part), OH | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Madison County; Granite City Township and Nameoki Township, IL | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.01 | 0.01 | 0.01 |
| Manchester Area, NH | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Maricopa and Pinal Counties; Phoenix planning area, AZ | PM10 (1987 24-hour) | Nonattainment, Serious | 70 | 0 | 0.02 | 0.21 | 0.10 | 0.11 |
| Marion County; Lawrence, Washington, and Warrant Townships, IN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Mariposa County, CA | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Marshall, WV | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Medford Area, OR | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.01 | 0.00 | 0.00 |
| Memphis Area, TN | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.04 | 0.15 | 0.10 | 0.14 |

Table A1-24
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Acetaldehyde 2050

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|---|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Memphis, TN-MS-AR | Ozone (2008 8-hour) | Nonattainment TN & Maintenance MS/AR, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Miami, AZ | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Miami, AZ | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Miami, AZ | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Milwaukee-Racine, WI | PM2.5 (2006 24-hour) | Maintenance, -- | 100 | 0 | 0.01 | 0.07 | 0.03 | 0.04 |
| Minneapolis-St. Paul Area, MN | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.14 | 0.52 | 0.35 | 0.48 |
| Missoula Area, MT | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.01 | 0.00 | 0.00 |
| Missoula county; Missoula and vicinity, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.01 | 0.00 | 0.00 |
| Modesto Area, CA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.01 | 0.00 | 0.01 |
| Mohave County (part); Bullhead City, AZ | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.01 | 0.00 | 0.00 |
| Mono County; Mammoth Lake planning area, CA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Mono County; Mono Basin, CA | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Morenci, AZ | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Morgan County, IN | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Morongo Band of Mission Indians | Ozone (2008 8-hour) | Nonattainment, Serious | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Morristown Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Muscatine County; (part), IA | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Muscatine, IA | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Muskingum River, OH | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Nashua Area, NH | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Nassau County, FL | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Nevada County (Western part), CA | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| New Haven County, CT | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |

Appendix A Air Quality Non-Attainment Area Results

Table A1-24

Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Direct and Indirect Impacts

Acetaldehyde 2050

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| New Haven-Meriden-Waterbury Area, CT | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.01 | 0.05 | 0.02 | 0.03 |
| New Manchester-Grant magisterial district in Hancock County, WV | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| New York County, NY | PM ₁₀ (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.03 | 0.01 | 0.02 |
| New York, NY-NJ-CT | PM _{2.5} (2006 24-hour) | Maintenance, -- | 100 | 0 | 0.10 | 0.94 | 0.42 | 0.47 |
| New York-N. New Jersey-Long Island Area, NY-NJ-CT | CO (1971 8-hour) | Maintenance, Moderate > 12.7ppm | 100 | 0 | 0.06 | 0.52 | 0.23 | 0.26 |
| New York-N. New Jersey-Long Island, NY-NJ-CT | Ozone (2008 8-hour) | Nonattainment, Moderate | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| NJ portion of the Northeast Pennsylvania-Upper Delaware Valley Interstate AQCR: (part), NJ | SO ₂ (1971 24-hour/Annual) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Nogales, AZ | PM _{2.5} (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Oakridge, OR | PM _{2.5} (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Ogden Area, UT | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Ogden Area, UT | PM ₁₀ (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Olmsted County; (part), MN | PM ₁₀ (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Olmsted; City of Rochester, MN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |

Table A1-24
Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Direct and Indirect Impacts
Acetaldehyde 2050

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Pechanga Band of Luiseno Mission Indians of the Pechanga Reservation | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Pekin, IL | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Penns Grove Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Peoria County: Hollis Twp, IL | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Peoria County: Peoria, IL | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Perth Amboy Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.01 | 0.00 | 0.00 |
| Philadelphia-Camden County Area, PA-NJ | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.01 | 0.05 | 0.02 | 0.03 |
| Philadelphia-Wilmington, PA-NJ-DE | PM _{2.5} (2006 24-hour) | Maintenance, Moderate for PA and DE Subject to Former Subpart 1 for NJ | 100 | 0 | 0.03 | 0.25 | 0.11 | 0.13 |
| Philadelphia-Wilmington-Atlantic City, PA-NJ-MD-DE | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Phoenix Area, AZ | CO (1971 8-hour) | Maintenance, Serious | 100 | 0 | 0.02 | 0.20 | 0.09 | 0.10 |
| Phoenix-Mesa, AZ | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Pierce County; Tacoma, WA | PM ₁₀ (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Pima County; Ajo planning area, AZ | PM ₁₀ (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Pima County; Rillito planning area, AZ | PM ₁₀ (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Pinal and Gila Counties; Payson, AZ | PM ₁₀ (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Pinal County (part); West Pinal, AZ | PM ₁₀ (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.02 | 0.01 | 0.01 |
| Pitkin County; Aspen, CO | PM ₁₀ (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Pittsburgh Area, PA | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.01 | 0.00 | 0.00 |
| Pittsburgh-Beaver Valley, PA | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Pittsburgh-Beaver Valley, PA | PM _{2.5} (2006 24-hour) | Maintenance, Moderate | 100 | 0 | 0.01 | 0.11 | 0.05 | 0.05 |
| Plumas County, CA | PM _{2.5} (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Polk County, TN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |

Appendix A Air Quality Non-Attainment Area Results

Table A1-24

Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Direct and Indirect Impacts

Acetaldehyde 2050

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|-------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Portland Area: Portland Metro Service District Boundary, OR | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.01 | 0.07 | 0.03 | 0.03 |
| Power-Bannock Counties; Fort Hall Indian Reservation, ID | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Power-Bannock Counties; Portneuf Valley Area, ID | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.01 | 0.00 | 0.00 |
| Provo Area, UT | CO (1971 8-hour) | Maintenance, Moderate > 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Provo, UT | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.02 | 0.01 | 0.01 |
| Prowers County; Lamar, CO | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Raleigh-Durham Area, NC | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.01 | 0.08 | 0.04 | 0.04 |
| Ramsey County; (part), MN | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Reading, PA | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Reno Area, NV | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.02 | 0.01 | 0.01 |
| Rhinelander, WI | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Riverside County (Coachella Valley), CA | Ozone (2008 8-hour) | Nonattainment, Severe 15 | 25 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Riverside County; Coachella Valley planning area, CA | PM10 (1987 24-hour) | Nonattainment, Serious | 70 | 0 | 0.00 | 0.03 | 0.01 | 0.01 |
| Riverside, Los Angeles, Orange, and San Bernardino Counties; South Coast Air Basin, CA | PM10 (1987 24-hour) | Maintenance, Serious | 100 | 0 | 1.85 | 5.88 | 4.39 | 6.25 |
| Rosebud County; Lame Deer, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Routt County (part); Steamboat Springs, CO | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Sacramento Area, CA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.01 | 0.08 | 0.03 | 0.04 |
| Sacramento County, CA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.01 | 0.07 | 0.03 | 0.04 |
| Sacramento Metro, CA | Ozone (2008 8-hour) | Nonattainment, Severe 15 | 25 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Sacramento, CA | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.02 | 0.16 | 0.08 | 0.09 |
| Salem Area, OR | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.02 | 0.01 | 0.01 |
| Salt Lake City Area, UT | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.01 | 0.00 | 0.00 |
| Salt Lake City, UT | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.01 | 0.09 | 0.04 | 0.05 |

Table A1-24
Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Direct and Indirect Impacts
Acetaldehyde 2050

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|---|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Salt Lake County, UT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.01 | 0.05 | 0.02 | 0.03 |
| Salt Lake County, UT | SO ₂ (1971 24-hour/Annual) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| San Bernardino County (part); excluding Searles Valley Planning area and South Coast Air Basin, CA | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.03 | 0.01 | 0.02 |
| San Diego Area, CA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.02 | 0.20 | 0.09 | 0.10 |
| San Diego County, CA | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| San Francisco Bay Area, CA | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| San Francisco Bay Area, CA | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.23 | 0.93 | 0.61 | 0.83 |
| San Francisco-Oakland-San Jose Area, CA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.23 | 0.90 | 0.60 | 0.81 |
| San Joaquin Valley Air Basin; Fresno, Kern, Kings, Madera, Merced, San Joaquin, Stanislaus, Tulare Counties, CA | PM10 (1987 24-hour) | Maintenance, Serious | 100 | 0 | 0.03 | 0.28 | 0.13 | 0.15 |
| San Joaquin Valley, CA | Ozone (2008 8-hour) | Nonattainment, Extreme | 10 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| San Joaquin Valley, CA | PM2.5 (2006 24-hour) | Nonattainment, Serious | 100 | 0 | 0.03 | 0.28 | 0.13 | 0.15 |
| San Joaquin Valley, CA | PM2.5 (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 0.03 | 0.28 | 0.13 | 0.15 |
| San Luis Obispo (Eastern San Luis Obispo), CA | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| San Manuel, AZ | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| San Miguel County; Telluride, CO | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Sanders County (part); Thompson Falls and vicinity, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Santa Cruz County; Nogales planning area, AZ | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Seaford, DE | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Seattle-Tacoma Area, WA | CO (1971 8-hour) | Maintenance, Moderate > 12.7ppm | 100 | 0 | 0.02 | 0.16 | 0.07 | 0.08 |
| Seattle-Tacoma, WA | PM2.5 (2006 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.03 | 0.01 | 0.01 |
| Sheboygan County, WI | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |

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Acetaldehyde 2050

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|---|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Sheridan County; City of Sheridan, WY | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Shoshone County (part); excluding Pinehurst, ID | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Shoshone County; City of Pinehurst, ID | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Silver Bow County; Butte, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Somerville Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Southwest Indiana, IN | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Spokane Area, WA | CO (1971 8-hour) | Maintenance, Serious | 100 | 0 | 0.00 | 0.02 | 0.01 | 0.01 |
| Spokane County; (part), WA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.02 | 0.01 | 0.01 |
| Springfield Area, MA | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.01 | 0.00 | 0.01 |
| St. Bernard Parish, LA | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.05 | 0.14 | 0.11 | 0.16 |
| St. Louis Area, MO | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.01 | 0.05 | 0.02 | 0.03 |
| St. Louis-St. Charles-Farmington, MO-IL | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Steubenville, OH-WV | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Steubenville-Weirton, OH-WV | PM2.5 (2006 24-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.01 | 0.00 | 0.00 |
| Stockton Area, CA | CO (1971 8-hour) | Maintenance, Moderate ≤ 12.7ppm | 100 | 0 | 0.00 | 0.02 | 0.01 | 0.01 |
| Sullivan County, TN | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Syracuse Area; Onondaga County, NY | CO (1971 8-hour) | Maintenance, Moderate ≤ 12.7ppm | 100 | 0 | 0.00 | 0.03 | 0.01 | 0.02 |
| Tazewell County; Groveland Twp, IL | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Terre Haute, IN | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |

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Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Direct and Indirect Impacts

Acetaldehyde 2050

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|---|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Thurston County; Cities of Olympia, Tumwater, and Lacey, WA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.01 | 0.00 | 0.00 |
| Toms River Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Tooele County (part), UT | SO ₂ (1971 24-hour/Annual) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Trenton Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.01 | 0.00 | 0.00 |
| Trona, CA | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Tucson Area, AZ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.01 | 0.05 | 0.02 | 0.03 |
| Tuscan Buttes, CA | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Union County; LaGrande, OR | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Upper Green River Basin Area, WY | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Utah County, UT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.02 | 0.01 | 0.01 |
| Vancouver Area: Clark County (part), WA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.02 | 0.01 | 0.01 |
| Ventura County, CA | Ozone (2008 8-hour) | Nonattainment, Serious | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Vermillion County; Part of Clinton Township, IN | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Vigo County, IN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Walla Walla County; Wallula, WA | PM10 (1987 24-hour) | Maintenance, Serious | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Waltham Area, MA | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Warren County: Conewago Twp, PA | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Warren County: Warren Boro, Pleasant Twp, Glade Twp, PA | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Warren, PA | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Washington Area, DC-MD-VA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.04 | 0.02 | 0.02 |
| Washington, DC-MD-VA | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Washoe County; Reno planning area, NV | PM10 (1987 24-hour) | Nonattainment, Serious | 70 | 0 | 0.00 | 0.02 | 0.01 | 0.01 |

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Acetaldehyde 2050

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|---|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Wayne County: Boston, Center, Franklin, Wayne & Webster Townships, IN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Wayne County; (part), MI | PM ₁₀ (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.02 | 0.01 | 0.02 |
| West Central Pinal County, AZ | PM _{2.5} (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.01 | 0.00 | 0.00 |
| West Silver Valley, ID | PM _{2.5} (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Winston-Salem Area, NC | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.02 | 0.01 | 0.01 |
| Worcester Area, MA | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.01 | 0.01 | 0.01 |
| Yakima Area, WA | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Yakima County; (part), WA | PM ₁₀ (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.01 | 0.00 | 0.00 |
| Yuba City-Marysville, CA | PM _{2.5} (2006 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.01 | 0.00 | 0.01 |
| Yuma County; Yuma planning area, AZ | PM ₁₀ (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.01 | 0.00 | 0.00 |

^a Reductions are shown as positive values. Negative values are emissions increases. Values of less than 0.005 tons per year are rounded to zero.

^b Nonattainment or maintenance status as of 5/13/2016. Source: U.S. EPA, The Green Book Nonattainment Areas for Criteria Pollutants; <http://www.epa.gov/airquality/greenbook/>. "--" indicates that no severity classification has been established for the NAAQS pollutant.

^c Emissions thresholds in tons per year. Where the threshold differs by precursor pollutant, the smallest of the precursor thresholds is shown. These thresholds are provided for information only; a general conformity determination is not required for the Proposed Action. Source: 40 CFR 93.853.

Notes: CO = carbon monoxide; NAAQS =National Ambient Air Quality Standards; NO₂ = nitrogen dioxide; PM = particulate matter; SO₂ = sulfur dioxide

Table A1-25
Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Direct and Indirect Impacts
Acrolein 2018

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Ada County; Boise, ID | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Adams, Denver, and Boulder Counties; Denver Metropolitan area, CO | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Ajo, AZ | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Albuquerque Area, NM | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Allegheny County Air Basin: Hazelwood monitor, PA | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Allegheny County, PA | PM2.5 (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Allegheny County; The area including Liberty, Lincoln, Port Vue, and Glassport Boroughs and the City of Clairton, PA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Allegheny, PA | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Allentown, PA | PM2.5 (2006 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Allentown-Bethlehem-Easton, PA | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Anchorage Area, AK | CO (1971 8-hour) | Maintenance, Serious | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Anchorage; Eagle River, AK | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| AQCR 012: Portions of Grant County, NM | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| AQCR 109-Millinocket, ME | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| AQCR 131: Anoka, Carver, Dakota, Hennepin, Ramsey, Scott, and Washington counties (Minneapolis-St. Paul), MN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| AQCR 237: Brown County: Green Bay sub-city area, WI | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| AQCR 238: Marathon County: Rothschild Sub-city area, Rib Mountain, Weston, WI | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| AQCR 238: Oneida County: Rhinelander Sub-city area, WI | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| AQCR 239: Milwaukee County: Milwaukee sub-city area, WI | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |

Appendix A Air Quality Non-Attainment Area Results

Table A1-25

Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Direct and Indirect Impacts

Acrolein 2018

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| AQCR 240: Dane County: Madison sub-city area, WI | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Archuleta County; Pagosa Springs, CO | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Armstrong County: Madison Twp, Mahoning Twp, Boggs Twp, Washington Twp, Pine Twp, PA | SO ₂ (1971 24-hour/Annual) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Aroostock County; City of Presque Isle, ME | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Atlanta, GA | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Atlantic City Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Bakersfield Area, CA | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Baltimore Area, MD | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Baltimore, MD | Ozone (2008 8-hour) | Nonattainment, Moderate | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Baton Rouge, LA | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Beaver, PA | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Benton County; (part) TVA Johnsonville, TN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Billings Area, MT | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Billings, MT | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Birmingham, AL | PM2.5 (2006 24-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Boise-Northern Ada County Area, ID | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Bonner County; The Sandpoint Area, ID | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Boston Area, MA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Boyd County (part), KY | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Brooke; Follansbee area, WV | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Burlington Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Calaveras County, CA | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Campbell-Clermont Counties, KY-OH | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |

Table A1-25

Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Direct and Indirect Impacts

Acrolein 2018

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|---|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Canton-Massillon, OH | PM2.5 (2006 24-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Central New Hampshire, NH | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Central Steptoe Valley, NV | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Charleston, WV | PM2.5 (2006 24-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Charlotte Area, NC | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Charlotte-Rock Hill, NC-SC | Ozone (2008 8-hour) | Maintenance, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Chicago-Naperville, IL-IN-WI | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Chico (Butte County), CA | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Chico Area, CA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Chico, CA | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Cincinnati, OH-KY-IN | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Clark County; Las Vegas planning area, NV | PM10 (1987 24-hour) | Maintenance, Serious | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Cleveland Area, OH | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Cleveland, OH | PM2.5 (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Cleveland-Akron-Lorain, OH | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Cleveland-Akron-Lorain, OH | PM2.5 (2006 24-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Cochise County; Paul Spur/Douglas planning area, AZ | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Colorado Springs Area, CO | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Columbus, OH | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Cook County; Lyons Township, IL | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Cook County; Southeast Chicago, IL | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Coshocton County; Franklin Township, OH | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Coso Junction, CA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Cuyahoga County (part), OH | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Cuyahoga County, OH | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |

Appendix A Air Quality Non-Attainment Area Results

Table A1-25

Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Direct and Indirect Impacts

Acrolein 2018

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Dallas-Fort Worth, TX | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Delaware County, PA | PM2.5 (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Denver-Boulder Area, CO | CO (1971 8-hour) | Maintenance, Serious | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Denver-Boulder-Greeley-Ft Collins-Loveland, CO | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Detroit Area, MI | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Detroit, MI | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Detroit-Ann Arbor, MI | PM2.5 (2006 24-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Dona Ana County; Anthony, NM | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Douglas, AZ | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Dukes County, MA | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Duluth Area, MN | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| East Chicago Area, IN | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| East Helena Area, MT | SO ₂ (1971 24-hour/Annual) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| East Kern County Area, CA | PM10 (1987 24-hour) | Nonattainment, Serious | 70 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| El Paso County, TX | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| El Paso, TX | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Eugene-Springfield Area, OR | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Fairbanks Area, AK | CO (1971 8-hour) | Maintenance, Serious | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Fairbanks, AK | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |

Table A1-25

Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Direct and Indirect Impacts

Acrolein 2018

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|---|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Flathead County; Columbia Falls and vicinity, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Flathead County; Kalispell and vicinity, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Flathead County; Whitefish and vicinity, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Fort Collins Area, CO | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Freehold Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Fremont County; Canon City Area, CO | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Fresno Area, CA | CO (1971 8-hour) | Maintenance, Moderate > 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Grants Pass Area, OR | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Great Falls Area, MT | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Greater Connecticut, CT | Ozone (2008 8-hour) | Nonattainment, Moderate | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Greeley Area, CO | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Hancock and Brooke Counties (Part); The city of Weirton, WV | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Hancock County (Part) The city of Weirton, including Butler and Clay: Magisterial Districts, WV | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Harrisburg-Lebanon-Carlisle-York, PA | PM2.5 (2006 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Hartford-New Britain-Middletown Area, CT | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Hayden, AZ | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Hayden, AZ | SO ₂ (1971 24-hour/Annual) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Hayden, AZ | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Hillsborough County, FL | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Houston-Galveston-Brazoria, TX | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Humphreys County; (part) TVA Johnsonville, TN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Imperial Co, CA | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |

Appendix A Air Quality Non-Attainment Area Results

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| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Imperial County, CA | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Imperial County, CA | PM2.5 (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Imperial County; Imperial Valley planning area, CA | PM10 (1987 24-hour) | Nonattainment, Serious | 70 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Indian Wells, CA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Indiana, PA | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Indianapolis Area, IN | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Indianapolis, IN | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Inyo County; Owens Valley planning area, CA | PM10 (1987 24-hour) | Nonattainment, Serious | 70 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Jackson County, MO | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Jackson County; Medford-Ashland (including White City), OR | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Jamestown, NY | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Jefferson County, KY | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Jefferson County, MO | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Jefferson County; (part) Steubenville & Mingo Junction, OH | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Jefferson County; (part), OH | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Johnstown, PA | PM2.5 (2006 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Josephine County; Grants Pass, OR | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Juneau; Mendenhall Valley area, AK | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Kern County (Eastern Kern), CA | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| King County; Kent, WA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| King County; Seattle, WA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Klamath County; Klamath Falls, OR | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Klamath Falls Area, OR | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Klamath Falls, OR | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |

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|--|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Knoxville, TN | Ozone (2008 8-hour) | Maintenance, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Knoxville-Sevierville-La Follette, TN | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| La Porte County: (part), IN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lake County (part); Lakeview, OR | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lake County, OH | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lake County: (part), IN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lake County; (part) Eastlake, Timberlake, Lakeline, Willoughby, Mentor, OH | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lake County; Cities of East Chicago, Hammond, Whiting, and Gary, IN | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lake County; Polson, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lake County; Ronan, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lake Tahoe Nevada Area, NV | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lake Tahoe North Shore Area, CA | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lake Tahoe South Shore Area, CA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lancaster, PA | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lancaster, PA | PM2.5 (2006 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lane County (part); Oakridge, OR | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lane County; Eugene/Springfield, OR | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Las Vegas Area, NV | CO (1971 8-hour) | Maintenance, Serious | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| LaSalle County; Oglesby, IL | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Laurel Area, MT | SO ₂ (1971 24-hour/Annual) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lebanon County, PA | PM2.5 (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lemont, IL | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Liberty-Clairton, PA | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |

Appendix A Air Quality Non-Attainment Area Results

Table A1-25

Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Direct and Indirect Impacts

Acrolein 2018

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Lincoln County; Libby and vicinity, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Logan, UT-ID | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Longmont Area, CO | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lorain County (part), OH | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Los Angeles, CA | PM2.5 (2006 24-hour) | Nonattainment, Serious | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Los Angeles-San Bernardino Counties (West Mojave Desert), CA | Ozone (2008 8-hour) | Nonattainment, Severe 15 | 25 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Los Angeles-South Coast Air Basin Area, CA | CO (1971 8-hour) | Maintenance, Serious | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Los Angeles-South Coast Air Basin Area, CA | NO ₂ (1971 Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Los Angeles-South Coast Air Basin, CA | Ozone (2008 8-hour) | Nonattainment, Extreme | 10 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Los Angeles-South Coast Air Basin, CA | PM2.5 (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lowell Area, MA | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lucas County (part), OH | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Madison County; Granite City Township and Nameoki Township, IL | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Manchester Area, NH | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Maricopa and Pinal Counties; Phoenix planning area, AZ | PM10 (1987 24-hour) | Nonattainment, Serious | 70 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Marion County; Lawrence, Washington, and Warrant Townships, IN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Mariposa County, CA | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Marshall, WV | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Medford Area, OR | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Memphis Area, TN | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |

Table A1-25
Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Direct and Indirect Impacts
Acrolein 2018

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|---|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Memphis, TN-MS-AR | Ozone (2008 8-hour) | Nonattainment TN & Maintenance MS/AR, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Miami, AZ | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Miami, AZ | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Miami, AZ | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Milwaukee-Racine, WI | PM2.5 (2006 24-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Minneapolis-St. Paul Area, MN | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.01 | 0.01 | 0.01 |
| Missoula Area, MT | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Missoula county; Missoula and vicinity, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Modesto Area, CA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Mohave County (part); Bullhead City, AZ | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Mono County; Mammoth Lake planning area, CA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Mono County; Mono Basin, CA | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Morenci, AZ | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Morgan County, IN | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Morongo Band of Mission Indians | Ozone (2008 8-hour) | Nonattainment, Serious | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Morristown Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Muscatine County; (part), IA | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Muscatine, IA | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Muskingum River, OH | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Nashua Area, NH | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Nassau County, FL | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Nevada County (Western part), CA | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| New Haven County, CT | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |

Appendix A Air Quality Non-Attainment Area Results

Table A1-25

Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Direct and Indirect Impacts

Acrolein 2018

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| New Haven-Meriden-Waterbury Area, CT | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| New Manchester-Grant magisterial district in Hancock County, WV | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| New York County, NY | PM ₁₀ (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| New York, NY-NJ-CT | PM _{2.5} (2006 24-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| New York-N. New Jersey-Long Island Area, NY-NJ-CT | CO (1971 8-hour) | Maintenance, Moderate > 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| New York-N. New Jersey-Long Island, NY-NJ-CT | Ozone (2008 8-hour) | Nonattainment, Moderate | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| NJ portion of the Northeast Pennsylvania-Upper Delaware Valley Interstate AQCR: (part), NJ | SO ₂ (1971 24-hour/Annual) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Nogales, AZ | PM _{2.5} (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Oakridge, OR | PM _{2.5} (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Ogden Area, UT | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Ogden Area, UT | PM ₁₀ (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Olmsted County; (part), MN | PM ₁₀ (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Olmsted; City of Rochester, MN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |

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| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Pechanga Band of Luiseno Mission Indians of the Pechanga Reservation | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Pekin, IL | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Penns Grove Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Peoria County: Hollis Twp, IL | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Peoria County: Peoria, IL | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Perth Amboy Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Philadelphia-Camden County Area, PA-NJ | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Philadelphia-Wilmington, PA-NJ-DE | PM2.5 (2006 24-hour) | Maintenance, Moderate for PA and DE Subject to Former Subpart 1 for NJ | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Philadelphia-Wilmington-Atlantic City, PA-NJ-MD-DE | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Phoenix Area, AZ | CO (1971 8-hour) | Maintenance, Serious | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Phoenix-Mesa, AZ | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Pierce County; Tacoma, WA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Pima County; Ajo planning area, AZ | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Pima County; Rillito planning area, AZ | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Pinal and Gila Counties; Payson, AZ | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Pinal County (part); West Pinal, AZ | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Pitkin County; Aspen, CO | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Pittsburgh Area, PA | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Pittsburgh-Beaver Valley, PA | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Pittsburgh-Beaver Valley, PA | PM2.5 (2006 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Plumas County, CA | PM2.5 (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Polk County, TN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |

Appendix A Air Quality Non-Attainment Area Results

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| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|-------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Portland Area: Portland Metro Service District Boundary, OR | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Power-Bannock Counties; Fort Hall Indian Reservation, ID | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Power-Bannock Counties; Portneuf Valley Area, ID | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Provo Area, UT | CO (1971 8-hour) | Maintenance, Moderate > 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Provo, UT | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Prowers County; Lamar, CO | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Raleigh-Durham Area, NC | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Ramsey County; (part), MN | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Reading, PA | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Reno Area, NV | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Rhineland, WI | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Riverside County (Coachella Valley), CA | Ozone (2008 8-hour) | Nonattainment, Severe 15 | 25 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Riverside County; Coachella Valley planning area, CA | PM10 (1987 24-hour) | Nonattainment, Serious | 70 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Riverside, Los Angeles, Orange, and San Bernardino Counties; South Coast Air Basin, CA | PM10 (1987 24-hour) | Maintenance, Serious | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Rosebud County; Lame Deer, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Routt County (part); Steamboat Springs, CO | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Sacramento Area, CA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Sacramento County, CA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Sacramento Metro, CA | Ozone (2008 8-hour) | Nonattainment, Severe 15 | 25 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Sacramento, CA | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Salem Area, OR | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Salt Lake City Area, UT | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Salt Lake City, UT | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |

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Acrolein 2018

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|---|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Salt Lake County, UT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Salt Lake County, UT | SO ₂ (1971 24-hour/Annual) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| San Bernardino County (part); excluding Searles Valley Planning area and South Coast Air Basin, CA | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| San Diego Area, CA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| San Diego County, CA | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| San Francisco Bay Area, CA | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| San Francisco Bay Area, CA | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| San Francisco-Oakland-San Jose Area, CA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| San Joaquin Valley Air Basin; Fresno, Kern, Kings, Madera, Merced, San Joaquin, Stanislaus, Tulare Counties, CA | PM10 (1987 24-hour) | Maintenance, Serious | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| San Joaquin Valley, CA | Ozone (2008 8-hour) | Nonattainment, Extreme | 10 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| San Joaquin Valley, CA | PM2.5 (2006 24-hour) | Nonattainment, Serious | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| San Joaquin Valley, CA | PM2.5 (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| San Luis Obispo (Eastern San Luis Obispo), CA | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| San Manuel, AZ | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| San Miguel County; Telluride, CO | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Sanders County (part); Thompson Falls and vicinity, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Santa Cruz County; Nogales planning area, AZ | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Seaford, DE | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Seattle-Tacoma Area, WA | CO (1971 8-hour) | Maintenance, Moderate > 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Seattle-Tacoma, WA | PM2.5 (2006 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Sheboygan County, WI | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |

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Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Direct and Indirect Impacts

Acrolein 2018

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|---|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Sheridan County; City of Sheridan, WY | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Shoshone County (part); excluding Pinehurst, ID | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Shoshone County; City of Pinehurst, ID | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Silver Bow County; Butte, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Somerville Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Southwest Indiana, IN | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Spokane Area, WA | CO (1971 8-hour) | Maintenance, Serious | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Spokane County; (part), WA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Springfield Area, MA | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| St. Bernard Parish, LA | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| St. Louis Area, MO | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| St. Louis-St. Charles-Farmington, MO-IL | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Steubenville, OH-WV | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Steubenville-Weirton, OH-WV | PM2.5 (2006 24-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Stockton Area, CA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Sullivan County, TN | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Syracuse Area; Onondaga County, NY | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Tazewell County; Groveland Twp, IL | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Terre Haute, IN | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |

Table A1-25
Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Direct and Indirect Impacts
Acrolein 2018

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|---|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Thurston County; Cities of Olympia, Tumwater, and Lacey, WA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Toms River Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Tooele County (part), UT | SO ₂ (1971 24-hour/Annual) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Trenton Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Trona, CA | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Tucson Area, AZ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Tuscan Buttes, CA | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Union County; LaGrande, OR | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Upper Green River Basin Area, WY | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Utah County, UT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Vancouver Area: Clark County (part), WA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Ventura County, CA | Ozone (2008 8-hour) | Nonattainment, Serious | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Vermillion County; Part of Clinton Township, IN | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Vigo County, IN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Walla Walla County; Wallula, WA | PM10 (1987 24-hour) | Maintenance, Serious | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Waltham Area, MA | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Warren County: Conewago Twp, PA | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Warren County: Warren Boro, Pleasant Twp, Glade Twp, PA | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Warren, PA | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Washington Area, DC-MD-VA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Washington, DC-MD-VA | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Washoe County; Reno planning area, NV | PM10 (1987 24-hour) | Nonattainment, Serious | 70 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |

Appendix A Air Quality Non-Attainment Area Results

Table A1-25

Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Direct and Indirect Impacts

Acrolein 2018

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|---|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Wayne County: Boston, Center, Franklin, Wayne & Webster Townships, IN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Wayne County; (part), MI | PM ₁₀ (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| West Central Pinal County, AZ | PM _{2.5} (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| West Silver Valley, ID | PM _{2.5} (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Winston-Salem Area, NC | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Worcester Area, MA | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Yakima Area, WA | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Yakima County; (part), WA | PM ₁₀ (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Yuba City-Marysville, CA | PM _{2.5} (2006 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Yuma County; Yuma planning area, AZ | PM ₁₀ (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |

^a Reductions are shown as positive values. Negative values are emissions increases. Values of less than 0.005 tons per year are rounded to zero.

^b Nonattainment or maintenance status as of 5/13/2016. Source: U.S. EPA, The Green Book Nonattainment Areas for Criteria Pollutants; <http://www.epa.gov/airquality/greenbook/>. "--" indicates that no severity classification has been established for the NAAQS pollutant.

^c Emissions thresholds in tons per year. Where the threshold differs by precursor pollutant, the smallest of the precursor thresholds is shown. These thresholds are provided for information only; a general conformity determination is not required for the Proposed Action. Source: 40 CFR 93.853.

Notes: CO = carbon monoxide; NAAQS = National Ambient Air Quality Standards; NO₂ = nitrogen dioxide; PM = particulate matter; SO₂ = sulfur dioxide

Table A1-26
Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Direct and Indirect Impacts
Acrolein 2025

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Ada County; Boise, ID | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Adams, Denver, and Boulder Counties; Denver Metropolitan area, CO | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | -0.01 |
| Ajo, AZ | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Albuquerque Area, NM | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Allegheny County Air Basin: Hazelwood monitor, PA | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Allegheny County, PA | PM2.5 (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Allegheny County; The area including Liberty, Lincoln, Port Vue, and Glassport Boroughs and the City of Clairton, PA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Allegheny, PA | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Allentown, PA | PM2.5 (2006 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Allentown-Bethlehem-Easton, PA | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Anchorage Area, AK | CO (1971 8-hour) | Maintenance, Serious | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Anchorage; Eagle River, AK | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| AQCR 012: Portions of Grant County, NM | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| AQCR 109-Millinocket, ME | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| AQCR 131: Anoka, Carver, Dakota, Hennepin, Ramsey, Scott, and Washington counties (Minneapolis-St. Paul), MN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| AQCR 237: Brown County: Green Bay sub-city area, WI | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| AQCR 238: Marathon County: Rothschild Sub-city area, Rib Mountain, Weston, WI | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| AQCR 238: Oneida County: Rhinelander Sub-city area, WI | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| AQCR 239: Milwaukee County: Milwaukee sub-city area, WI | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |

Appendix A Air Quality Non-Attainment Area Results

Table A1-26

Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Direct and Indirect Impacts

Acrolein 2025

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| AQCR 240: Dane County: Madison sub-city area, WI | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Archuleta County; Pagosa Springs, CO | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Armstrong County: Madison Twp, Mahoning Twp, Boggs Twp, Washington Twp, Pine Twp, PA | SO ₂ (1971 24-hour/Annual) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Aroostock County; City of Presque Isle, ME | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Atlanta, GA | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Atlantic City Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Bakersfield Area, CA | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Baltimore Area, MD | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Baltimore, MD | Ozone (2008 8-hour) | Nonattainment, Moderate | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Baton Rouge, LA | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Beaver, PA | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Benton County; (part) TVA Johnsonville, TN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Billings Area, MT | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Billings, MT | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Birmingham, AL | PM2.5 (2006 24-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Boise-Northern Ada County Area, ID | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Bonner County; The Sandpoint Area, ID | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Boston Area, MA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Boyd County (part), KY | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Brooke; Follansbee area, WV | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Burlington Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Calaveras County, CA | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Campbell-Clermont Counties, KY-OH | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |

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Acrolein 2025

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|---|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Canton-Massillon, OH | PM2.5 (2006 24-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Central New Hampshire, NH | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Central Steptoe Valley, NV | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Charleston, WV | PM2.5 (2006 24-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Charlotte Area, NC | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Charlotte-Rock Hill, NC-SC | Ozone (2008 8-hour) | Maintenance, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Chicago-Naperville, IL-IN-WI | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Chico (Butte County), CA | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Chico Area, CA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Chico, CA | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Cincinnati, OH-KY-IN | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Clark County; Las Vegas planning area, NV | PM10 (1987 24-hour) | Maintenance, Serious | 100 | 0 | 0.00 | 0.00 | -0.01 | -0.01 |
| Cleveland Area, OH | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Cleveland, OH | PM2.5 (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Cleveland-Akron-Lorain, OH | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Cleveland-Akron-Lorain, OH | PM2.5 (2006 24-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | -0.01 | -0.01 |
| Cochise County; Paul Spur/Douglas planning area, AZ | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Colorado Springs Area, CO | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Columbus, OH | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Cook County; Lyons Township, IL | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Cook County; Southeast Chicago, IL | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Coshocton County; Franklin Township, OH | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Coso Junction, CA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Cuyahoga County (part), OH | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Cuyahoga County, OH | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |

Appendix A Air Quality Non-Attainment Area Results

Table A1-26

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| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Dallas-Fort Worth, TX | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Delaware County, PA | PM2.5 (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Denver-Boulder Area, CO | CO (1971 8-hour) | Maintenance, Serious | 100 | 0 | 0.00 | 0.00 | -0.01 | -0.01 |
| Denver-Boulder-Greeley-Ft Collins-Loveland, CO | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Detroit Area, MI | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | -0.01 | -0.01 |
| Detroit, MI | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Detroit-Ann Arbor, MI | PM2.5 (2006 24-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | -0.02 | -0.02 |
| Dona Ana County; Anthony, NM | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Douglas, AZ | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Dukes County, MA | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Duluth Area, MN | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| East Chicago Area, IN | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| East Helena Area, MT | SO ₂ (1971 24-hour/Annual) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| East Kern County Area, CA | PM10 (1987 24-hour) | Nonattainment, Serious | 70 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| El Paso County, TX | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| El Paso, TX | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Eugene-Springfield Area, OR | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Fairbanks Area, AK | CO (1971 8-hour) | Maintenance, Serious | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Fairbanks, AK | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |

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Acrolein 2025

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|---|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Flathead County; Columbia Falls and vicinity, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Flathead County; Kalispell and vicinity, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Flathead County; Whitefish and vicinity, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Fort Collins Area, CO | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Freehold Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Fremont County; Canon City Area, CO | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Fresno Area, CA | CO (1971 8-hour) | Maintenance, Moderate > 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Grants Pass Area, OR | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Great Falls Area, MT | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Greater Connecticut, CT | Ozone (2008 8-hour) | Nonattainment, Moderate | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Greeley Area, CO | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Hancock and Brooke Counties (Part); The city of Weirton, WV | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Hancock County (Part) The city of Weirton, including Butler and Clay: Magisterial Districts, WV | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Harrisburg-Lebanon-Carlisle-York, PA | PM2.5 (2006 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Hartford-New Britain-Middletown Area, CT | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Hayden, AZ | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Hayden, AZ | SO ₂ (1971 24-hour/Annual) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Hayden, AZ | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Hillsborough County, FL | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Houston-Galveston-Brazoria, TX | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Humphreys County; (part) TVA Johnsonville, TN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Imperial Co, CA | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |

Appendix A Air Quality Non-Attainment Area Results

Table A1-26

Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Direct and Indirect Impacts

Acrolein 2025

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Imperial County, CA | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Imperial County, CA | PM2.5 (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Imperial County; Imperial Valley planning area, CA | PM10 (1987 24-hour) | Nonattainment, Serious | 70 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Indian Wells, CA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Indiana, PA | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Indianapolis Area, IN | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Indianapolis, IN | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Inyo County; Owens Valley planning area, CA | PM10 (1987 24-hour) | Nonattainment, Serious | 70 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Jackson County, MO | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Jackson County; Medford-Ashland (including White City), OR | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Jamestown, NY | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Jefferson County, KY | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Jefferson County, MO | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Jefferson County; (part) Steubenville & Mingo Junction, OH | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Jefferson County; (part), OH | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Johnstown, PA | PM2.5 (2006 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Josephine County; Grants Pass, OR | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Juneau; Mendenhall Valley area, AK | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Kern County (Eastern Kern), CA | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| King County; Kent, WA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| King County; Seattle, WA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Klamath County; Klamath Falls, OR | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Klamath Falls Area, OR | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Klamath Falls, OR | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |

Table A1-26
Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Direct and Indirect Impacts
Acrolein 2025

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Knoxville, TN | Ozone (2008 8-hour) | Maintenance, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Knoxville-Sevierville-La Follette, TN | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| La Porte County: (part), IN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lake County (part); Lakeview, OR | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lake County, OH | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lake County: (part), IN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lake County; (part) Eastlake, Timberlake, Lakeline, Willoughby, Mentor, OH | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lake County; Cities of East Chicago, Hammond, Whiting, and Gary, IN | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lake County; Polson, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lake County; Ronan, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lake Tahoe Nevada Area, NV | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lake Tahoe North Shore Area, CA | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lake Tahoe South Shore Area, CA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lancaster, PA | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lancaster, PA | PM2.5 (2006 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lane County (part); Oakridge, OR | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lane County; Eugene/Springfield, OR | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Las Vegas Area, NV | CO (1971 8-hour) | Maintenance, Serious | 100 | 0 | 0.00 | 0.00 | -0.01 | -0.01 |
| LaSalle County; Oglesby, IL | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Laurel Area, MT | SO ₂ (1971 24-hour/Annual) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lebanon County, PA | PM2.5 (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lemont, IL | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Liberty-Clairton, PA | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |

Appendix A Air Quality Non-Attainment Area Results

Table A1-26

Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Direct and Indirect Impacts

Acrolein 2025

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Lincoln County; Libby and vicinity, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Logan, UT-ID | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Longmont Area, CO | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lorain County (part), OH | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Los Angeles, CA | PM2.5 (2006 24-hour) | Nonattainment, Serious | 100 | 0 | 0.00 | 0.01 | -0.03 | -0.03 |
| Los Angeles-San Bernardino Counties (West Mojave Desert), CA | Ozone (2008 8-hour) | Nonattainment, Severe 15 | 25 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Los Angeles-South Coast Air Basin Area, CA | CO (1971 8-hour) | Maintenance, Serious | 100 | 0 | 0.00 | 0.01 | -0.03 | -0.03 |
| Los Angeles-South Coast Air Basin Area, CA | NO ₂ (1971 Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.01 | -0.03 | -0.03 |
| Los Angeles-South Coast Air Basin, CA | Ozone (2008 8-hour) | Nonattainment, Extreme | 10 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Los Angeles-South Coast Air Basin, CA | PM2.5 (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.01 | -0.03 | -0.03 |
| Lowell Area, MA | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lucas County (part), OH | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Madison County; Granite City Township and Nameoki Township, IL | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Manchester Area, NH | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Maricopa and Pinal Counties; Phoenix planning area, AZ | PM10 (1987 24-hour) | Nonattainment, Serious | 70 | 0 | 0.00 | 0.00 | -0.01 | -0.01 |
| Marion County; Lawrence, Washington, and Warrant Townships, IN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Mariposa County, CA | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Marshall, WV | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Medford Area, OR | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Memphis Area, TN | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |

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Acrolein 2025

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|---|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Memphis, TN-MS-AR | Ozone (2008 8-hour) | Nonattainment TN & Maintenance MS/AR, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Miami, AZ | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Miami, AZ | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Miami, AZ | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Milwaukee-Racine, WI | PM2.5 (2006 24-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Minneapolis-St. Paul Area, MN | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.13 | 0.29 | 0.29 | 0.46 |
| Missoula Area, MT | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Missoula county; Missoula and vicinity, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Modesto Area, CA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Mohave County (part); Bullhead City, AZ | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Mono County; Mammoth Lake planning area, CA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Mono County; Mono Basin, CA | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Morenci, AZ | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Morgan County, IN | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Morongo Band of Mission Indians | Ozone (2008 8-hour) | Nonattainment, Serious | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Morristown Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Muscatine County; (part), IA | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Muscatine, IA | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Muskingum River, OH | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Nashua Area, NH | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Nassau County, FL | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Nevada County (Western part), CA | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| New Haven County, CT | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |

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| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| New Haven-Meriden-Waterbury Area, CT | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| New Manchester-Grant magisterial district in Hancock County, WV | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| New York County, NY | PM ₁₀ (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| New York, NY-NJ-CT | PM _{2.5} (2006 24-hour) | Maintenance, -- | 100 | 0 | -0.01 | -0.01 | -0.05 | -0.05 |
| New York-N. New Jersey-Long Island Area, NY-NJ-CT | CO (1971 8-hour) | Maintenance, Moderate > 12.7ppm | 100 | 0 | 0.00 | 0.00 | -0.03 | -0.03 |
| New York-N. New Jersey-Long Island, NY-NJ-CT | Ozone (2008 8-hour) | Nonattainment, Moderate | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| NJ portion of the Northeast Pennsylvania-Upper Delaware Valley Interstate AQCR: (part), NJ | SO ₂ (1971 24-hour/Annual) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Nogales, AZ | PM _{2.5} (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Oakridge, OR | PM _{2.5} (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Ogden Area, UT | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Ogden Area, UT | PM ₁₀ (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Olmsted County; (part), MN | PM ₁₀ (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Olmsted; City of Rochester, MN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |

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Acrolein 2025

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Pechanga Band of Luiseno Mission Indians of the Pechanga Reservation | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Pekin, IL | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Penns Grove Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Peoria County: Hollis Twp, IL | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Peoria County: Peoria, IL | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Perth Amboy Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Philadelphia-Camden County Area, PA-NJ | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Philadelphia-Wilmington, PA-NJ-DE | PM _{2.5} (2006 24-hour) | Maintenance, Moderate for PA and DE Subject to Former Subpart 1 for NJ | 100 | 0 | 0.00 | 0.00 | -0.01 | -0.01 |
| Philadelphia-Wilmington-Atlantic City, PA-NJ-MD-DE | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Phoenix Area, AZ | CO (1971 8-hour) | Maintenance, Serious | 100 | 0 | 0.00 | 0.00 | -0.01 | -0.01 |
| Phoenix-Mesa, AZ | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Pierce County; Tacoma, WA | PM ₁₀ (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Pima County; Ajo planning area, AZ | PM ₁₀ (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Pima County; Rillito planning area, AZ | PM ₁₀ (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Pinal and Gila Counties; Payson, AZ | PM ₁₀ (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Pinal County (part); West Pinal, AZ | PM ₁₀ (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Pitkin County; Aspen, CO | PM ₁₀ (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Pittsburgh Area, PA | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Pittsburgh-Beaver Valley, PA | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Pittsburgh-Beaver Valley, PA | PM _{2.5} (2006 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | -0.01 | -0.01 |
| Plumas County, CA | PM _{2.5} (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Polk County, TN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |

Appendix A Air Quality Non-Attainment Area Results

Table A1-26

Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Direct and Indirect Impacts

Acrolein 2025

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|-------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Portland Area: Portland Metro Service District Boundary, OR | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Power-Bannock Counties; Fort Hall Indian Reservation, ID | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Power-Bannock Counties; Portneuf Valley Area, ID | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Provo Area, UT | CO (1971 8-hour) | Maintenance, Moderate > 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Provo, UT | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Prowers County; Lamar, CO | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Raleigh-Durham Area, NC | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Ramsey County; (part), MN | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Reading, PA | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Reno Area, NV | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Rhinelander, WI | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Riverside County (Coachella Valley), CA | Ozone (2008 8-hour) | Nonattainment, Severe 15 | 25 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Riverside County; Coachella Valley planning area, CA | PM10 (1987 24-hour) | Nonattainment, Serious | 70 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Riverside, Los Angeles, Orange, and San Bernardino Counties; South Coast Air Basin, CA | PM10 (1987 24-hour) | Maintenance, Serious | 100 | 0 | 0.00 | 0.01 | -0.03 | -0.03 |
| Rosebud County; Lame Deer, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Routt County (part); Steamboat Springs, CO | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Sacramento Area, CA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Sacramento County, CA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Sacramento Metro, CA | Ozone (2008 8-hour) | Nonattainment, Severe 15 | 25 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Sacramento, CA | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | -0.01 | -0.01 |
| Salem Area, OR | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Salt Lake City Area, UT | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Salt Lake City, UT | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | -0.01 | -0.01 |

Table A1-26
Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Direct and Indirect Impacts
Acrolein 2025

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|---|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Salt Lake County, UT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Salt Lake County, UT | SO ₂ (1971 24-hour/Annual) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| San Bernardino County (part); excluding Searles Valley Planning area and South Coast Air Basin, CA | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| San Diego Area, CA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | -0.01 | -0.01 |
| San Diego County, CA | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| San Francisco Bay Area, CA | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| San Francisco Bay Area, CA | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | -0.02 | -0.02 |
| San Francisco-Oakland-San Jose Area, CA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | -0.02 | -0.02 |
| San Joaquin Valley Air Basin; Fresno, Kern, Kings, Madera, Merced, San Joaquin, Stanislaus, Tulare Counties, CA | PM10 (1987 24-hour) | Maintenance, Serious | 100 | 0 | 0.00 | 0.00 | -0.01 | -0.01 |
| San Joaquin Valley, CA | Ozone (2008 8-hour) | Nonattainment, Extreme | 10 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| San Joaquin Valley, CA | PM2.5 (2006 24-hour) | Nonattainment, Serious | 100 | 0 | 0.00 | 0.00 | -0.01 | -0.01 |
| San Joaquin Valley, CA | PM2.5 (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | -0.01 | -0.01 |
| San Luis Obispo (Eastern San Luis Obispo), CA | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| San Manuel, AZ | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| San Miguel County; Telluride, CO | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Sanders County (part); Thompson Falls and vicinity, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Santa Cruz County; Nogales planning area, AZ | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Seaford, DE | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Seattle-Tacoma Area, WA | CO (1971 8-hour) | Maintenance, Moderate > 12.7ppm | 100 | 0 | 0.00 | 0.00 | -0.01 | -0.01 |
| Seattle-Tacoma, WA | PM2.5 (2006 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Sheboygan County, WI | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |

Appendix A Air Quality Non-Attainment Area Results

Table A1-26

Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Direct and Indirect Impacts

Acrolein 2025

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|---|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Sheridan County; City of Sheridan, WY | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Shoshone County (part); excluding Pinehurst, ID | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Shoshone County; City of Pinehurst, ID | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Silver Bow County; Butte, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Somerville Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Southwest Indiana, IN | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Spokane Area, WA | CO (1971 8-hour) | Maintenance, Serious | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Spokane County; (part), WA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Springfield Area, MA | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| St. Bernard Parish, LA | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| St. Louis Area, MO | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| St. Louis-St. Charles-Farmington, MO-IL | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Steubenville, OH-WV | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Steubenville-Weirton, OH-WV | PM2.5 (2006 24-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Stockton Area, CA | CO (1971 8-hour) | Maintenance, Moderate ≤ 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Sullivan County, TN | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Syracuse Area; Onondaga County, NY | CO (1971 8-hour) | Maintenance, Moderate ≤ 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Tazewell County; Groveland Twp, IL | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Terre Haute, IN | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |

Table A1-26

Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Direct and Indirect Impacts

Acrolein 2025

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|---|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Thurston County; Cities of Olympia, Tumwater, and Lacey, WA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Toms River Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Tooele County (part), UT | SO ₂ (1971 24-hour/Annual) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Trenton Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Trona, CA | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Tucson Area, AZ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Tuscan Buttes, CA | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Union County; LaGrande, OR | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Upper Green River Basin Area, WY | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Utah County, UT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Vancouver Area: Clark County (part), WA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Ventura County, CA | Ozone (2008 8-hour) | Nonattainment, Serious | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Vermillion County; Part of Clinton Township, IN | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Vigo County, IN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Walla Walla County; Wallula, WA | PM10 (1987 24-hour) | Maintenance, Serious | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Waltham Area, MA | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Warren County: Conewago Twp, PA | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Warren County: Warren Boro, Pleasant Twp, Glade Twp, PA | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Warren, PA | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Washington Area, DC-MD-VA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Washington, DC-MD-VA | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Washoe County; Reno planning area, NV | PM10 (1987 24-hour) | Nonattainment, Serious | 70 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |

Appendix A Air Quality Non-Attainment Area Results

Table A1-26

Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Direct and Indirect Impacts

Acrolein 2025

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|---|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Wayne County: Boston, Center, Franklin, Wayne & Webster Townships, IN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Wayne County; (part), MI | PM ₁₀ (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| West Central Pinal County, AZ | PM _{2.5} (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| West Silver Valley, ID | PM _{2.5} (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Winston-Salem Area, NC | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Worcester Area, MA | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Yakima Area, WA | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Yakima County; (part), WA | PM ₁₀ (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Yuba City-Marysville, CA | PM _{2.5} (2006 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Yuma County; Yuma planning area, AZ | PM ₁₀ (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |

^a Reductions are shown as positive values. Negative values are emissions increases. Values of less than 0.005 tons per year are rounded to zero.

^b Nonattainment or maintenance status as of 5/13/2016. Source: U.S. EPA, The Green Book Nonattainment Areas for Criteria Pollutants; <http://www.epa.gov/airquality/greenbook/>. "--" indicates that no severity classification has been established for the NAAQS pollutant.

^c Emissions thresholds in tons per year. Where the threshold differs by precursor pollutant, the smallest of the precursor thresholds is shown. These thresholds are provided for information only; a general conformity determination is not required for the Proposed Action. Source: 40 CFR 93.853.

Notes: CO = carbon monoxide; NAAQS = National Ambient Air Quality Standards; NO₂ = nitrogen dioxide; PM = particulate matter; SO₂ = sulfur dioxide

Table A1-27
Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Direct and Indirect Impacts
Acrolein 2040

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Ada County; Boise, ID | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Adams, Denver, and Boulder Counties; Denver Metropolitan area, CO | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | -0.01 | 0.00 | -0.01 | -0.01 |
| Ajo, AZ | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Albuquerque Area, NM | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | -0.01 | -0.01 |
| Allegheny County Air Basin: Hazelwood monitor, PA | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Allegheny County, PA | PM2.5 (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | -0.01 | -0.01 |
| Allegheny County; The area including Liberty, Lincoln, Port Vue, and Glassport Boroughs and the City of Clairton, PA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Allegheny, PA | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Allentown, PA | PM2.5 (2006 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | -0.01 | -0.01 |
| Allentown-Bethlehem-Easton, PA | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Anchorage Area, AK | CO (1971 8-hour) | Maintenance, Serious | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Anchorage; Eagle River, AK | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| AQCR 012: Portions of Grant County, NM | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| AQCR 109-Millinocket, ME | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| AQCR 131: Anoka, Carver, Dakota, Hennepin, Ramsey, Scott, and Washington counties (Minneapolis-St. Paul), MN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| AQCR 237: Brown County: Green Bay sub-city area, WI | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| AQCR 238: Marathon County: Rothschild Sub-city area, Rib Mountain, Weston, WI | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| AQCR 238: Oneida County: Rhinelander Sub-city area, WI | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| AQCR 239: Milwaukee County: Milwaukee sub-city area, WI | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |

Appendix A Air Quality Non-Attainment Area Results

Table A1-27

Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Direct and Indirect Impacts

Acrolein 2040

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| AQCR 240: Dane County: Madison sub-city area, WI | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Archuleta County; Pagosa Springs, CO | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Armstrong County: Madison Twp, Mahoning Twp, Boggs Twp, Washington Twp, Pine Twp, PA | SO ₂ (1971 24-hour/Annual) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Aroostock County; City of Presque Isle, ME | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Atlanta, GA | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Atlantic City Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Bakersfield Area, CA | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Baltimore Area, MD | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Baltimore, MD | Ozone (2008 8-hour) | Nonattainment, Moderate | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Baton Rouge, LA | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Beaver, PA | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Benton County; (part) TVA Johnsonville, TN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Billings Area, MT | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Billings, MT | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Birmingham, AL | PM2.5 (2006 24-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | -0.01 | -0.01 |
| Boise-Northern Ada County Area, ID | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Bonner County; The Sandpoint Area, ID | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Boston Area, MA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | -0.01 | -0.01 |
| Boyd County (part), KY | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Brooke; Follansbee area, WV | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Burlington Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Calaveras County, CA | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Campbell-Clermont Counties, KY-OH | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |

Table A1-27

Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Direct and Indirect Impacts

Acrolein 2040

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|---|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Canton-Massillon, OH | PM2.5 (2006 24-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Central New Hampshire, NH | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Central Steptoe Valley, NV | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Charleston, WV | PM2.5 (2006 24-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Charlotte Area, NC | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | -0.01 | -0.01 |
| Charlotte-Rock Hill, NC-SC | Ozone (2008 8-hour) | Maintenance, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Chicago-Naperville, IL-IN-WI | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Chico (Butte County), CA | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Chico Area, CA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Chico, CA | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Cincinnati, OH-KY-IN | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Clark County; Las Vegas planning area, NV | PM10 (1987 24-hour) | Maintenance, Serious | 100 | 0 | -0.01 | 0.00 | -0.02 | -0.02 |
| Cleveland Area, OH | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | -0.01 | -0.01 |
| Cleveland, OH | PM2.5 (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | -0.01 | -0.01 |
| Cleveland-Akron-Lorain, OH | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Cleveland-Akron-Lorain, OH | PM2.5 (2006 24-hour) | Maintenance, -- | 100 | 0 | -0.01 | 0.00 | -0.03 | -0.03 |
| Cochise County; Paul Spur/Douglas planning area, AZ | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Colorado Springs Area, CO | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | -0.01 | -0.01 |
| Columbus, OH | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Cook County; Lyons Township, IL | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Cook County; Southeast Chicago, IL | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Coshocton County; Franklin Township, OH | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Coso Junction, CA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Cuyahoga County (part), OH | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Cuyahoga County, OH | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | -0.01 | -0.01 |

Appendix A Air Quality Non-Attainment Area Results

Table A1-27

Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Direct and Indirect Impacts

Acrolein 2040

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Dallas-Fort Worth, TX | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Delaware County, PA | PM2.5 (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Denver-Boulder Area, CO | CO (1971 8-hour) | Maintenance, Serious | 100 | 0 | -0.01 | 0.00 | -0.02 | -0.02 |
| Denver-Boulder-Greeley-Ft Collins-Loveland, CO | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Detroit Area, MI | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | -0.01 | 0.00 | -0.01 | -0.01 |
| Detroit, MI | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Detroit-Ann Arbor, MI | PM2.5 (2006 24-hour) | Maintenance, -- | 100 | 0 | -0.02 | 0.01 | -0.05 | -0.05 |
| Dona Ana County; Anthony, NM | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Douglas, AZ | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Dukes County, MA | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Duluth Area, MN | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| East Chicago Area, IN | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| East Helena Area, MT | SO ₂ (1971 24-hour/Annual) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| East Kern County Area, CA | PM10 (1987 24-hour) | Nonattainment, Serious | 70 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| El Paso County, TX | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| El Paso, TX | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Eugene-Springfield Area, OR | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Fairbanks Area, AK | CO (1971 8-hour) | Maintenance, Serious | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Fairbanks, AK | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |

Table A1-27
Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Direct and Indirect Impacts
Acrolein 2040

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|---|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Flathead County; Columbia Falls and vicinity, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Flathead County; Kalispell and vicinity, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Flathead County; Whitefish and vicinity, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Fort Collins Area, CO | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Freehold Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Fremont County; Canon City Area, CO | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Fresno Area, CA | CO (1971 8-hour) | Maintenance, Moderate > 12.7ppm | 100 | 0 | 0.00 | 0.00 | -0.01 | -0.01 |
| Grants Pass Area, OR | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Great Falls Area, MT | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Greater Connecticut, CT | Ozone (2008 8-hour) | Nonattainment, Moderate | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Greeley Area, CO | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Hancock and Brooke Counties (Part); The city of Weirton, WV | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Hancock County (Part) The city of Weirton, including Butler and Clay: Magisterial Districts, WV | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Harrisburg-Lebanon-Carlisle-York, PA | PM2.5 (2006 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | -0.01 | -0.01 |
| Hartford-New Britain-Middletown Area, CT | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | -0.01 | -0.01 |
| Hayden, AZ | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Hayden, AZ | SO ₂ (1971 24-hour/Annual) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Hayden, AZ | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Hillsborough County, FL | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Houston-Galveston-Brazoria, TX | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Humphreys County; (part) TVA Johnsonville, TN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Imperial Co, CA | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |

Appendix A Air Quality Non-Attainment Area Results

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Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Direct and Indirect Impacts

Acrolein 2040

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Imperial County, CA | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Imperial County, CA | PM2.5 (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Imperial County; Imperial Valley planning area, CA | PM10 (1987 24-hour) | Nonattainment, Serious | 70 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Indian Wells, CA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Indiana, PA | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Indianapolis Area, IN | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Indianapolis, IN | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Inyo County; Owens Valley planning area, CA | PM10 (1987 24-hour) | Nonattainment, Serious | 70 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Jackson County, MO | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Jackson County; Medford-Ashland (including White City), OR | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Jamestown, NY | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Jefferson County, KY | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Jefferson County, MO | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Jefferson County; (part) Steubenville & Mingo Junction, OH | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Jefferson County; (part), OH | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Johnstown, PA | PM2.5 (2006 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Josephine County; Grants Pass, OR | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Juneau; Mendenhall Valley area, AK | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Kern County (Eastern Kern), CA | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| King County; Kent, WA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| King County; Seattle, WA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Klamath County; Klamath Falls, OR | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Klamath Falls Area, OR | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Klamath Falls, OR | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |

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| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Knoxville, TN | Ozone (2008 8-hour) | Maintenance, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Knoxville-Sevierville-La Follette, TN | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | -0.01 | -0.01 |
| La Porte County: (part), IN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lake County (part); Lakeview, OR | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lake County, OH | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lake County: (part), IN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lake County; (part) Eastlake, Timberlake, Lakeline, Willoughby, Mentor, OH | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lake County; Cities of East Chicago, Hammond, Whiting, and Gary, IN | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lake County; Polson, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lake County; Ronan, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lake Tahoe Nevada Area, NV | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lake Tahoe North Shore Area, CA | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lake Tahoe South Shore Area, CA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lancaster, PA | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lancaster, PA | PM2.5 (2006 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | -0.01 | -0.01 |
| Lane County (part); Oakridge, OR | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lane County; Eugene/Springfield, OR | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Las Vegas Area, NV | CO (1971 8-hour) | Maintenance, Serious | 100 | 0 | -0.01 | 0.00 | -0.02 | -0.02 |
| LaSalle County; Oglesby, IL | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Laurel Area, MT | SO ₂ (1971 24-hour/Annual) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lebanon County, PA | PM2.5 (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lemont, IL | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Liberty-Clairton, PA | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |

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|--|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Lincoln County; Libby and vicinity, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Logan, UT-ID | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Longmont Area, CO | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lorain County (part), OH | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Los Angeles, CA | PM2.5 (2006 24-hour) | Nonattainment, Serious | 100 | 0 | -0.03 | 0.08 | -0.10 | -0.08 |
| Los Angeles-San Bernardino Counties (West Mojave Desert), CA | Ozone (2008 8-hour) | Nonattainment, Severe 15 | 25 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Los Angeles-South Coast Air Basin Area, CA | CO (1971 8-hour) | Maintenance, Serious | 100 | 0 | -0.03 | 0.08 | -0.10 | -0.08 |
| Los Angeles-South Coast Air Basin Area, CA | NO ₂ (1971 Annual) | Maintenance, -- | 100 | 0 | -0.03 | 0.08 | -0.10 | -0.08 |
| Los Angeles-South Coast Air Basin, CA | Ozone (2008 8-hour) | Nonattainment, Extreme | 10 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Los Angeles-South Coast Air Basin, CA | PM2.5 (2012 Annual) | Nonattainment, Moderate | 100 | 0 | -0.03 | 0.08 | -0.10 | -0.08 |
| Lowell Area, MA | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lucas County (part), OH | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Madison County; Granite City Township and Nameoki Township, IL | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Manchester Area, NH | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Maricopa and Pinal Counties; Phoenix planning area, AZ | PM10 (1987 24-hour) | Nonattainment, Serious | 70 | 0 | -0.01 | 0.00 | -0.04 | -0.04 |
| Marion County; Lawrence, Washington, and Warrant Townships, IN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Mariposa County, CA | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Marshall, WV | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Medford Area, OR | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Memphis Area, TN | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | -0.01 | -0.01 |

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|---|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Memphis, TN-MS-AR | Ozone (2008 8-hour) | Nonattainment TN & Maintenance MS/AR, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Miami, AZ | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Miami, AZ | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Miami, AZ | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Milwaukee-Racine, WI | PM2.5 (2006 24-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | -0.01 | -0.01 |
| Minneapolis-St. Paul Area, MN | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.41 | 1.19 | 0.94 | 1.38 |
| Missoula Area, MT | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Missoula county; Missoula and vicinity, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Modesto Area, CA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Mohave County (part); Bullhead City, AZ | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Mono County; Mammoth Lake planning area, CA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Mono County; Mono Basin, CA | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Morenci, AZ | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Morgan County, IN | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Morongo Band of Mission Indians | Ozone (2008 8-hour) | Nonattainment, Serious | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Morristown Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Muscatine County; (part), IA | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Muscatine, IA | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Muskingum River, OH | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Nashua Area, NH | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Nassau County, FL | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Nevada County (Western part), CA | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| New Haven County, CT | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |

Appendix A Air Quality Non-Attainment Area Results

Table A1-27

Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Direct and Indirect Impacts

Acrolein 2040

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| New Haven-Meriden-Waterbury Area, CT | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | -0.01 | -0.01 |
| New Manchester-Grant magisterial district in Hancock County, WV | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| New York County, NY | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | -0.01 | -0.01 |
| New York, NY-NJ-CT | PM2.5 (2006 24-hour) | Maintenance, -- | 100 | 0 | -0.06 | 0.02 | -0.15 | -0.16 |
| New York-N. New Jersey-Long Island Area, NY-NJ-CT | CO (1971 8-hour) | Maintenance, Moderate > 12.7ppm | 100 | 0 | -0.03 | 0.01 | -0.09 | -0.09 |
| New York-N. New Jersey-Long Island, NY-NJ-CT | Ozone (2008 8-hour) | Nonattainment, Moderate | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| NJ portion of the Northeast Pennsylvania-Upper Delaware Valley Interstate AQCR: (part), NJ | SO ₂ (1971 24-hour/Annual) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Nogales, AZ | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Oakridge, OR | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Ogden Area, UT | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Ogden Area, UT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Olmsted County; (part), MN | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Olmsted; City of Rochester, MN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |

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Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Direct and Indirect Impacts
Acrolein 2040

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Pechanga Band of Luiseno Mission Indians of the Pechanga Reservation | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Pekin, IL | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Penns Grove Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Peoria County: Hollis Twp, IL | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Peoria County: Peoria, IL | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Perth Amboy Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Philadelphia-Camden County Area, PA-NJ | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | -0.01 | -0.01 |
| Philadelphia-Wilmington, PA-NJ-DE | PM _{2.5} (2006 24-hour) | Maintenance, Moderate for PA and DE Subject to Former Subpart 1 for NJ | 100 | 0 | -0.02 | 0.00 | -0.04 | -0.04 |
| Philadelphia-Wilmington-Atlantic City, PA-NJ-MD-DE | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Phoenix Area, AZ | CO (1971 8-hour) | Maintenance, Serious | 100 | 0 | -0.01 | 0.00 | -0.03 | -0.03 |
| Phoenix-Mesa, AZ | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Pierce County; Tacoma, WA | PM ₁₀ (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Pima County; Ajo planning area, AZ | PM ₁₀ (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Pima County; Rillito planning area, AZ | PM ₁₀ (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Pinal and Gila Counties; Payson, AZ | PM ₁₀ (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Pinal County (part); West Pinal, AZ | PM ₁₀ (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Pitkin County; Aspen, CO | PM ₁₀ (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Pittsburgh Area, PA | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Pittsburgh-Beaver Valley, PA | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Pittsburgh-Beaver Valley, PA | PM _{2.5} (2006 24-hour) | Maintenance, Moderate | 100 | 0 | -0.01 | 0.00 | -0.02 | -0.02 |
| Plumas County, CA | PM _{2.5} (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Polk County, TN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |

Appendix A Air Quality Non-Attainment Area Results

Table A1-27

Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Direct and Indirect Impacts

Acrolein 2040

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|-------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Portland Area: Portland Metro Service District Boundary, OR | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | -0.01 | -0.01 |
| Power-Bannock Counties; Fort Hall Indian Reservation, ID | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Power-Bannock Counties; Portneuf Valley Area, ID | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Provo Area, UT | CO (1971 8-hour) | Maintenance, Moderate > 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Provo, UT | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Prowers County; Lamar, CO | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Raleigh-Durham Area, NC | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | -0.01 | 0.00 | -0.01 | -0.01 |
| Ramsey County; (part), MN | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Reading, PA | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Reno Area, NV | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Rhinelander, WI | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Riverside County (Coachella Valley), CA | Ozone (2008 8-hour) | Nonattainment, Severe 15 | 25 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Riverside County; Coachella Valley planning area, CA | PM10 (1987 24-hour) | Nonattainment, Serious | 70 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Riverside, Los Angeles, Orange, and San Bernardino Counties; South Coast Air Basin, CA | PM10 (1987 24-hour) | Maintenance, Serious | 100 | 0 | -0.03 | 0.08 | -0.10 | -0.08 |
| Rosebud County; Lame Deer, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Routt County (part); Steamboat Springs, CO | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Sacramento Area, CA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | -0.01 | -0.01 |
| Sacramento County, CA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | -0.01 | -0.01 |
| Sacramento Metro, CA | Ozone (2008 8-hour) | Nonattainment, Severe 15 | 25 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Sacramento, CA | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | -0.01 | 0.00 | -0.02 | -0.02 |
| Salem Area, OR | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Salt Lake City Area, UT | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Salt Lake City, UT | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | -0.01 | 0.00 | -0.02 | -0.02 |

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Acrolein 2040

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|---|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Salt Lake County, UT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | -0.01 | -0.01 |
| Salt Lake County, UT | SO ₂ (1971 24-hour/Annual) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| San Bernardino County (part); excluding Searles Valley Planning area and South Coast Air Basin, CA | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | -0.01 | -0.01 |
| San Diego Area, CA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | -0.01 | 0.00 | -0.03 | -0.03 |
| San Diego County, CA | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| San Francisco Bay Area, CA | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| San Francisco Bay Area, CA | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | -0.02 | 0.01 | -0.06 | -0.06 |
| San Francisco-Oakland-San Jose Area, CA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | -0.02 | 0.01 | -0.06 | -0.06 |
| San Joaquin Valley Air Basin; Fresno, Kern, Kings, Madera, Merced, San Joaquin, Stanislaus, Tulare Counties, CA | PM10 (1987 24-hour) | Maintenance, Serious | 100 | 0 | -0.02 | 0.01 | -0.04 | -0.04 |
| San Joaquin Valley, CA | Ozone (2008 8-hour) | Nonattainment, Extreme | 10 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| San Joaquin Valley, CA | PM2.5 (2006 24-hour) | Nonattainment, Serious | 100 | 0 | -0.02 | 0.01 | -0.04 | -0.04 |
| San Joaquin Valley, CA | PM2.5 (2012 Annual) | Nonattainment, Moderate | 100 | 0 | -0.02 | 0.01 | -0.04 | -0.04 |
| San Luis Obispo (Eastern San Luis Obispo), CA | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| San Manuel, AZ | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| San Miguel County; Telluride, CO | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Sanders County (part); Thompson Falls and vicinity, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Santa Cruz County; Nogales planning area, AZ | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Seaford, DE | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Seattle-Tacoma Area, WA | CO (1971 8-hour) | Maintenance, Moderate > 12.7ppm | 100 | 0 | -0.01 | 0.00 | -0.03 | -0.03 |
| Seattle-Tacoma, WA | PM2.5 (2006 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Sheboygan County, WI | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |

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|---|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Sheridan County; City of Sheridan, WY | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Shoshone County (part); excluding Pinehurst, ID | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Shoshone County; City of Pinehurst, ID | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Silver Bow County; Butte, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Somerville Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Southwest Indiana, IN | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Spokane Area, WA | CO (1971 8-hour) | Maintenance, Serious | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Spokane County; (part), WA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Springfield Area, MA | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| St. Bernard Parish, LA | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| St. Louis Area, MO | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | -0.01 | -0.01 |
| St. Louis-St. Charles-Farmington, MO-IL | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Steubenville, OH-WV | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Steubenville-Weirton, OH-WV | PM2.5 (2006 24-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Stockton Area, CA | CO (1971 8-hour) | Maintenance, Moderate ≤ 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Sullivan County, TN | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Syracuse Area; Onondaga County, NY | CO (1971 8-hour) | Maintenance, Moderate ≤ 12.7ppm | 100 | 0 | 0.00 | 0.00 | -0.01 | -0.01 |
| Tazewell County; Groveland Twp, IL | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Terre Haute, IN | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |

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| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|---|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Thurston County; Cities of Olympia, Tumwater, and Lacey, WA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Toms River Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Tooele County (part), UT | SO ₂ (1971 24-hour/Annual) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Trenton Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Trona, CA | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Tucson Area, AZ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | -0.01 | -0.01 |
| Tuscan Buttes, CA | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Union County; LaGrande, OR | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Upper Green River Basin Area, WY | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Utah County, UT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Vancouver Area: Clark County (part), WA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Ventura County, CA | Ozone (2008 8-hour) | Nonattainment, Serious | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Vermillion County; Part of Clinton Township, IN | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Vigo County, IN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Walla Walla County; Wallula, WA | PM10 (1987 24-hour) | Maintenance, Serious | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Waltham Area, MA | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Warren County: Conewago Twp, PA | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Warren County: Warren Boro, Pleasant Twp, Glade Twp, PA | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Warren, PA | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Washington Area, DC-MD-VA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | -0.01 | -0.01 |
| Washington, DC-MD-VA | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Washoe County; Reno planning area, NV | PM10 (1987 24-hour) | Nonattainment, Serious | 70 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |

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|---|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Wayne County: Boston, Center, Franklin, Wayne & Webster Townships, IN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Wayne County; (part), MI | PM ₁₀ (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| West Central Pinal County, AZ | PM _{2.5} (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| West Silver Valley, ID | PM _{2.5} (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Winston-Salem Area, NC | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Worcester Area, MA | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Yakima Area, WA | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Yakima County; (part), WA | PM ₁₀ (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Yuba City-Marysville, CA | PM _{2.5} (2006 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Yuma County; Yuma planning area, AZ | PM ₁₀ (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |

^a Reductions are shown as positive values. Negative values are emissions increases. Values of less than 0.005 tons per year are rounded to zero.

^b Nonattainment or maintenance status as of 5/13/2016. Source: U.S. EPA, The Green Book Nonattainment Areas for Criteria Pollutants; <http://www.epa.gov/airquality/greenbook/>. "--" indicates that no severity classification has been established for the NAAQS pollutant.

^c Emissions thresholds in tons per year. Where the threshold differs by precursor pollutant, the smallest of the precursor thresholds is shown. These thresholds are provided for information only; a general conformity determination is not required for the Proposed Action. Source: 40 CFR 93.853.

Notes: CO = carbon monoxide; NAAQS = National Ambient Air Quality Standards; NO₂ = nitrogen dioxide; PM = particulate matter; SO₂ = sulfur dioxide

Table A1-28
Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Direct and Indirect Impacts
Acrolein 2050

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Ada County; Boise, ID | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Adams, Denver, and Boulder Counties; Denver Metropolitan area, CO | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | -0.01 | 0.01 | -0.02 | -0.02 |
| Ajo, AZ | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Albuquerque Area, NM | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | -0.01 | -0.01 |
| Allegheny County Air Basin: Hazelwood monitor, PA | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Allegheny County, PA | PM2.5 (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | -0.01 | -0.01 |
| Allegheny County; The area including Liberty, Lincoln, Port Vue, and Glassport Boroughs and the City of Clairton, PA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Allegheny, PA | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Allentown, PA | PM2.5 (2006 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | -0.01 | -0.01 |
| Allentown-Bethlehem-Easton, PA | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Anchorage Area, AK | CO (1971 8-hour) | Maintenance, Serious | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Anchorage; Eagle River, AK | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| AQCR 012: Portions of Grant County, NM | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| AQCR 109-Millinocket, ME | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| AQCR 131: Anoka, Carver, Dakota, Hennepin, Ramsey, Scott, and Washington counties (Minneapolis-St. Paul), MN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| AQCR 237: Brown County: Green Bay sub-city area, WI | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| AQCR 238: Marathon County: Rothschild Sub-city area, Rib Mountain, Weston, WI | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| AQCR 238: Oneida County: Rhinelander Sub-city area, WI | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| AQCR 239: Milwaukee County: Milwaukee sub-city area, WI | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |

Appendix A Air Quality Non-Attainment Area Results

Table A1-28

Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Direct and Indirect Impacts

Acrolein 2050

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| AQCR 240: Dane County: Madison sub-city area, WI | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Archuleta County; Pagosa Springs, CO | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Armstrong County: Madison Twp, Mahoning Twp, Boggs Twp, Washington Twp, Pine Twp, PA | SO ₂ (1971 24-hour/Annual) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Aroostock County; City of Presque Isle, ME | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Atlanta, GA | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Atlantic City Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Bakersfield Area, CA | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Baltimore Area, MD | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Baltimore, MD | Ozone (2008 8-hour) | Nonattainment, Moderate | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Baton Rouge, LA | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Beaver, PA | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Benton County; (part) TVA Johnsonville, TN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Billings Area, MT | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Billings, MT | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Birmingham, AL | PM2.5 (2006 24-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | -0.01 | -0.01 |
| Boise-Northern Ada County Area, ID | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Bonner County; The Sandpoint Area, ID | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Boston Area, MA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | -0.01 | -0.01 |
| Boyd County (part), KY | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Brooke; Follansbee area, WV | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Burlington Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Calaveras County, CA | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Campbell-Clermont Counties, KY-OH | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |

Table A1-28

Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Direct and Indirect Impacts

Acrolein 2050

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|---|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Canton-Massillon, OH | PM2.5 (2006 24-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Central New Hampshire, NH | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Central Steptoe Valley, NV | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Charleston, WV | PM2.5 (2006 24-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Charlotte Area, NC | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | -0.01 | -0.01 |
| Charlotte-Rock Hill, NC-SC | Ozone (2008 8-hour) | Maintenance, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Chicago-Naperville, IL-IN-WI | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Chico (Butte County), CA | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Chico Area, CA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Chico, CA | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Cincinnati, OH-KY-IN | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Clark County; Las Vegas planning area, NV | PM10 (1987 24-hour) | Maintenance, Serious | 100 | 0 | -0.01 | 0.01 | -0.02 | -0.02 |
| Cleveland Area, OH | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | -0.01 | -0.01 |
| Cleveland, OH | PM2.5 (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | -0.01 | -0.01 |
| Cleveland-Akron-Lorain, OH | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Cleveland-Akron-Lorain, OH | PM2.5 (2006 24-hour) | Maintenance, -- | 100 | 0 | -0.01 | 0.01 | -0.03 | -0.03 |
| Cochise County; Paul Spur/Douglas planning area, AZ | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Colorado Springs Area, CO | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | -0.01 | -0.01 |
| Columbus, OH | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Cook County; Lyons Township, IL | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Cook County; Southeast Chicago, IL | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Coshocton County; Franklin Township, OH | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Coso Junction, CA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Cuyahoga County (part), OH | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Cuyahoga County, OH | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | -0.01 | -0.01 |

Appendix A Air Quality Non-Attainment Area Results

Table A1-28

Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Direct and Indirect Impacts

Acrolein 2050

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Dallas-Fort Worth, TX | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Delaware County, PA | PM2.5 (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Denver-Boulder Area, CO | CO (1971 8-hour) | Maintenance, Serious | 100 | 0 | -0.01 | 0.01 | -0.03 | -0.03 |
| Denver-Boulder-Greeley-Ft Collins-Loveland, CO | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Detroit Area, MI | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | -0.01 | 0.00 | -0.01 | -0.01 |
| Detroit, MI | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Detroit-Ann Arbor, MI | PM2.5 (2006 24-hour) | Maintenance, -- | 100 | 0 | -0.02 | 0.02 | -0.05 | -0.05 |
| Dona Ana County; Anthony, NM | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Douglas, AZ | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Dukes County, MA | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Duluth Area, MN | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| East Chicago Area, IN | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| East Helena Area, MT | SO ₂ (1971 24-hour/Annual) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| East Kern County Area, CA | PM10 (1987 24-hour) | Nonattainment, Serious | 70 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| El Paso County, TX | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| El Paso, TX | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Eugene-Springfield Area, OR | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Fairbanks Area, AK | CO (1971 8-hour) | Maintenance, Serious | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Fairbanks, AK | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |

Table A1-28

Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Direct and Indirect Impacts

Acrolein 2050

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|---|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Flathead County; Columbia Falls and vicinity, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Flathead County; Kalispell and vicinity, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Flathead County; Whitefish and vicinity, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Fort Collins Area, CO | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Freehold Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Fremont County; Canon City Area, CO | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Fresno Area, CA | CO (1971 8-hour) | Maintenance, Moderate > 12.7ppm | 100 | 0 | 0.00 | 0.00 | -0.01 | -0.01 |
| Grants Pass Area, OR | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Great Falls Area, MT | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Greater Connecticut, CT | Ozone (2008 8-hour) | Nonattainment, Moderate | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Greeley Area, CO | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Hancock and Brooke Counties (Part); The city of Weirton, WV | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Hancock County (Part) The city of Weirton, including Butler and Clay: Magisterial Districts, WV | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Harrisburg-Lebanon-Carlisle-York, PA | PM2.5 (2006 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | -0.01 | -0.01 |
| Hartford-New Britain-Middletown Area, CT | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | -0.01 | -0.01 |
| Hayden, AZ | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Hayden, AZ | SO ₂ (1971 24-hour/Annual) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Hayden, AZ | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Hillsborough County, FL | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Houston-Galveston-Brazoria, TX | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Humphreys County; (part) TVA Johnsonville, TN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Imperial Co, CA | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |

Appendix A Air Quality Non-Attainment Area Results

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| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Imperial County, CA | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Imperial County, CA | PM2.5 (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Imperial County; Imperial Valley planning area, CA | PM10 (1987 24-hour) | Nonattainment, Serious | 70 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Indian Wells, CA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Indiana, PA | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Indianapolis Area, IN | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Indianapolis, IN | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Inyo County; Owens Valley planning area, CA | PM10 (1987 24-hour) | Nonattainment, Serious | 70 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Jackson County, MO | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Jackson County; Medford-Ashland (including White City), OR | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Jamestown, NY | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Jefferson County, KY | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Jefferson County, MO | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Jefferson County; (part) Steubenville & Mingo Junction, OH | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Jefferson County; (part), OH | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Johnstown, PA | PM2.5 (2006 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Josephine County; Grants Pass, OR | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Juneau; Mendenhall Valley area, AK | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Kern County (Eastern Kern), CA | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| King County; Kent, WA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| King County; Seattle, WA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Klamath County; Klamath Falls, OR | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Klamath Falls Area, OR | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Klamath Falls, OR | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |

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|--|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Knoxville, TN | Ozone (2008 8-hour) | Maintenance, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Knoxville-Sevierville-La Follette, TN | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | -0.01 | -0.01 |
| La Porte County: (part), IN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lake County (part); Lakeview, OR | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lake County, OH | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lake County: (part), IN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lake County; (part) Eastlake, Timberlake, Lakeline, Willoughby, Mentor, OH | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lake County; Cities of East Chicago, Hammond, Whiting, and Gary, IN | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lake County; Polson, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lake County; Ronan, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lake Tahoe Nevada Area, NV | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lake Tahoe North Shore Area, CA | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lake Tahoe South Shore Area, CA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lancaster, PA | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lancaster, PA | PM2.5 (2006 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | -0.01 | -0.01 |
| Lane County (part); Oakridge, OR | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lane County; Eugene/Springfield, OR | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Las Vegas Area, NV | CO (1971 8-hour) | Maintenance, Serious | 100 | 0 | -0.01 | 0.01 | -0.02 | -0.02 |
| LaSalle County; Oglesby, IL | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Laurel Area, MT | SO ₂ (1971 24-hour/Annual) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lebanon County, PA | PM2.5 (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lemont, IL | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Liberty-Clairton, PA | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |

Appendix A Air Quality Non-Attainment Area Results

Table A1-28

Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Direct and Indirect Impacts

Acrolein 2050

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Lincoln County; Libby and vicinity, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Logan, UT-ID | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Longmont Area, CO | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lorain County (part), OH | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Los Angeles, CA | PM2.5 (2006 24-hour) | Nonattainment, Serious | 100 | 0 | -0.03 | 0.12 | -0.10 | -0.07 |
| Los Angeles-San Bernardino Counties (West Mojave Desert), CA | Ozone (2008 8-hour) | Nonattainment, Severe 15 | 25 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Los Angeles-South Coast Air Basin Area, CA | CO (1971 8-hour) | Maintenance, Serious | 100 | 0 | -0.03 | 0.12 | -0.10 | -0.07 |
| Los Angeles-South Coast Air Basin Area, CA | NO ₂ (1971 Annual) | Maintenance, -- | 100 | 0 | -0.03 | 0.12 | -0.10 | -0.07 |
| Los Angeles-South Coast Air Basin, CA | Ozone (2008 8-hour) | Nonattainment, Extreme | 10 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Los Angeles-South Coast Air Basin, CA | PM2.5 (2012 Annual) | Nonattainment, Moderate | 100 | 0 | -0.03 | 0.12 | -0.10 | -0.07 |
| Lowell Area, MA | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lucas County (part), OH | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Madison County; Granite City Township and Nameoki Township, IL | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Manchester Area, NH | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Maricopa and Pinal Counties; Phoenix planning area, AZ | PM10 (1987 24-hour) | Nonattainment, Serious | 70 | 0 | -0.01 | 0.01 | -0.04 | -0.04 |
| Marion County; Lawrence, Washington, and Warrant Townships, IN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Mariposa County, CA | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Marshall, WV | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Medford Area, OR | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Memphis Area, TN | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | -0.01 | -0.01 |

Table A1-28
Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Direct and Indirect Impacts
Acrolein 2050

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|---|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Memphis, TN-MS-AR | Ozone (2008 8-hour) | Nonattainment TN & Maintenance MS/AR, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Miami, AZ | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Miami, AZ | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Miami, AZ | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Milwaukee-Racine, WI | PM2.5 (2006 24-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | -0.01 | -0.01 |
| Minneapolis-St. Paul Area, MN | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.47 | 1.39 | 1.08 | 1.57 |
| Missoula Area, MT | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Missoula county; Missoula and vicinity, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Modesto Area, CA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Mohave County (part); Bullhead City, AZ | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Mono County; Mammoth Lake planning area, CA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Mono County; Mono Basin, CA | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Morenci, AZ | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Morgan County, IN | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Morongo Band of Mission Indians | Ozone (2008 8-hour) | Nonattainment, Serious | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Morristown Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Muscatine County; (part), IA | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Muscatine, IA | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Muskingum River, OH | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Nashua Area, NH | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Nassau County, FL | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Nevada County (Western part), CA | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| New Haven County, CT | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |

Appendix A Air Quality Non-Attainment Area Results

Table A1-28

Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Direct and Indirect Impacts

Acrolein 2050

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| New Haven-Meriden-Waterbury Area, CT | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | -0.01 | -0.01 |
| New Manchester-Grant magisterial district in Hancock County, WV | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| New York County, NY | PM ₁₀ (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | -0.01 | -0.01 |
| New York, NY-NJ-CT | PM _{2.5} (2006 24-hour) | Maintenance, -- | 100 | 0 | -0.06 | 0.06 | -0.16 | -0.16 |
| New York-N. New Jersey-Long Island Area, NY-NJ-CT | CO (1971 8-hour) | Maintenance, Moderate > 12.7ppm | 100 | 0 | -0.03 | 0.03 | -0.09 | -0.09 |
| New York-N. New Jersey-Long Island, NY-NJ-CT | Ozone (2008 8-hour) | Nonattainment, Moderate | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| NJ portion of the Northeast Pennsylvania-Upper Delaware Valley Interstate AQCR: (part), NJ | SO ₂ (1971 24-hour/Annual) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Nogales, AZ | PM _{2.5} (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Oakridge, OR | PM _{2.5} (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Ogden Area, UT | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Ogden Area, UT | PM ₁₀ (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Olmsted County; (part), MN | PM ₁₀ (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Olmsted; City of Rochester, MN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |

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Acrolein 2050

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Pechanga Band of Luiseno Mission Indians of the Pechanga Reservation | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Pekin, IL | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Penns Grove Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Peoria County: Hollis Twp, IL | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Peoria County: Peoria, IL | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Perth Amboy Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Philadelphia-Camden County Area, PA-NJ | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | -0.01 | -0.01 |
| Philadelphia-Wilmington, PA-NJ-DE | PM _{2.5} (2006 24-hour) | Maintenance, Moderate for PA and DE Subject to Former Subpart 1 for NJ | 100 | 0 | -0.02 | 0.02 | -0.04 | -0.04 |
| Philadelphia-Wilmington-Atlantic City, PA-NJ-MD-DE | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Phoenix Area, AZ | CO (1971 8-hour) | Maintenance, Serious | 100 | 0 | -0.01 | 0.01 | -0.03 | -0.04 |
| Phoenix-Mesa, AZ | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Pierce County; Tacoma, WA | PM ₁₀ (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Pima County; Ajo planning area, AZ | PM ₁₀ (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Pima County; Rillito planning area, AZ | PM ₁₀ (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Pinal and Gila Counties; Payson, AZ | PM ₁₀ (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Pinal County (part); West Pinal, AZ | PM ₁₀ (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Pitkin County; Aspen, CO | PM ₁₀ (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Pittsburgh Area, PA | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Pittsburgh-Beaver Valley, PA | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Pittsburgh-Beaver Valley, PA | PM _{2.5} (2006 24-hour) | Maintenance, Moderate | 100 | 0 | -0.01 | 0.01 | -0.02 | -0.02 |
| Plumas County, CA | PM _{2.5} (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Polk County, TN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |

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| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|-------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Portland Area: Portland Metro Service District Boundary, OR | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | -0.01 | -0.01 |
| Power-Bannock Counties; Fort Hall Indian Reservation, ID | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Power-Bannock Counties; Portneuf Valley Area, ID | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Provo Area, UT | CO (1971 8-hour) | Maintenance, Moderate > 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Provo, UT | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Prowers County; Lamar, CO | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Raleigh-Durham Area, NC | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | -0.01 | 0.00 | -0.01 | -0.01 |
| Ramsey County; (part), MN | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Reading, PA | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Reno Area, NV | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Rhinelander, WI | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Riverside County (Coachella Valley), CA | Ozone (2008 8-hour) | Nonattainment, Severe 15 | 25 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Riverside County; Coachella Valley planning area, CA | PM10 (1987 24-hour) | Nonattainment, Serious | 70 | 0 | 0.00 | 0.00 | 0.00 | -0.01 |
| Riverside, Los Angeles, Orange, and San Bernardino Counties; South Coast Air Basin, CA | PM10 (1987 24-hour) | Maintenance, Serious | 100 | 0 | -0.03 | 0.12 | -0.10 | -0.07 |
| Rosebud County; Lame Deer, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Routt County (part); Steamboat Springs, CO | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Sacramento Area, CA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | -0.01 | -0.01 |
| Sacramento County, CA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | -0.01 | -0.01 |
| Sacramento Metro, CA | Ozone (2008 8-hour) | Nonattainment, Severe 15 | 25 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Sacramento, CA | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | -0.01 | 0.01 | -0.02 | -0.02 |
| Salem Area, OR | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Salt Lake City Area, UT | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Salt Lake City, UT | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | -0.01 | 0.01 | -0.02 | -0.02 |

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|---|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Salt Lake County, UT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | -0.01 | -0.01 |
| Salt Lake County, UT | SO ₂ (1971 24-hour/Annual) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| San Bernardino County (part); excluding Searles Valley Planning area and South Coast Air Basin, CA | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | -0.01 | -0.01 |
| San Diego Area, CA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | -0.01 | 0.01 | -0.03 | -0.03 |
| San Diego County, CA | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| San Francisco Bay Area, CA | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| San Francisco Bay Area, CA | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | -0.03 | 0.02 | -0.07 | -0.07 |
| San Francisco-Oakland-San Jose Area, CA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | -0.02 | 0.02 | -0.06 | -0.06 |
| San Joaquin Valley Air Basin; Fresno, Kern, Kings, Madera, Merced, San Joaquin, Stanislaus, Tulare Counties, CA | PM10 (1987 24-hour) | Maintenance, Serious | 100 | 0 | -0.02 | 0.02 | -0.04 | -0.04 |
| San Joaquin Valley, CA | Ozone (2008 8-hour) | Nonattainment, Extreme | 10 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| San Joaquin Valley, CA | PM2.5 (2006 24-hour) | Nonattainment, Serious | 100 | 0 | -0.02 | 0.02 | -0.04 | -0.04 |
| San Joaquin Valley, CA | PM2.5 (2012 Annual) | Nonattainment, Moderate | 100 | 0 | -0.02 | 0.02 | -0.04 | -0.04 |
| San Luis Obispo (Eastern San Luis Obispo), CA | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| San Manuel, AZ | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| San Miguel County; Telluride, CO | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Sanders County (part); Thompson Falls and vicinity, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Santa Cruz County; Nogales planning area, AZ | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Seaford, DE | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Seattle-Tacoma Area, WA | CO (1971 8-hour) | Maintenance, Moderate > 12.7ppm | 100 | 0 | -0.01 | 0.01 | -0.03 | -0.03 |
| Seattle-Tacoma, WA | PM2.5 (2006 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Sheboygan County, WI | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |

Appendix A Air Quality Non-Attainment Area Results

Table A1-28

Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Direct and Indirect Impacts

Acrolein 2050

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|---|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Sheridan County; City of Sheridan, WY | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Shoshone County (part); excluding Pinehurst, ID | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Shoshone County; City of Pinehurst, ID | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Silver Bow County; Butte, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Somerville Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Southwest Indiana, IN | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Spokane Area, WA | CO (1971 8-hour) | Maintenance, Serious | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Spokane County; (part), WA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Springfield Area, MA | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| St. Bernard Parish, LA | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| St. Louis Area, MO | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | -0.01 | -0.01 |
| St. Louis-St. Charles-Farmington, MO-IL | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Steubenville, OH-WV | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Steubenville-Weirton, OH-WV | PM2.5 (2006 24-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Stockton Area, CA | CO (1971 8-hour) | Maintenance, Moderate ≤ 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Sullivan County, TN | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Syracuse Area; Onondaga County, NY | CO (1971 8-hour) | Maintenance, Moderate ≤ 12.7ppm | 100 | 0 | 0.00 | 0.00 | -0.01 | -0.01 |
| Tazewell County; Groveland Twp, IL | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Terre Haute, IN | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |

Table A1-28
Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Direct and Indirect Impacts
Acrolein 2050

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|---|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Thurston County; Cities of Olympia, Tumwater, and Lacey, WA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Toms River Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Tooele County (part), UT | SO ₂ (1971 24-hour/Annual) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Trenton Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Trona, CA | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Tucson Area, AZ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | -0.01 | -0.01 |
| Tuscan Buttes, CA | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Union County; LaGrande, OR | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Upper Green River Basin Area, WY | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Utah County, UT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Vancouver Area: Clark County (part), WA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Ventura County, CA | Ozone (2008 8-hour) | Nonattainment, Serious | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Vermillion County; Part of Clinton Township, IN | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Vigo County, IN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Walla Walla County; Wallula, WA | PM10 (1987 24-hour) | Maintenance, Serious | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Waltham Area, MA | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Warren County: Conewago Twp, PA | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Warren County: Warren Boro, Pleasant Twp, Glade Twp, PA | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Warren, PA | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Washington Area, DC-MD-VA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | -0.01 | -0.01 |
| Washington, DC-MD-VA | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Washoe County; Reno planning area, NV | PM10 (1987 24-hour) | Nonattainment, Serious | 70 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |

Appendix A Air Quality Non-Attainment Area Results

Table A1-28

Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Direct and Indirect Impacts

Acrolein 2050

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|---|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Wayne County: Boston, Center, Franklin, Wayne & Webster Townships, IN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Wayne County; (part), MI | PM ₁₀ (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| West Central Pinal County, AZ | PM _{2.5} (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| West Silver Valley, ID | PM _{2.5} (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Winston-Salem Area, NC | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Worcester Area, MA | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Yakima Area, WA | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Yakima County; (part), WA | PM ₁₀ (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Yuba City-Marysville, CA | PM _{2.5} (2006 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Yuma County; Yuma planning area, AZ | PM ₁₀ (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |

^a Reductions are shown as positive values. Negative values are emissions increases. Values of less than 0.005 tons per year are rounded to zero.

^b Nonattainment or maintenance status as of 5/13/2016. Source: U.S. EPA, The Green Book Nonattainment Areas for Criteria Pollutants; <http://www.epa.gov/airquality/greenbook/>. "--" indicates that no severity classification has been established for the NAAQS pollutant.

^c Emissions thresholds in tons per year. Where the threshold differs by precursor pollutant, the smallest of the precursor thresholds is shown. These thresholds are provided for information only; a general conformity determination is not required for the Proposed Action. Source: 40 CFR 93.853.

Notes: CO = carbon monoxide; NAAQS = National Ambient Air Quality Standards; NO₂ = nitrogen dioxide; PM = particulate matter; SO₂ = sulfur dioxide

Table A1-29

Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Direct and Indirect Impacts

Benzene 2018

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Ada County; Boise, ID | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Adams, Denver, and Boulder Counties; Denver Metropolitan area, CO | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.01 | 0.01 | 0.01 | 0.01 |
| Ajo, AZ | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Albuquerque Area, NM | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Allegheny County Air Basin: Hazelwood monitor, PA | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Allegheny County, PA | PM2.5 (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Allegheny County; The area including Liberty, Lincoln, Port Vue, and Glassport Boroughs and the City of Clairton, PA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Allegheny, PA | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Allentown, PA | PM2.5 (2006 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Allentown-Bethlehem-Easton, PA | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Anchorage Area, AK | CO (1971 8-hour) | Maintenance, Serious | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Anchorage; Eagle River, AK | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| AQCR 012: Portions of Grant County, NM | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| AQCR 109-Millinocket, ME | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| AQCR 131: Anoka, Carver, Dakota, Hennepin, Ramsey, Scott, and Washington counties (Minneapolis-St. Paul), MN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| AQCR 237: Brown County: Green Bay sub-city area, WI | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| AQCR 238: Marathon County: Rothschild Sub-city area, Rib Mountain, Weston, WI | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| AQCR 238: Oneida County: Rhinelander Sub-city area, WI | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| AQCR 239: Milwaukee County: Milwaukee sub-city area, WI | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |

Appendix A Air Quality Non-Attainment Area Results

Table A1-29

Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Direct and Indirect Impacts

Benzene 2018

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| AQCR 240: Dane County: Madison sub-city area, WI | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Archuleta County; Pagosa Springs, CO | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Armstrong County: Madison Twp, Mahoning Twp, Boggs Twp, Washington Twp, Pine Twp, PA | SO ₂ (1971 24-hour/Annual) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Aroostock County; City of Presque Isle, ME | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Atlanta, GA | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Atlantic City Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Bakersfield Area, CA | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Baltimore Area, MD | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Baltimore, MD | Ozone (2008 8-hour) | Nonattainment, Moderate | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Baton Rouge, LA | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Beaver, PA | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Benton County; (part) TVA Johnsonville, TN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Billings Area, MT | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Billings, MT | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Birmingham, AL | PM2.5 (2006 24-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Boise-Northern Ada County Area, ID | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Bonner County; The Sandpoint Area, ID | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Boston Area, MA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Boyd County (part), KY | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Brooke; Follansbee area, WV | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Burlington Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Calaveras County, CA | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Campbell-Clermont Counties, KY-OH | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |

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Benzene 2018

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|---|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Canton-Massillon, OH | PM2.5 (2006 24-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Central New Hampshire, NH | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Central Steptoe Valley, NV | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Charleston, WV | PM2.5 (2006 24-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Charlotte Area, NC | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Charlotte-Rock Hill, NC-SC | Ozone (2008 8-hour) | Maintenance, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Chicago-Naperville, IL-IN-WI | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Chico (Butte County), CA | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Chico Area, CA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Chico, CA | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Cincinnati, OH-KY-IN | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Clark County; Las Vegas planning area, NV | PM10 (1987 24-hour) | Maintenance, Serious | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Cleveland Area, OH | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Cleveland, OH | PM2.5 (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Cleveland-Akron-Lorain, OH | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Cleveland-Akron-Lorain, OH | PM2.5 (2006 24-hour) | Maintenance, -- | 100 | 0 | 0.01 | 0.01 | 0.01 | 0.01 |
| Cochise County; Paul Spur/Douglas planning area, AZ | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Colorado Springs Area, CO | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Columbus, OH | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Cook County; Lyons Township, IL | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Cook County; Southeast Chicago, IL | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Coshocton County; Franklin Township, OH | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Coso Junction, CA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Cuyahoga County (part), OH | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Cuyahoga County, OH | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |

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|--|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Dallas-Fort Worth, TX | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Delaware County, PA | PM2.5 (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Denver-Boulder Area, CO | CO (1971 8-hour) | Maintenance, Serious | 100 | 0 | 0.01 | 0.01 | 0.01 | 0.02 |
| Denver-Boulder-Greeley-Ft Collins-Loveland, CO | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Detroit Area, MI | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.01 | 0.01 | 0.01 | 0.01 |
| Detroit, MI | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Detroit-Ann Arbor, MI | PM2.5 (2006 24-hour) | Maintenance, -- | 100 | 0 | 0.01 | 0.02 | 0.02 | 0.02 |
| Dona Ana County; Anthony, NM | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Douglas, AZ | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Dukes County, MA | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Duluth Area, MN | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| East Chicago Area, IN | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| East Helena Area, MT | SO ₂ (1971 24-hour/Annual) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| East Kern County Area, CA | PM10 (1987 24-hour) | Nonattainment, Serious | 70 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| El Paso County, TX | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| El Paso, TX | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Eugene-Springfield Area, OR | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Fairbanks Area, AK | CO (1971 8-hour) | Maintenance, Serious | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Fairbanks, AK | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |

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Benzene 2018

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|---|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Flathead County; Columbia Falls and vicinity, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Flathead County; Kalispell and vicinity, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Flathead County; Whitefish and vicinity, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Fort Collins Area, CO | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Freehold Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Fremont County; Canon City Area, CO | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Fresno Area, CA | CO (1971 8-hour) | Maintenance, Moderate > 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Grants Pass Area, OR | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Great Falls Area, MT | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Greater Connecticut, CT | Ozone (2008 8-hour) | Nonattainment, Moderate | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Greeley Area, CO | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Hancock and Brooke Counties (Part); The city of Weirton, WV | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Hancock County (Part) The city of Weirton, including Butler and Clay: Magisterial Districts, WV | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Harrisburg-Lebanon-Carlisle-York, PA | PM2.5 (2006 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Hartford-New Britain-Middletown Area, CT | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Hayden, AZ | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Hayden, AZ | SO ₂ (1971 24-hour/Annual) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Hayden, AZ | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Hillsborough County, FL | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Houston-Galveston-Brazoria, TX | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Humphreys County; (part) TVA Johnsonville, TN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Imperial Co, CA | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |

Appendix A Air Quality Non-Attainment Area Results

Table A1-29

Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Direct and Indirect Impacts

Benzene 2018

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Imperial County, CA | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Imperial County, CA | PM2.5 (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Imperial County; Imperial Valley planning area, CA | PM10 (1987 24-hour) | Nonattainment, Serious | 70 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Indian Wells, CA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Indiana, PA | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Indianapolis Area, IN | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Indianapolis, IN | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Inyo County; Owens Valley planning area, CA | PM10 (1987 24-hour) | Nonattainment, Serious | 70 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Jackson County, MO | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Jackson County; Medford-Ashland (including White City), OR | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Jamestown, NY | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Jefferson County, KY | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Jefferson County, MO | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Jefferson County; (part) Steubenville & Mingo Junction, OH | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Jefferson County; (part), OH | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Johnstown, PA | PM2.5 (2006 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Josephine County; Grants Pass, OR | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Juneau; Mendenhall Valley area, AK | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Kern County (Eastern Kern), CA | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| King County; Kent, WA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| King County; Seattle, WA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Klamath County; Klamath Falls, OR | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Klamath Falls Area, OR | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Klamath Falls, OR | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |

Table A1-29

Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Direct and Indirect Impacts

Benzene 2018

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Knoxville, TN | Ozone (2008 8-hour) | Maintenance, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Knoxville-Sevierville-La Follette, TN | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| La Porte County: (part), IN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lake County (part); Lakeview, OR | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lake County, OH | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lake County: (part), IN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lake County; (part) Eastlake, Timberlake, Lakeline, Willoughby, Mentor, OH | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lake County; Cities of East Chicago, Hammond, Whiting, and Gary, IN | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lake County; Polson, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lake County; Ronan, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lake Tahoe Nevada Area, NV | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lake Tahoe North Shore Area, CA | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lake Tahoe South Shore Area, CA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lancaster, PA | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lancaster, PA | PM2.5 (2006 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lane County (part); Oakridge, OR | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lane County; Eugene/Springfield, OR | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Las Vegas Area, NV | CO (1971 8-hour) | Maintenance, Serious | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| LaSalle County; Oglesby, IL | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Laurel Area, MT | SO ₂ (1971 24-hour/Annual) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lebanon County, PA | PM2.5 (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lemont, IL | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Liberty-Clairton, PA | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |

Appendix A Air Quality Non-Attainment Area Results

Table A1-29

Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Direct and Indirect Impacts

Benzene 2018

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Lincoln County; Libby and vicinity, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Logan, UT-ID | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Longmont Area, CO | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lorain County (part), OH | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Los Angeles, CA | PM2.5 (2006 24-hour) | Nonattainment, Serious | 100 | 0 | 0.04 | 0.04 | 0.04 | 0.03 |
| Los Angeles-San Bernardino Counties (West Mojave Desert), CA | Ozone (2008 8-hour) | Nonattainment, Severe 15 | 25 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Los Angeles-South Coast Air Basin Area, CA | CO (1971 8-hour) | Maintenance, Serious | 100 | 0 | 0.04 | 0.04 | 0.04 | 0.03 |
| Los Angeles-South Coast Air Basin Area, CA | NO ₂ (1971 Annual) | Maintenance, -- | 100 | 0 | 0.04 | 0.04 | 0.04 | 0.03 |
| Los Angeles-South Coast Air Basin, CA | Ozone (2008 8-hour) | Nonattainment, Extreme | 10 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Los Angeles-South Coast Air Basin, CA | PM2.5 (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 0.04 | 0.04 | 0.04 | 0.03 |
| Lowell Area, MA | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lucas County (part), OH | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Madison County; Granite City Township and Nameoki Township, IL | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Manchester Area, NH | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Maricopa and Pinal Counties; Phoenix planning area, AZ | PM10 (1987 24-hour) | Nonattainment, Serious | 70 | 0 | 0.01 | 0.01 | 0.01 | 0.01 |
| Marion County; Lawrence, Washington, and Warrant Townships, IN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Mariposa County, CA | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Marshall, WV | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Medford Area, OR | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Memphis Area, TN | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |

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Benzene 2018

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|---|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Memphis, TN-MS-AR | Ozone (2008 8-hour) | Nonattainment TN & Maintenance MS/AR, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Miami, AZ | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Miami, AZ | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Miami, AZ | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Milwaukee-Racine, WI | PM2.5 (2006 24-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Minneapolis-St. Paul Area, MN | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.01 | 0.01 | 0.01 | 0.01 |
| Missoula Area, MT | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Missoula county; Missoula and vicinity, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Modesto Area, CA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Mohave County (part); Bullhead City, AZ | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Mono County; Mammoth Lake planning area, CA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Mono County; Mono Basin, CA | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Morenci, AZ | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Morgan County, IN | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Morongo Band of Mission Indians | Ozone (2008 8-hour) | Nonattainment, Serious | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Morristown Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Muscatine County; (part), IA | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Muscatine, IA | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Muskingum River, OH | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Nashua Area, NH | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Nassau County, FL | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Nevada County (Western part), CA | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| New Haven County, CT | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |

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|--|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| New Haven-Meriden-Waterbury Area, CT | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| New Manchester-Grant magisterial district in Hancock County, WV | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| New York County, NY | PM ₁₀ (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| New York, NY-NJ-CT | PM _{2.5} (2006 24-hour) | Maintenance, -- | 100 | 0 | 0.04 | 0.04 | 0.04 | 0.04 |
| New York-N. New Jersey-Long Island Area, NY-NJ-CT | CO (1971 8-hour) | Maintenance, Moderate > 12.7ppm | 100 | 0 | 0.02 | 0.03 | 0.03 | 0.03 |
| New York-N. New Jersey-Long Island, NY-NJ-CT | Ozone (2008 8-hour) | Nonattainment, Moderate | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| NJ portion of the Northeast Pennsylvania-Upper Delaware Valley Interstate AQCR: (part), NJ | SO ₂ (1971 24-hour/Annual) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Nogales, AZ | PM _{2.5} (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Oakridge, OR | PM _{2.5} (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Ogden Area, UT | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Ogden Area, UT | PM ₁₀ (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Olmsted County; (part), MN | PM ₁₀ (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Olmsted; City of Rochester, MN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |

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Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Direct and Indirect Impacts
Benzene 2018

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Pechanga Band of Luiseno Mission Indians of the Pechanga Reservation | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Pekin, IL | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Penns Grove Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Peoria County: Hollis Twp, IL | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Peoria County: Peoria, IL | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Perth Amboy Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Philadelphia-Camden County Area, PA-NJ | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.01 | 0.01 | 0.01 | 0.01 |
| Philadelphia-Wilmington, PA-NJ-DE | PM _{2.5} (2006 24-hour) | Maintenance, Moderate for PA and DE Subject to Former Subpart 1 for NJ | 100 | 0 | 0.02 | 0.02 | 0.02 | 0.02 |
| Philadelphia-Wilmington-Atlantic City, PA-NJ-MD-DE | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Phoenix Area, AZ | CO (1971 8-hour) | Maintenance, Serious | 100 | 0 | 0.01 | 0.01 | 0.01 | 0.01 |
| Phoenix-Mesa, AZ | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Pierce County; Tacoma, WA | PM ₁₀ (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Pima County; Ajo planning area, AZ | PM ₁₀ (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Pima County; Rillito planning area, AZ | PM ₁₀ (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Pinal and Gila Counties; Payson, AZ | PM ₁₀ (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Pinal County (part); West Pinal, AZ | PM ₁₀ (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Pitkin County; Aspen, CO | PM ₁₀ (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Pittsburgh Area, PA | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Pittsburgh-Beaver Valley, PA | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Pittsburgh-Beaver Valley, PA | PM _{2.5} (2006 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.01 |
| Plumas County, CA | PM _{2.5} (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Polk County, TN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |

Appendix A Air Quality Non-Attainment Area Results

Table A1-29

Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Direct and Indirect Impacts

Benzene 2018

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|-------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Portland Area: Portland Metro Service District Boundary, OR | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Power-Bannock Counties; Fort Hall Indian Reservation, ID | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Power-Bannock Counties; Portneuf Valley Area, ID | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Provo Area, UT | CO (1971 8-hour) | Maintenance, Moderate > 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Provo, UT | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Prowers County; Lamar, CO | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Raleigh-Durham Area, NC | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Ramsey County; (part), MN | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Reading, PA | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Reno Area, NV | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Rhinelander, WI | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Riverside County (Coachella Valley), CA | Ozone (2008 8-hour) | Nonattainment, Severe 15 | 25 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Riverside County; Coachella Valley planning area, CA | PM10 (1987 24-hour) | Nonattainment, Serious | 70 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Riverside, Los Angeles, Orange, and San Bernardino Counties; South Coast Air Basin, CA | PM10 (1987 24-hour) | Maintenance, Serious | 100 | 0 | 0.04 | 0.04 | 0.03 | 0.03 |
| Rosebud County; Lame Deer, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Routt County (part); Steamboat Springs, CO | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Sacramento Area, CA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Sacramento County, CA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Sacramento Metro, CA | Ozone (2008 8-hour) | Nonattainment, Severe 15 | 25 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Sacramento, CA | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.01 | 0.01 | 0.01 | 0.01 |
| Salem Area, OR | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Salt Lake City Area, UT | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Salt Lake City, UT | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.01 |

Table A1-29
Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Direct and Indirect Impacts
Benzene 2018

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|---|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Salt Lake County, UT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Salt Lake County, UT | SO ₂ (1971 24-hour/Annual) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| San Bernardino County (part); excluding Searles Valley Planning area and South Coast Air Basin, CA | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| San Diego Area, CA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.01 | 0.01 | 0.01 | 0.01 |
| San Diego County, CA | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| San Francisco Bay Area, CA | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| San Francisco Bay Area, CA | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.02 | 0.02 | 0.02 | 0.02 |
| San Francisco-Oakland-San Jose Area, CA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.02 | 0.02 | 0.02 | 0.02 |
| San Joaquin Valley Air Basin; Fresno, Kern, Kings, Madera, Merced, San Joaquin, Stanislaus, Tulare Counties, CA | PM10 (1987 24-hour) | Maintenance, Serious | 100 | 0 | 0.01 | 0.01 | 0.01 | 0.01 |
| San Joaquin Valley, CA | Ozone (2008 8-hour) | Nonattainment, Extreme | 10 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| San Joaquin Valley, CA | PM2.5 (2006 24-hour) | Nonattainment, Serious | 100 | 0 | 0.01 | 0.01 | 0.01 | 0.01 |
| San Joaquin Valley, CA | PM2.5 (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 0.01 | 0.01 | 0.01 | 0.01 |
| San Luis Obispo (Eastern San Luis Obispo), CA | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| San Manuel, AZ | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| San Miguel County; Telluride, CO | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Sanders County (part); Thompson Falls and vicinity, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Santa Cruz County; Nogales planning area, AZ | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Seaford, DE | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Seattle-Tacoma Area, WA | CO (1971 8-hour) | Maintenance, Moderate > 12.7ppm | 100 | 0 | 0.01 | 0.01 | 0.01 | 0.01 |
| Seattle-Tacoma, WA | PM2.5 (2006 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Sheboygan County, WI | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |

Appendix A Air Quality Non-Attainment Area Results

Table A1-29

Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Direct and Indirect Impacts

Benzene 2018

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|---|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Sheridan County; City of Sheridan, WY | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Shoshone County (part); excluding Pinehurst, ID | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Shoshone County; City of Pinehurst, ID | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Silver Bow County; Butte, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Somerville Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Southwest Indiana, IN | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Spokane Area, WA | CO (1971 8-hour) | Maintenance, Serious | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Spokane County; (part), WA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Springfield Area, MA | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| St. Bernard Parish, LA | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| St. Louis Area, MO | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| St. Louis-St. Charles-Farmington, MO-IL | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Steubenville, OH-WV | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Steubenville-Weirton, OH-WV | PM2.5 (2006 24-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Stockton Area, CA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Sullivan County, TN | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Syracuse Area; Onondaga County, NY | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Tazewell County; Groveland Twp, IL | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Terre Haute, IN | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |

Table A1-29
Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Direct and Indirect Impacts
Benzene 2018

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|---|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Thurston County; Cities of Olympia, Tumwater, and Lacey, WA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Toms River Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Tooele County (part), UT | SO ₂ (1971 24-hour/Annual) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Trenton Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Trona, CA | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Tucson Area, AZ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Tuscan Buttes, CA | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Union County; LaGrande, OR | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Upper Green River Basin Area, WY | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Utah County, UT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Vancouver Area: Clark County (part), WA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Ventura County, CA | Ozone (2008 8-hour) | Nonattainment, Serious | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Vermillion County; Part of Clinton Township, IN | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Vigo County, IN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Walla Walla County; Wallula, WA | PM10 (1987 24-hour) | Maintenance, Serious | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Waltham Area, MA | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Warren County: Conewago Twp, PA | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Warren County: Warren Boro, Pleasant Twp, Glade Twp, PA | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Warren, PA | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Washington Area, DC-MD-VA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Washington, DC-MD-VA | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Washoe County; Reno planning area, NV | PM10 (1987 24-hour) | Nonattainment, Serious | 70 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |

Appendix A Air Quality Non-Attainment Area Results

Table A1-29

Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Direct and Indirect Impacts

Benzene 2018

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|---|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Wayne County: Boston, Center, Franklin, Wayne & Webster Townships, IN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Wayne County; (part), MI | PM ₁₀ (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| West Central Pinal County, AZ | PM _{2.5} (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| West Silver Valley, ID | PM _{2.5} (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Winston-Salem Area, NC | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Worcester Area, MA | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Yakima Area, WA | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Yakima County; (part), WA | PM ₁₀ (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Yuba City-Marysville, CA | PM _{2.5} (2006 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Yuma County; Yuma planning area, AZ | PM ₁₀ (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |

^a Reductions are shown as positive values. Negative values are emissions increases. Values of less than 0.005 tons per year are rounded to zero.

^b Nonattainment or maintenance status as of 5/13/2016. Source: U.S. EPA, The Green Book Nonattainment Areas for Criteria Pollutants; <http://www.epa.gov/airquality/greenbook/>. "--" indicates that no severity classification has been established for the NAAQS pollutant.

^c Emissions thresholds in tons per year. Where the threshold differs by precursor pollutant, the smallest of the precursor thresholds is shown. These thresholds are provided for information only; a general conformity determination is not required for the Proposed Action. Source: 40 CFR 93.853.

Notes: CO = carbon monoxide; NAAQS = National Ambient Air Quality Standards; NO₂ = nitrogen dioxide; PM = particulate matter; SO₂ = sulfur dioxide

Table A1-30
Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Direct and Indirect Impacts
Benzene 2025

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Ada County; Boise, ID | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.01 | 0.03 | 0.03 | 0.04 |
| Adams, Denver, and Boulder Counties; Denver Metropolitan area, CO | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.06 | 0.13 | 0.14 | 0.21 |
| Ajo, AZ | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Albuquerque Area, NM | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.01 | 0.03 | 0.03 | 0.05 |
| Allegheny County Air Basin: Hazelwood monitor, PA | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Allegheny County, PA | PM2.5 (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 0.01 | 0.02 | 0.02 | 0.04 |
| Allegheny County; The area including Liberty, Lincoln, Port Vue, and Glassport Boroughs and the City of Clairton, PA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Allegheny, PA | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Allentown, PA | PM2.5 (2006 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.01 | 0.01 | 0.02 |
| Allentown-Bethlehem-Easton, PA | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Anchorage Area, AK | CO (1971 8-hour) | Maintenance, Serious | 100 | 0 | 0.02 | 0.03 | 0.04 | 0.05 |
| Anchorage; Eagle River, AK | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| AQCR 012: Portions of Grant County, NM | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| AQCR 109-Millinocket, ME | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| AQCR 131: Anoka, Carver, Dakota, Hennepin, Ramsey, Scott, and Washington counties (Minneapolis-St. Paul), MN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| AQCR 237: Brown County: Green Bay sub-city area, WI | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| AQCR 238: Marathon County: Rothschild Sub-city area, Rib Mountain, Weston, WI | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| AQCR 238: Oneida County: Rhinelander Sub-city area, WI | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| AQCR 239: Milwaukee County: Milwaukee sub-city area, WI | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |

Appendix A Air Quality Non-Attainment Area Results

Table A1-30

Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Direct and Indirect Impacts

Benzene 2025

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| AQCR 240: Dane County: Madison sub-city area, WI | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Archuleta County; Pagosa Springs, CO | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Armstrong County: Madison Twp, Mahoning Twp, Boggs Twp, Washington Twp, Pine Twp, PA | SO ₂ (1971 24-hour/Annual) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Aroostock County; City of Presque Isle, ME | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Atlanta, GA | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Atlantic City Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Bakersfield Area, CA | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.01 | 0.02 | 0.02 | 0.03 |
| Baltimore Area, MD | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Baltimore, MD | Ozone (2008 8-hour) | Nonattainment, Moderate | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Baton Rouge, LA | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Beaver, PA | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Benton County; (part) TVA Johnsonville, TN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Billings Area, MT | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.02 | 0.04 | 0.04 | 0.06 |
| Billings, MT | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.01 | 0.03 | 0.03 | 0.05 |
| Birmingham, AL | PM2.5 (2006 24-hour) | Maintenance, -- | 100 | 0 | 0.02 | 0.04 | 0.04 | 0.07 |
| Boise-Northern Ada County Area, ID | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.01 | 0.03 | 0.03 | 0.04 |
| Bonner County; The Sandpoint Area, ID | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Boston Area, MA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.01 | 0.02 | 0.02 | 0.04 |
| Boyd County (part), KY | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Brooke; Follansbee area, WV | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Burlington Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Calaveras County, CA | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Campbell-Clermont Counties, KY-OH | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |

Table A1-30
Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Direct and Indirect Impacts
Benzene 2025

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|---|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Canton-Massillon, OH | PM2.5 (2006 24-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.01 | 0.01 | 0.01 |
| Central New Hampshire, NH | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Central Steptoe Valley, NV | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Charleston, WV | PM2.5 (2006 24-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.01 | 0.01 | 0.02 |
| Charlotte Area, NC | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.01 | 0.02 | 0.02 | 0.03 |
| Charlotte-Rock Hill, NC-SC | Ozone (2008 8-hour) | Maintenance, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Chicago-Naperville, IL-IN-WI | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Chico (Butte County), CA | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Chico Area, CA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Chico, CA | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Cincinnati, OH-KY-IN | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Clark County; Las Vegas planning area, NV | PM10 (1987 24-hour) | Maintenance, Serious | 100 | 0 | 0.01 | 0.02 | 0.02 | 0.04 |
| Cleveland Area, OH | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.01 | 0.03 | 0.03 | 0.05 |
| Cleveland, OH | PM2.5 (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 0.01 | 0.04 | 0.04 | 0.06 |
| Cleveland-Akron-Lorain, OH | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Cleveland-Akron-Lorain, OH | PM2.5 (2006 24-hour) | Maintenance, -- | 100 | 0 | 0.02 | 0.06 | 0.07 | 0.10 |
| Cochise County; Paul Spur/Douglas planning area, AZ | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Colorado Springs Area, CO | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.02 | 0.05 | 0.06 | 0.08 |
| Columbus, OH | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Cook County; Lyons Township, IL | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Cook County; Southeast Chicago, IL | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Coshocton County; Franklin Township, OH | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Coso Junction, CA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Cuyahoga County (part), OH | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Cuyahoga County, OH | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.01 | 0.03 | 0.03 | 0.05 |

Appendix A Air Quality Non-Attainment Area Results

Table A1-30

Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Direct and Indirect Impacts

Benzene 2025

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Dallas-Fort Worth, TX | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Delaware County, PA | PM2.5 (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 0.01 | 0.03 | 0.04 | 0.05 |
| Denver-Boulder Area, CO | CO (1971 8-hour) | Maintenance, Serious | 100 | 0 | 0.10 | 0.24 | 0.26 | 0.39 |
| Denver-Boulder-Greeley-Ft Collins-Loveland, CO | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Detroit Area, MI | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.02 | 0.05 | 0.06 | 0.09 |
| Detroit, MI | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.01 | 0.01 | 0.02 |
| Detroit-Ann Arbor, MI | PM2.5 (2006 24-hour) | Maintenance, -- | 100 | 0 | 0.06 | 0.15 | 0.16 | 0.24 |
| Dona Ana County; Anthony, NM | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Douglas, AZ | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Dukes County, MA | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Duluth Area, MN | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.01 | 0.01 | 0.02 |
| East Chicago Area, IN | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.01 | 0.03 | 0.03 | 0.05 |
| East Helena Area, MT | SO ₂ (1971 24-hour/Annual) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| East Kern County Area, CA | PM10 (1987 24-hour) | Nonattainment, Serious | 70 | 0 | 0.01 | 0.01 | 0.01 | 0.02 |
| El Paso County, TX | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.01 | 0.02 | 0.02 | 0.03 |
| El Paso, TX | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.01 | 0.01 | 0.01 |
| Eugene-Springfield Area, OR | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.01 | 0.01 | 0.01 |
| Fairbanks Area, AK | CO (1971 8-hour) | Maintenance, Serious | 100 | 0 | 0.00 | 0.01 | 0.01 | 0.02 |
| Fairbanks, AK | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.01 | 0.02 | 0.02 | 0.02 |

Table A1-30
Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Direct and Indirect Impacts
Benzene 2025

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|---|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Flathead County; Columbia Falls and vicinity, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Flathead County; Kalispell and vicinity, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Flathead County; Whitefish and vicinity, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Fort Collins Area, CO | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.01 | 0.01 | 0.02 |
| Freehold Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Fremont County; Canon City Area, CO | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Fresno Area, CA | CO (1971 8-hour) | Maintenance, Moderate > 12.7ppm | 100 | 0 | 0.00 | 0.01 | 0.01 | 0.01 |
| Grants Pass Area, OR | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Great Falls Area, MT | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Greater Connecticut, CT | Ozone (2008 8-hour) | Nonattainment, Moderate | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Greeley Area, CO | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.01 | 0.03 | 0.04 | 0.06 |
| Hancock and Brooke Counties (Part); The city of Weirton, WV | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Hancock County (Part) The city of Weirton, including Butler and Clay: Magisterial Districts, WV | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Harrisburg-Lebanon-Carlisle-York, PA | PM2.5 (2006 24-hour) | Maintenance, Moderate | 100 | 0 | 0.01 | 0.03 | 0.03 | 0.05 |
| Hartford-New Britain-Middletown Area, CT | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.01 | 0.02 | 0.02 | 0.03 |
| Hayden, AZ | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Hayden, AZ | SO ₂ (1971 24-hour/Annual) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Hayden, AZ | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Hillsborough County, FL | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Houston-Galveston-Brazoria, TX | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Humphreys County; (part) TVA Johnsonville, TN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Imperial Co, CA | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |

Appendix A Air Quality Non-Attainment Area Results

Table A1-30

Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Direct and Indirect Impacts

Benzene 2025

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Imperial County, CA | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Imperial County, CA | PM2.5 (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Imperial County; Imperial Valley planning area, CA | PM10 (1987 24-hour) | Nonattainment, Serious | 70 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Indian Wells, CA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.01 | 0.01 | 0.01 | 0.02 |
| Indiana, PA | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Indianapolis Area, IN | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Indianapolis, IN | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.01 | 0.01 | 0.02 |
| Inyo County; Owens Valley planning area, CA | PM10 (1987 24-hour) | Nonattainment, Serious | 70 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Jackson County, MO | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.01 |
| Jackson County; Medford-Ashland (including White City), OR | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.01 | 0.01 | 0.01 |
| Jamestown, NY | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Jefferson County, KY | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Jefferson County, MO | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.01 |
| Jefferson County; (part) Steubenville & Mingo Junction, OH | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Jefferson County; (part), OH | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Johnstown, PA | PM2.5 (2006 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Josephine County; Grants Pass, OR | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Juneau; Mendenhall Valley area, AK | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Kern County (Eastern Kern), CA | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| King County; Kent, WA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| King County; Seattle, WA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Klamath County; Klamath Falls, OR | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Klamath Falls Area, OR | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Klamath Falls, OR | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |

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Benzene 2025

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Knoxville, TN | Ozone (2008 8-hour) | Maintenance, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Knoxville-Sevierville-La Follette, TN | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.01 | 0.04 | 0.04 | 0.06 |
| La Porte County: (part), IN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lake County (part); Lakeview, OR | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lake County, OH | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.01 | 0.01 |
| Lake County: (part), IN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lake County; (part) Eastlake, Timberlake, Lakeline, Willoughby, Mentor, OH | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lake County; Cities of East Chicago, Hammond, Whiting, and Gary, IN | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.02 | 0.04 | 0.04 | 0.06 |
| Lake County; Polson, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lake County; Ronan, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lake Tahoe Nevada Area, NV | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lake Tahoe North Shore Area, CA | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lake Tahoe South Shore Area, CA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lancaster, PA | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lancaster, PA | PM2.5 (2006 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.01 | 0.01 | 0.01 |
| Lane County (part); Oakridge, OR | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lane County; Eugene/Springfield, OR | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.01 | 0.01 | 0.01 |
| Las Vegas Area, NV | CO (1971 8-hour) | Maintenance, Serious | 100 | 0 | 0.01 | 0.02 | 0.02 | 0.04 |
| LaSalle County; Oglesby, IL | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Laurel Area, MT | SO ₂ (1971 24-hour/Annual) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lebanon County, PA | PM2.5 (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.01 | 0.01 | 0.01 |
| Lemont, IL | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.01 | 0.01 | 0.01 |
| Liberty-Clairton, PA | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |

Appendix A Air Quality Non-Attainment Area Results

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| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Lincoln County; Libby and vicinity, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Logan, UT-ID | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.01 |
| Longmont Area, CO | CO (1971 8-hour) | Maintenance, Moderate ≤ 12.7ppm | 100 | 0 | 0.00 | 0.01 | 0.01 | 0.01 |
| Lorain County (part), OH | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Los Angeles, CA | PM2.5 (2006 24-hour) | Nonattainment, Serious | 100 | 0 | 0.04 | 0.18 | 0.18 | 0.29 |
| Los Angeles-San Bernardino Counties (West Mojave Desert), CA | Ozone (2008 8-hour) | Nonattainment, Severe 15 | 25 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Los Angeles-South Coast Air Basin Area, CA | CO (1971 8-hour) | Maintenance, Serious | 100 | 0 | 0.04 | 0.18 | 0.18 | 0.29 |
| Los Angeles-South Coast Air Basin Area, CA | NO ₂ (1971 Annual) | Maintenance, -- | 100 | 0 | 0.04 | 0.18 | 0.18 | 0.29 |
| Los Angeles-South Coast Air Basin, CA | Ozone (2008 8-hour) | Nonattainment, Extreme | 10 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Los Angeles-South Coast Air Basin, CA | PM2.5 (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 0.04 | 0.18 | 0.18 | 0.29 |
| Lowell Area, MA | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lucas County (part), OH | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Madison County; Granite City Township and Nameoki Township, IL | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Manchester Area, NH | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Maricopa and Pinal Counties; Phoenix planning area, AZ | PM10 (1987 24-hour) | Nonattainment, Serious | 70 | 0 | 0.01 | 0.05 | 0.05 | 0.09 |
| Marion County; Lawrence, Washington, and Warrant Townships, IN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Mariposa County, CA | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Marshall, WV | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Medford Area, OR | CO (1971 8-hour) | Maintenance, Moderate ≤ 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.01 |
| Memphis Area, TN | CO (1971 8-hour) | Maintenance, Moderate ≤ 12.7ppm | 100 | 0 | 0.01 | 0.02 | 0.02 | 0.04 |

Table A1-30
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Benzene 2025

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|---|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Memphis, TN-MS-AR | Ozone (2008 8-hour) | Nonattainment TN & Maintenance MS/AR, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Miami, AZ | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Miami, AZ | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Miami, AZ | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Milwaukee-Racine, WI | PM2.5 (2006 24-hour) | Maintenance, -- | 100 | 0 | 0.01 | 0.02 | 0.02 | 0.03 |
| Minneapolis-St. Paul Area, MN | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.08 | 0.19 | 0.20 | 0.30 |
| Missoula Area, MT | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.01 | 0.01 | 0.01 |
| Missoula county; Missoula and vicinity, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.01 | 0.01 | 0.01 |
| Modesto Area, CA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.01 | 0.01 | 0.01 |
| Mohave County (part); Bullhead City, AZ | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.01 |
| Mono County; Mammoth Lake planning area, CA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Mono County; Mono Basin, CA | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Morenci, AZ | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Morgan County, IN | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Morongo Band of Mission Indians | Ozone (2008 8-hour) | Nonattainment, Serious | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Morristown Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Muscatine County; (part), IA | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Muscatine, IA | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Muskingum River, OH | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Nashua Area, NH | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Nassau County, FL | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Nevada County (Western part), CA | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| New Haven County, CT | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |

Appendix A Air Quality Non-Attainment Area Results

Table A1-30

Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Direct and Indirect Impacts

Benzene 2025

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| New Haven-Meriden-Waterbury Area, CT | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.01 | 0.02 | 0.02 | 0.03 |
| New Manchester-Grant magisterial district in Hancock County, WV | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| New York County, NY | PM ₁₀ (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.01 | 0.02 | 0.02 | 0.03 |
| New York, NY-NJ-CT | PM _{2.5} (2006 24-hour) | Maintenance, -- | 100 | 0 | 0.12 | 0.37 | 0.38 | 0.59 |
| New York-N. New Jersey-Long Island Area, NY-NJ-CT | CO (1971 8-hour) | Maintenance, Moderate > 12.7ppm | 100 | 0 | 0.07 | 0.22 | 0.23 | 0.35 |
| New York-N. New Jersey-Long Island, NY-NJ-CT | Ozone (2008 8-hour) | Nonattainment, Moderate | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| NJ portion of the Northeast Pennsylvania-Upper Delaware Valley Interstate AQCR: (part), NJ | SO ₂ (1971 24-hour/Annual) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Nogales, AZ | PM _{2.5} (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Oakridge, OR | PM _{2.5} (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Ogden Area, UT | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Ogden Area, UT | PM ₁₀ (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Olmsted County; (part), MN | PM ₁₀ (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Olmsted; City of Rochester, MN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |

Table A1-30
Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Direct and Indirect Impacts
Benzene 2025

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Pechanga Band of Luiseno Mission Indians of the Pechanga Reservation | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Pekin, IL | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Penns Grove Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Peoria County: Hollis Twp, IL | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Peoria County: Peoria, IL | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Perth Amboy Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Philadelphia-Camden County Area, PA-NJ | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.06 | 0.14 | 0.15 | 0.22 |
| Philadelphia-Wilmington, PA-NJ-DE | PM _{2.5} (2006 24-hour) | Maintenance, Moderate for PA and DE Subject to Former Subpart 1 for NJ | 100 | 0 | 0.10 | 0.24 | 0.25 | 0.38 |
| Philadelphia-Wilmington-Atlantic City, PA-NJ-MD-DE | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Phoenix Area, AZ | CO (1971 8-hour) | Maintenance, Serious | 100 | 0 | 0.01 | 0.05 | 0.05 | 0.08 |
| Phoenix-Mesa, AZ | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Pierce County; Tacoma, WA | PM ₁₀ (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Pima County; Ajo planning area, AZ | PM ₁₀ (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Pima County; Rillito planning area, AZ | PM ₁₀ (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Pinal and Gila Counties; Payson, AZ | PM ₁₀ (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Pinal County (part); West Pinal, AZ | PM ₁₀ (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.01 | 0.01 | 0.01 |
| Pitkin County; Aspen, CO | PM ₁₀ (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Pittsburgh Area, PA | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.01 | 0.01 | 0.01 |
| Pittsburgh-Beaver Valley, PA | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Pittsburgh-Beaver Valley, PA | PM _{2.5} (2006 24-hour) | Maintenance, Moderate | 100 | 0 | 0.01 | 0.04 | 0.04 | 0.07 |
| Plumas County, CA | PM _{2.5} (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Polk County, TN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |

Appendix A Air Quality Non-Attainment Area Results

Table A1-30

Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Direct and Indirect Impacts

Benzene 2025

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|-------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Portland Area: Portland Metro Service District Boundary, OR | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.01 | 0.02 | 0.02 | 0.03 |
| Power-Bannock Counties; Fort Hall Indian Reservation, ID | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Power-Bannock Counties; Portneuf Valley Area, ID | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.01 | 0.01 | 0.01 |
| Provo Area, UT | CO (1971 8-hour) | Maintenance, Moderate > 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Provo, UT | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.01 | 0.01 | 0.01 |
| Prowers County; Lamar, CO | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Raleigh-Durham Area, NC | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.01 | 0.03 | 0.03 | 0.05 |
| Ramsey County; (part), MN | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Reading, PA | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Reno Area, NV | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.01 | 0.01 | 0.01 |
| Rhinelander, WI | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.01 |
| Riverside County (Coachella Valley), CA | Ozone (2008 8-hour) | Nonattainment, Severe 15 | 25 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Riverside County; Coachella Valley planning area, CA | PM10 (1987 24-hour) | Nonattainment, Serious | 70 | 0 | 0.00 | 0.00 | 0.00 | 0.01 |
| Riverside, Los Angeles, Orange, and San Bernardino Counties; South Coast Air Basin, CA | PM10 (1987 24-hour) | Maintenance, Serious | 100 | 0 | 0.04 | 0.18 | 0.17 | 0.28 |
| Rosebud County; Lame Deer, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Routt County (part); Steamboat Springs, CO | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Sacramento Area, CA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.01 | 0.01 | 0.02 |
| Sacramento County, CA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.01 | 0.01 | 0.02 |
| Sacramento Metro, CA | Ozone (2008 8-hour) | Nonattainment, Severe 15 | 25 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Sacramento, CA | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.03 | 0.03 | 0.04 |
| Salem Area, OR | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.01 | 0.01 | 0.01 |
| Salt Lake City Area, UT | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.01 | 0.01 | 0.01 | 0.02 |
| Salt Lake City, UT | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.02 | 0.05 | 0.05 | 0.08 |

Table A1-30
Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Direct and Indirect Impacts
Benzene 2025

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|---|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Salt Lake County, UT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.01 | 0.02 | 0.02 | 0.04 |
| Salt Lake County, UT | SO ₂ (1971 24-hour/Annual) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| San Bernardino County (part); excluding Searles Valley Planning area and South Coast Air Basin, CA | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.01 | 0.01 | 0.01 |
| San Diego Area, CA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.02 | 0.06 | 0.06 | 0.09 |
| San Diego County, CA | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| San Francisco Bay Area, CA | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| San Francisco Bay Area, CA | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.04 | 0.12 | 0.12 | 0.19 |
| San Francisco-Oakland-San Jose Area, CA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.03 | 0.11 | 0.11 | 0.18 |
| San Joaquin Valley Air Basin; Fresno, Kern, Kings, Madera, Merced, San Joaquin, Stanislaus, Tulare Counties, CA | PM10 (1987 24-hour) | Maintenance, Serious | 100 | 0 | 0.03 | 0.09 | 0.09 | 0.14 |
| San Joaquin Valley, CA | Ozone (2008 8-hour) | Nonattainment, Extreme | 10 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| San Joaquin Valley, CA | PM2.5 (2006 24-hour) | Nonattainment, Serious | 100 | 0 | 0.03 | 0.09 | 0.09 | 0.14 |
| San Joaquin Valley, CA | PM2.5 (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 0.03 | 0.09 | 0.09 | 0.14 |
| San Luis Obispo (Eastern San Luis Obispo), CA | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| San Manuel, AZ | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| San Miguel County; Telluride, CO | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Sanders County (part); Thompson Falls and vicinity, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Santa Cruz County; Nogales planning area, AZ | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Seaford, DE | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Seattle-Tacoma Area, WA | CO (1971 8-hour) | Maintenance, Moderate > 12.7ppm | 100 | 0 | 0.05 | 0.13 | 0.14 | 0.21 |
| Seattle-Tacoma, WA | PM2.5 (2006 24-hour) | Maintenance, Moderate | 100 | 0 | 0.01 | 0.02 | 0.03 | 0.04 |
| Sheboygan County, WI | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |

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| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|---|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Sheridan County; City of Sheridan, WY | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Shoshone County (part); excluding Pinehurst, ID | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Shoshone County; City of Pinehurst, ID | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Silver Bow County; Butte, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Somerville Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Southwest Indiana, IN | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Spokane Area, WA | CO (1971 8-hour) | Maintenance, Serious | 100 | 0 | 0.00 | 0.01 | 0.01 | 0.02 |
| Spokane County; (part), WA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.01 | 0.01 | 0.02 |
| Springfield Area, MA | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.01 |
| St. Bernard Parish, LA | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.01 | 0.03 | 0.03 | 0.04 |
| St. Louis Area, MO | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.03 | 0.07 | 0.07 | 0.11 |
| St. Louis-St. Charles-Farmington, MO-IL | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Steubenville, OH-WV | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.01 | 0.01 | 0.01 |
| Steubenville-Weirton, OH-WV | PM2.5 (2006 24-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.01 | 0.01 | 0.02 |
| Stockton Area, CA | CO (1971 8-hour) | Maintenance, Moderate ≤ 12.7ppm | 100 | 0 | 0.00 | 0.01 | 0.01 | 0.02 |
| Sullivan County, TN | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Syracuse Area; Onondaga County, NY | CO (1971 8-hour) | Maintenance, Moderate ≤ 12.7ppm | 100 | 0 | 0.01 | 0.03 | 0.03 | 0.04 |
| Tazewell County; Groveland Twp, IL | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Terre Haute, IN | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.01 |

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Benzene 2025

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|---|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Thurston County; Cities of Olympia, Tumwater, and Lacey, WA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.01 |
| Toms River Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Tooele County (part), UT | SO ₂ (1971 24-hour/Annual) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Trenton Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Trona, CA | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Tucson Area, AZ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.01 | 0.03 | 0.04 | 0.06 |
| Tuscan Buttes, CA | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Union County; LaGrande, OR | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Upper Green River Basin Area, WY | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Utah County, UT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.01 | 0.01 | 0.01 |
| Vancouver Area: Clark County (part), WA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.01 | 0.01 | 0.02 |
| Ventura County, CA | Ozone (2008 8-hour) | Nonattainment, Serious | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Vermillion County; Part of Clinton Township, IN | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Vigo County, IN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Walla Walla County; Wallula, WA | PM10 (1987 24-hour) | Maintenance, Serious | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Waltham Area, MA | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Warren County: Conewago Twp, PA | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Warren County: Warren Boro, Pleasant Twp, Glade Twp, PA | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Warren, PA | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Washington Area, DC-MD-VA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.01 | 0.01 | 0.01 |
| Washington, DC-MD-VA | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Washoe County; Reno planning area, NV | PM10 (1987 24-hour) | Nonattainment, Serious | 70 | 0 | 0.00 | 0.01 | 0.01 | 0.01 |

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|---|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Wayne County: Boston, Center, Franklin, Wayne & Webster Townships, IN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Wayne County; (part), MI | PM ₁₀ (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| West Central Pinal County, AZ | PM _{2.5} (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| West Silver Valley, ID | PM _{2.5} (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Winston-Salem Area, NC | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.01 | 0.01 | 0.01 |
| Worcester Area, MA | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.01 | 0.01 | 0.01 |
| Yakima Area, WA | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Yakima County; (part), WA | PM ₁₀ (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.01 | 0.01 | 0.01 |
| Yuba City-Marysville, CA | PM _{2.5} (2006 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Yuma County; Yuma planning area, AZ | PM ₁₀ (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.01 | 0.01 | 0.01 |

^a Reductions are shown as positive values. Negative values are emissions increases. Values of less than 0.005 tons per year are rounded to zero.

^b Nonattainment or maintenance status as of 5/13/2016. Source: U.S. EPA, The Green Book Nonattainment Areas for Criteria Pollutants; <http://www.epa.gov/airquality/greenbook/>. "--" indicates that no severity classification has been established for the NAAQS pollutant.

^c Emissions thresholds in tons per year. Where the threshold differs by precursor pollutant, the smallest of the precursor thresholds is shown. These thresholds are provided for information only; a general conformity determination is not required for the Proposed Action. Source: 40 CFR 93.853.

Notes: CO = carbon monoxide; NAAQS = National Ambient Air Quality Standards; NO₂ = nitrogen dioxide; PM = particulate matter; SO₂ = sulfur dioxide

Table A1-31
Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Direct and Indirect Impacts
Benzene 2040

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Ada County; Boise, ID | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.04 | 0.11 | 0.09 | 0.13 |
| Adams, Denver, and Boulder Counties; Denver Metropolitan area, CO | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.17 | 0.51 | 0.40 | 0.59 |
| Ajo, AZ | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Albuquerque Area, NM | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.04 | 0.12 | 0.09 | 0.13 |
| Allegheny County Air Basin: Hazelwood monitor, PA | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Allegheny County, PA | PM2.5 (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 0.03 | 0.09 | 0.07 | 0.10 |
| Allegheny County; The area including Liberty, Lincoln, Port Vue, and Glassport Boroughs and the City of Clairton, PA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Allegheny, PA | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.01 | 0.00 | 0.01 |
| Allentown, PA | PM2.5 (2006 24-hour) | Maintenance, Moderate | 100 | 0 | 0.01 | 0.05 | 0.03 | 0.05 |
| Allentown-Bethlehem-Easton, PA | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Anchorage Area, AK | CO (1971 8-hour) | Maintenance, Serious | 100 | 0 | 0.04 | 0.13 | 0.10 | 0.15 |
| Anchorage; Eagle River, AK | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.01 | 0.01 | 0.01 |
| AQCR 012: Portions of Grant County, NM | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| AQCR 109-Millinocket, ME | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| AQCR 131: Anoka, Carver, Dakota, Hennepin, Ramsey, Scott, and Washington counties (Minneapolis-St. Paul), MN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| AQCR 237: Brown County: Green Bay sub-city area, WI | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| AQCR 238: Marathon County: Rothschild Sub-city area, Rib Mountain, Weston, WI | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| AQCR 238: Oneida County: Rhinelander Sub-city area, WI | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| AQCR 239: Milwaukee County: Milwaukee sub-city area, WI | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |

Appendix A Air Quality Non-Attainment Area Results

Table A1-31

Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Direct and Indirect Impacts

Benzene 2040

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| AQCR 240: Dane County: Madison sub-city area, WI | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Archuleta County; Pagosa Springs, CO | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Armstrong County: Madison Twp, Mahoning Twp, Boggs Twp, Washington Twp, Pine Twp, PA | SO ₂ (1971 24-hour/Annual) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Aroostock County; City of Presque Isle, ME | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Atlanta, GA | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Atlantic City Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Bakersfield Area, CA | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.02 | 0.07 | 0.05 | 0.08 |
| Baltimore Area, MD | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Baltimore, MD | Ozone (2008 8-hour) | Nonattainment, Moderate | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Baton Rouge, LA | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Beaver, PA | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Benton County; (part) TVA Johnsonville, TN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Billings Area, MT | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.05 | 0.14 | 0.12 | 0.17 |
| Billings, MT | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.04 | 0.11 | 0.09 | 0.13 |
| Birmingham, AL | PM2.5 (2006 24-hour) | Maintenance, -- | 100 | 0 | 0.05 | 0.17 | 0.12 | 0.19 |
| Boise-Northern Ada County Area, ID | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.04 | 0.11 | 0.09 | 0.13 |
| Bonner County; The Sandpoint Area, ID | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Boston Area, MA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.03 | 0.10 | 0.07 | 0.11 |
| Boyd County (part), KY | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Brooke; Follansbee area, WV | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Burlington Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Calaveras County, CA | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Campbell-Clermont Counties, KY-OH | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |

Table A1-31
Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Direct and Indirect Impacts
Benzene 2040

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|---|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Canton-Massillon, OH | PM2.5 (2006 24-hour) | Maintenance, -- | 100 | 0 | 0.01 | 0.04 | 0.02 | 0.04 |
| Central New Hampshire, NH | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.01 | 0.00 | 0.01 |
| Central Steptoe Valley, NV | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Charleston, WV | PM2.5 (2006 24-hour) | Maintenance, -- | 100 | 0 | 0.01 | 0.04 | 0.03 | 0.04 |
| Charlotte Area, NC | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.02 | 0.09 | 0.05 | 0.08 |
| Charlotte-Rock Hill, NC-SC | Ozone (2008 8-hour) | Maintenance, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Chicago-Naperville, IL-IN-WI | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Chico (Butte County), CA | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Chico Area, CA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.01 | 0.00 | 0.01 |
| Chico, CA | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.01 | 0.01 | 0.01 |
| Cincinnati, OH-KY-IN | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Clark County; Las Vegas planning area, NV | PM10 (1987 24-hour) | Maintenance, Serious | 100 | 0 | 0.03 | 0.11 | 0.07 | 0.11 |
| Cleveland Area, OH | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.04 | 0.12 | 0.09 | 0.13 |
| Cleveland, OH | PM2.5 (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 0.05 | 0.16 | 0.11 | 0.17 |
| Cleveland-Akron-Lorain, OH | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Cleveland-Akron-Lorain, OH | PM2.5 (2006 24-hour) | Maintenance, -- | 100 | 0 | 0.08 | 0.27 | 0.19 | 0.28 |
| Cochise County; Paul Spur/Douglas planning area, AZ | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.01 | 0.00 | 0.01 |
| Colorado Springs Area, CO | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.07 | 0.21 | 0.17 | 0.24 |
| Columbus, OH | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Cook County; Lyons Township, IL | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.01 | 0.00 | 0.01 |
| Cook County; Southeast Chicago, IL | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.01 | 0.00 | 0.01 |
| Coshocton County; Franklin Township, OH | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Coso Junction, CA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Cuyahoga County (part), OH | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Cuyahoga County, OH | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.04 | 0.12 | 0.09 | 0.13 |

Appendix A Air Quality Non-Attainment Area Results

Table A1-31

Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Direct and Indirect Impacts

Benzene 2040

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Dallas-Fort Worth, TX | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Delaware County, PA | PM2.5 (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 0.05 | 0.14 | 0.11 | 0.16 |
| Denver-Boulder Area, CO | CO (1971 8-hour) | Maintenance, Serious | 100 | 0 | 0.33 | 0.96 | 0.76 | 1.11 |
| Denver-Boulder-Greeley-Ft Collins-Loveland, CO | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Detroit Area, MI | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.06 | 0.20 | 0.14 | 0.21 |
| Detroit, MI | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.02 | 0.05 | 0.04 | 0.06 |
| Detroit-Ann Arbor, MI | PM2.5 (2006 24-hour) | Maintenance, -- | 100 | 0 | 0.19 | 0.64 | 0.45 | 0.68 |
| Dona Ana County; Anthony, NM | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Douglas, AZ | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Dukes County, MA | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Duluth Area, MN | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.01 | 0.04 | 0.03 | 0.05 |
| East Chicago Area, IN | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.04 | 0.12 | 0.10 | 0.14 |
| East Helena Area, MT | SO ₂ (1971 24-hour/Annual) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| East Kern County Area, CA | PM10 (1987 24-hour) | Nonattainment, Serious | 70 | 0 | 0.02 | 0.05 | 0.04 | 0.05 |
| El Paso County, TX | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.02 | 0.08 | 0.06 | 0.09 |
| El Paso, TX | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.01 | 0.03 | 0.03 | 0.04 |
| Eugene-Springfield Area, OR | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.01 | 0.03 | 0.02 | 0.03 |
| Fairbanks Area, AK | CO (1971 8-hour) | Maintenance, Serious | 100 | 0 | 0.01 | 0.04 | 0.03 | 0.05 |
| Fairbanks, AK | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.02 | 0.06 | 0.05 | 0.07 |

Table A1-31
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Benzene 2040

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|---|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Flathead County; Columbia Falls and vicinity, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Flathead County; Kalispell and vicinity, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.01 | 0.01 | 0.01 |
| Flathead County; Whitefish and vicinity, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Fort Collins Area, CO | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.01 | 0.04 | 0.03 | 0.04 |
| Freehold Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Fremont County; Canon City Area, CO | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.01 | 0.01 | 0.01 |
| Fresno Area, CA | CO (1971 8-hour) | Maintenance, Moderate > 12.7ppm | 100 | 0 | 0.01 | 0.03 | 0.01 | 0.03 |
| Grants Pass Area, OR | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.01 | 0.00 | 0.01 |
| Great Falls Area, MT | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.01 | 0.01 | 0.01 |
| Greater Connecticut, CT | Ozone (2008 8-hour) | Nonattainment, Moderate | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Greeley Area, CO | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.05 | 0.14 | 0.11 | 0.16 |
| Hancock and Brooke Counties (Part); The city of Weirton, WV | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.01 | 0.00 | 0.01 |
| Hancock County (Part) The city of Weirton, including Butler and Clay: Magisterial Districts, WV | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Harrisburg-Lebanon-Carlisle-York, PA | PM2.5 (2006 24-hour) | Maintenance, Moderate | 100 | 0 | 0.04 | 0.13 | 0.09 | 0.13 |
| Hartford-New Britain-Middletown Area, CT | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.02 | 0.09 | 0.06 | 0.09 |
| Hayden, AZ | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Hayden, AZ | SO ₂ (1971 24-hour/Annual) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Hayden, AZ | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Hillsborough County, FL | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.01 | 0.00 | 0.01 |
| Houston-Galveston-Brazoria, TX | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Humphreys County; (part) TVA Johnsonville, TN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Imperial Co, CA | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.01 | 0.01 | 0.01 |

Appendix A Air Quality Non-Attainment Area Results

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Benzene 2040

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Imperial County, CA | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Imperial County, CA | PM2.5 (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.01 | 0.01 | 0.01 |
| Imperial County; Imperial Valley planning area, CA | PM10 (1987 24-hour) | Nonattainment, Serious | 70 | 0 | 0.00 | 0.01 | 0.01 | 0.01 |
| Indian Wells, CA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.02 | 0.05 | 0.04 | 0.05 |
| Indiana, PA | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.01 | 0.00 | 0.01 |
| Indianapolis Area, IN | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Indianapolis, IN | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.01 | 0.05 | 0.03 | 0.05 |
| Inyo County; Owens Valley planning area, CA | PM10 (1987 24-hour) | Nonattainment, Serious | 70 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Jackson County, MO | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.01 | 0.02 | 0.01 | 0.02 |
| Jackson County; Medford-Ashland (including White City), OR | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.01 | 0.03 | 0.02 | 0.03 |
| Jamestown, NY | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Jefferson County, KY | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Jefferson County, MO | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.01 | 0.01 | 0.02 |
| Jefferson County; (part) Steubenville & Mingo Junction, OH | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Jefferson County; (part), OH | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Johnstown, PA | PM2.5 (2006 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.01 | 0.01 | 0.01 |
| Josephine County; Grants Pass, OR | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.01 | 0.00 | 0.01 |
| Juneau; Mendenhall Valley area, AK | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.01 | 0.01 | 0.01 |
| Kern County (Eastern Kern), CA | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| King County; Kent, WA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| King County; Seattle, WA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Klamath County; Klamath Falls, OR | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.01 | 0.01 | 0.01 |
| Klamath Falls Area, OR | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.01 | 0.01 | 0.01 |
| Klamath Falls, OR | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.01 | 0.01 | 0.01 |

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| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Knoxville, TN | Ozone (2008 8-hour) | Maintenance, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Knoxville-Sevierville-La Follette, TN | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.05 | 0.16 | 0.12 | 0.17 |
| La Porte County: (part), IN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lake County (part); Lakeview, OR | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lake County, OH | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.01 | 0.02 | 0.01 | 0.02 |
| Lake County: (part), IN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lake County; (part) Eastlake, Timberlake, Lakeline, Willoughby, Mentor, OH | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lake County; Cities of East Chicago, Hammond, Whiting, and Gary, IN | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.05 | 0.14 | 0.12 | 0.17 |
| Lake County; Polson, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lake County; Ronan, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lake Tahoe Nevada Area, NV | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lake Tahoe North Shore Area, CA | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lake Tahoe South Shore Area, CA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lancaster, PA | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lancaster, PA | PM2.5 (2006 24-hour) | Maintenance, Moderate | 100 | 0 | 0.01 | 0.03 | 0.02 | 0.03 |
| Lane County (part); Oakridge, OR | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lane County; Eugene/Springfield, OR | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.01 | 0.03 | 0.02 | 0.03 |
| Las Vegas Area, NV | CO (1971 8-hour) | Maintenance, Serious | 100 | 0 | 0.03 | 0.11 | 0.07 | 0.11 |
| LaSalle County; Oglesby, IL | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Laurel Area, MT | SO ₂ (1971 24-hour/Annual) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lebanon County, PA | PM2.5 (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 0.01 | 0.02 | 0.02 | 0.02 |
| Lemont, IL | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.01 | 0.03 | 0.02 | 0.03 |
| Liberty-Clairton, PA | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |

Appendix A Air Quality Non-Attainment Area Results

Table A1-31

Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Direct and Indirect Impacts

Benzene 2040

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Lincoln County; Libby and vicinity, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Logan, UT-ID | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.01 | 0.01 | 0.02 |
| Longmont Area, CO | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.01 | 0.03 | 0.02 | 0.04 |
| Lorain County (part), OH | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Los Angeles, CA | PM2.5 (2006 24-hour) | Nonattainment, Serious | 100 | 0 | 0.19 | 0.82 | 0.45 | 0.75 |
| Los Angeles-San Bernardino Counties (West Mojave Desert), CA | Ozone (2008 8-hour) | Nonattainment, Severe 15 | 25 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Los Angeles-South Coast Air Basin Area, CA | CO (1971 8-hour) | Maintenance, Serious | 100 | 0 | 0.19 | 0.83 | 0.45 | 0.75 |
| Los Angeles-South Coast Air Basin Area, CA | NO ₂ (1971 Annual) | Maintenance, -- | 100 | 0 | 0.19 | 0.83 | 0.45 | 0.75 |
| Los Angeles-South Coast Air Basin, CA | Ozone (2008 8-hour) | Nonattainment, Extreme | 10 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Los Angeles-South Coast Air Basin, CA | PM2.5 (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 0.19 | 0.82 | 0.45 | 0.75 |
| Lowell Area, MA | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.01 | 0.01 | 0.01 |
| Lucas County (part), OH | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Madison County; Granite City Township and Nameoki Township, IL | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.01 | 0.01 | 0.01 |
| Manchester Area, NH | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Maricopa and Pinal Counties; Phoenix planning area, AZ | PM10 (1987 24-hour) | Nonattainment, Serious | 70 | 0 | 0.06 | 0.24 | 0.14 | 0.23 |
| Marion County; Lawrence, Washington, and Warrant Townships, IN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Mariposa County, CA | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Marshall, WV | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.01 | 0.01 | 0.01 |
| Medford Area, OR | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.02 | 0.01 | 0.02 |
| Memphis Area, TN | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.03 | 0.10 | 0.07 | 0.10 |

Table A1-31
Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Direct and Indirect Impacts
Benzene 2040

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|---|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Memphis, TN-MS-AR | Ozone (2008 8-hour) | Nonattainment TN & Maintenance MS/AR, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Miami, AZ | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Miami, AZ | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Miami, AZ | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Milwaukee-Racine, WI | PM2.5 (2006 24-hour) | Maintenance, -- | 100 | 0 | 0.03 | 0.09 | 0.06 | 0.09 |
| Minneapolis-St. Paul Area, MN | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.25 | 0.77 | 0.59 | 0.87 |
| Missoula Area, MT | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.01 | 0.02 | 0.02 | 0.03 |
| Missoula county; Missoula and vicinity, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.01 | 0.02 | 0.02 | 0.02 |
| Modesto Area, CA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.01 | 0.02 | 0.01 | 0.02 |
| Mohave County (part); Bullhead City, AZ | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.01 | 0.01 | 0.02 |
| Mono County; Mammoth Lake planning area, CA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Mono County; Mono Basin, CA | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Morenci, AZ | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Morgan County, IN | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Morongo Band of Mission Indians | Ozone (2008 8-hour) | Nonattainment, Serious | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Morristown Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Muscatine County; (part), IA | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Muscatine, IA | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.01 | 0.01 | 0.01 |
| Muskingum River, OH | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Nashua Area, NH | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Nassau County, FL | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Nevada County (Western part), CA | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| New Haven County, CT | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |

Appendix A Air Quality Non-Attainment Area Results

Table A1-31

Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Direct and Indirect Impacts

Benzene 2040

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| New Haven-Meriden-Waterbury Area, CT | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.02 | 0.08 | 0.05 | 0.08 |
| New Manchester-Grant magisterial district in Hancock County, WV | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| New York County, NY | PM ₁₀ (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.03 | 0.08 | 0.06 | 0.09 |
| New York, NY-NJ-CT | PM _{2.5} (2006 24-hour) | Maintenance, -- | 100 | 0 | 0.45 | 1.57 | 1.05 | 1.62 |
| New York-N. New Jersey-Long Island Area, NY-NJ-CT | CO (1971 8-hour) | Maintenance, Moderate > 12.7ppm | 100 | 0 | 0.27 | 0.93 | 0.64 | 0.97 |
| New York-N. New Jersey-Long Island, NY-NJ-CT | Ozone (2008 8-hour) | Nonattainment, Moderate | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| NJ portion of the Northeast Pennsylvania-Upper Delaware Valley Interstate AQCR: (part), NJ | SO ₂ (1971 24-hour/Annual) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Nogales, AZ | PM _{2.5} (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.01 | 0.00 | 0.01 |
| Oakridge, OR | PM _{2.5} (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Ogden Area, UT | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.01 | 0.00 | 0.01 |
| Ogden Area, UT | PM ₁₀ (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.01 | 0.00 | 0.01 |
| Olmsted County; (part), MN | PM ₁₀ (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.01 | 0.01 | 0.01 |
| Olmsted; City of Rochester, MN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |

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Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Direct and Indirect Impacts
Benzene 2040

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Pechanga Band of Luiseno Mission Indians of the Pechanga Reservation | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Pekin, IL | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Penns Grove Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Peoria County: Hollis Twp, IL | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Peoria County: Peoria, IL | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Perth Amboy Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.01 | 0.01 | 0.01 |
| Philadelphia-Camden County Area, PA-NJ | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.19 | 0.55 | 0.44 | 0.64 |
| Philadelphia-Wilmington, PA-NJ-DE | PM _{2.5} (2006 24-hour) | Maintenance, Moderate for PA and DE Subject to Former Subpart 1 for NJ | 100 | 0 | 0.31 | 0.96 | 0.73 | 1.08 |
| Philadelphia-Wilmington-Atlantic City, PA-NJ-MD-DE | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Phoenix Area, AZ | CO (1971 8-hour) | Maintenance, Serious | 100 | 0 | 0.06 | 0.23 | 0.14 | 0.22 |
| Phoenix-Mesa, AZ | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Pierce County; Tacoma, WA | PM ₁₀ (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.01 | 0.01 | 0.01 |
| Pima County; Ajo planning area, AZ | PM ₁₀ (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Pima County; Rillito planning area, AZ | PM ₁₀ (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.01 | 0.01 | 0.01 |
| Pinal and Gila Counties; Payson, AZ | PM ₁₀ (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.01 | 0.00 | 0.01 |
| Pinal County (part); West Pinal, AZ | PM ₁₀ (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.01 | 0.04 | 0.03 | 0.04 |
| Pitkin County; Aspen, CO | PM ₁₀ (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.01 | 0.00 | 0.01 |
| Pittsburgh Area, PA | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.01 | 0.02 | 0.01 | 0.02 |
| Pittsburgh-Beaver Valley, PA | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Pittsburgh-Beaver Valley, PA | PM _{2.5} (2006 24-hour) | Maintenance, Moderate | 100 | 0 | 0.05 | 0.18 | 0.12 | 0.18 |
| Plumas County, CA | PM _{2.5} (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Polk County, TN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |

Appendix A Air Quality Non-Attainment Area Results

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Benzene 2040

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|-------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Portland Area: Portland Metro Service District Boundary, OR | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.03 | 0.09 | 0.06 | 0.09 |
| Power-Bannock Counties; Fort Hall Indian Reservation, ID | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Power-Bannock Counties; Portneuf Valley Area, ID | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.01 | 0.03 | 0.02 | 0.03 |
| Provo Area, UT | CO (1971 8-hour) | Maintenance, Moderate > 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Provo, UT | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.01 | 0.02 | 0.01 | 0.02 |
| Prowers County; Lamar, CO | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Raleigh-Durham Area, NC | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.04 | 0.14 | 0.09 | 0.14 |
| Ramsey County; (part), MN | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Reading, PA | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Reno Area, NV | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.01 | 0.04 | 0.03 | 0.04 |
| Rhinelander, WI | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.01 | 0.02 | 0.01 | 0.02 |
| Riverside County (Coachella Valley), CA | Ozone (2008 8-hour) | Nonattainment, Severe 15 | 25 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Riverside County; Coachella Valley planning area, CA | PM10 (1987 24-hour) | Nonattainment, Serious | 70 | 0 | 0.00 | 0.02 | 0.01 | 0.02 |
| Riverside, Los Angeles, Orange, and San Bernardino Counties; South Coast Air Basin, CA | PM10 (1987 24-hour) | Maintenance, Serious | 100 | 0 | 0.19 | 0.82 | 0.45 | 0.74 |
| Rosebud County; Lame Deer, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.01 | 0.00 | 0.01 |
| Routt County (part); Steamboat Springs, CO | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.01 | 0.00 | 0.01 |
| Sacramento Area, CA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.01 | 0.07 | 0.04 | 0.06 |
| Sacramento County, CA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.01 | 0.06 | 0.03 | 0.05 |
| Sacramento Metro, CA | Ozone (2008 8-hour) | Nonattainment, Severe 15 | 25 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Sacramento, CA | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.03 | 0.12 | 0.06 | 0.11 |
| Salem Area, OR | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.01 | 0.03 | 0.02 | 0.03 |
| Salt Lake City Area, UT | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.02 | 0.05 | 0.04 | 0.05 |
| Salt Lake City, UT | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.06 | 0.20 | 0.14 | 0.22 |

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|---|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Salt Lake County, UT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.03 | 0.10 | 0.07 | 0.10 |
| Salt Lake County, UT | SO ₂ (1971 24-hour/Annual) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| San Bernardino County (part); excluding Searles Valley Planning area and South Coast Air Basin, CA | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.01 | 0.03 | 0.01 | 0.02 |
| San Diego Area, CA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.07 | 0.26 | 0.16 | 0.26 |
| San Diego County, CA | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| San Francisco Bay Area, CA | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| San Francisco Bay Area, CA | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.14 | 0.52 | 0.33 | 0.52 |
| San Francisco-Oakland-San Jose Area, CA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.13 | 0.49 | 0.31 | 0.49 |
| San Joaquin Valley Air Basin; Fresno, Kern, Kings, Madera, Merced, San Joaquin, Stanislaus, Tulare Counties, CA | PM10 (1987 24-hour) | Maintenance, Serious | 100 | 0 | 0.11 | 0.39 | 0.25 | 0.39 |
| San Joaquin Valley, CA | Ozone (2008 8-hour) | Nonattainment, Extreme | 10 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| San Joaquin Valley, CA | PM2.5 (2006 24-hour) | Nonattainment, Serious | 100 | 0 | 0.11 | 0.39 | 0.25 | 0.39 |
| San Joaquin Valley, CA | PM2.5 (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 0.11 | 0.39 | 0.25 | 0.39 |
| San Luis Obispo (Eastern San Luis Obispo), CA | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| San Manuel, AZ | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| San Miguel County; Telluride, CO | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Sanders County (part); Thompson Falls and vicinity, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Santa Cruz County; Nogales planning area, AZ | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.01 | 0.00 | 0.01 |
| Seaford, DE | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Seattle-Tacoma Area, WA | CO (1971 8-hour) | Maintenance, Moderate > 12.7ppm | 100 | 0 | 0.17 | 0.52 | 0.39 | 0.58 |
| Seattle-Tacoma, WA | PM2.5 (2006 24-hour) | Maintenance, Moderate | 100 | 0 | 0.03 | 0.10 | 0.07 | 0.11 |
| Sheboygan County, WI | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |

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|---|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Sheridan County; City of Sheridan, WY | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.01 | 0.01 | 0.01 |
| Shoshone County (part); excluding Pinehurst, ID | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.01 | 0.00 | 0.01 |
| Shoshone County; City of Pinehurst, ID | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Silver Bow County; Butte, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.01 | 0.00 | 0.01 |
| Somerville Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Southwest Indiana, IN | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Spokane Area, WA | CO (1971 8-hour) | Maintenance, Serious | 100 | 0 | 0.01 | 0.05 | 0.04 | 0.05 |
| Spokane County; (part), WA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.02 | 0.05 | 0.04 | 0.05 |
| Springfield Area, MA | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.02 | 0.01 | 0.02 |
| St. Bernard Parish, LA | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.04 | 0.10 | 0.08 | 0.12 |
| St. Louis Area, MO | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.09 | 0.26 | 0.20 | 0.29 |
| St. Louis-St. Charles-Farmington, MO-IL | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Steubenville, OH-WV | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.01 | 0.02 | 0.02 | 0.03 |
| Steubenville-Weirton, OH-WV | PM2.5 (2006 24-hour) | Maintenance, -- | 100 | 0 | 0.01 | 0.04 | 0.03 | 0.05 |
| Stockton Area, CA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.01 | 0.05 | 0.04 | 0.05 |
| Sullivan County, TN | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.01 | 0.00 | 0.01 |
| Syracuse Area; Onondaga County, NY | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.03 | 0.10 | 0.08 | 0.11 |
| Tazewell County; Groveland Twp, IL | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Terre Haute, IN | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.01 | 0.01 | 0.02 |

Table A1-31

Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Direct and Indirect Impacts

Benzene 2040

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|---|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Thurston County; Cities of Olympia, Tumwater, and Lacey, WA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.01 | 0.01 | 0.02 |
| Toms River Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Tooele County (part), UT | SO ₂ (1971 24-hour/Annual) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Trenton Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.01 | 0.00 | 0.01 |
| Trona, CA | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Tucson Area, AZ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.04 | 0.14 | 0.10 | 0.16 |
| Tuscan Buttes, CA | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Union County; LaGrande, OR | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.01 | 0.00 | 0.01 |
| Upper Green River Basin Area, WY | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Utah County, UT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.01 | 0.02 | 0.01 | 0.02 |
| Vancouver Area: Clark County (part), WA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.01 | 0.05 | 0.03 | 0.05 |
| Ventura County, CA | Ozone (2008 8-hour) | Nonattainment, Serious | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Vermillion County; Part of Clinton Township, IN | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.01 | 0.01 | 0.01 |
| Vigo County, IN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Walla Walla County; Wallula, WA | PM10 (1987 24-hour) | Maintenance, Serious | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Waltham Area, MA | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.01 | 0.00 | 0.01 |
| Warren County: Conewago Twp, PA | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Warren County: Warren Boro, Pleasant Twp, Glade Twp, PA | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Warren, PA | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.01 | 0.01 | 0.01 |
| Washington Area, DC-MD-VA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.01 | 0.04 | 0.02 | 0.04 |
| Washington, DC-MD-VA | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Washoe County; Reno planning area, NV | PM10 (1987 24-hour) | Nonattainment, Serious | 70 | 0 | 0.01 | 0.04 | 0.03 | 0.04 |

Appendix A Air Quality Non-Attainment Area Results

Table A1-31

Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Direct and Indirect Impacts

Benzene 2040

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|---|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Wayne County: Boston, Center, Franklin, Wayne & Webster Townships, IN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Wayne County; (part), MI | PM ₁₀ (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.01 | 0.01 | 0.02 |
| West Central Pinal County, AZ | PM _{2.5} (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.01 | 0.01 | 0.01 |
| West Silver Valley, ID | PM _{2.5} (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Winston-Salem Area, NC | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.01 | 0.03 | 0.02 | 0.04 |
| Worcester Area, MA | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.01 | 0.02 | 0.02 | 0.02 |
| Yakima Area, WA | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.01 | 0.01 | 0.01 |
| Yakima County; (part), WA | PM ₁₀ (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.01 | 0.03 | 0.02 | 0.03 |
| Yuba City-Marysville, CA | PM _{2.5} (2006 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.01 | 0.00 | 0.01 |
| Yuma County; Yuma planning area, AZ | PM ₁₀ (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.01 | 0.03 | 0.02 | 0.03 |

^a Reductions are shown as positive values. Negative values are emissions increases. Values of less than 0.005 tons per year are rounded to zero.

^b Nonattainment or maintenance status as of 5/13/2016. Source: U.S. EPA, The Green Book Nonattainment Areas for Criteria Pollutants; <http://www.epa.gov/airquality/greenbook/>. "--" indicates that no severity classification has been established for the NAAQS pollutant.

^c Emissions thresholds in tons per year. Where the threshold differs by precursor pollutant, the smallest of the precursor thresholds is shown. These thresholds are provided for information only; a general conformity determination is not required for the Proposed Action. Source: 40 CFR 93.853.

Notes: CO = carbon monoxide; NAAQS = National Ambient Air Quality Standards; NO₂ = nitrogen dioxide; PM = particulate matter; SO₂ = sulfur dioxide

Table A1-32

Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Direct and Indirect Impacts

Benzene 2050

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Ada County; Boise, ID | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.04 | 0.13 | 0.10 | 0.15 |
| Adams, Denver, and Boulder Counties; Denver Metropolitan area, CO | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.20 | 0.60 | 0.47 | 0.68 |
| Ajo, AZ | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Albuquerque Area, NM | CO (1971 8-hour) | Maintenance, Moderate ≤ 12.7ppm | 100 | 0 | 0.04 | 0.14 | 0.10 | 0.15 |
| Allegheny County Air Basin: Hazelwood monitor, PA | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Allegheny County, PA | PM2.5 (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 0.03 | 0.11 | 0.08 | 0.11 |
| Allegheny County; The area including Liberty, Lincoln, Port Vue, and Glassport Boroughs and the City of Clairton, PA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Allegheny, PA | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.01 | 0.00 | 0.01 |
| Allentown, PA | PM2.5 (2006 24-hour) | Maintenance, Moderate | 100 | 0 | 0.02 | 0.06 | 0.04 | 0.06 |
| Allentown-Bethlehem-Easton, PA | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Anchorage Area, AK | CO (1971 8-hour) | Maintenance, Serious | 100 | 0 | 0.05 | 0.15 | 0.12 | 0.17 |
| Anchorage; Eagle River, AK | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.01 | 0.01 | 0.01 |
| AQCR 012: Portions of Grant County, NM | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| AQCR 109-Millinocket, ME | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| AQCR 131: Anoka, Carver, Dakota, Hennepin, Ramsey, Scott, and Washington counties (Minneapolis-St. Paul), MN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| AQCR 237: Brown County: Green Bay sub-city area, WI | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| AQCR 238: Marathon County: Rothschild Sub-city area, Rib Mountain, Weston, WI | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| AQCR 238: Oneida County: Rhinelander Sub-city area, WI | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| AQCR 239: Milwaukee County: Milwaukee sub-city area, WI | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |

Appendix A Air Quality Non-Attainment Area Results

Table A1-32

Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Direct and Indirect Impacts

Benzene 2050

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| AQCR 240: Dane County: Madison sub-city area, WI | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Archuleta County; Pagosa Springs, CO | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.01 |
| Armstrong County: Madison Twp, Mahoning Twp, Boggs Twp, Washington Twp, Pine Twp, PA | SO ₂ (1971 24-hour/Annual) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Aroostock County; City of Presque Isle, ME | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Atlanta, GA | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Atlantic City Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Bakersfield Area, CA | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.02 | 0.08 | 0.06 | 0.09 |
| Baltimore Area, MD | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Baltimore, MD | Ozone (2008 8-hour) | Nonattainment, Moderate | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Baton Rouge, LA | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Beaver, PA | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Benton County; (part) TVA Johnsonville, TN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Billings Area, MT | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.06 | 0.17 | 0.14 | 0.20 |
| Billings, MT | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.05 | 0.13 | 0.11 | 0.16 |
| Birmingham, AL | PM2.5 (2006 24-hour) | Maintenance, -- | 100 | 0 | 0.06 | 0.20 | 0.14 | 0.21 |
| Boise-Northern Ada County Area, ID | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.04 | 0.13 | 0.10 | 0.15 |
| Bonner County; The Sandpoint Area, ID | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.01 | 0.00 | 0.01 |
| Boston Area, MA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.03 | 0.11 | 0.08 | 0.12 |
| Boyd County (part), KY | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Brooke; Follansbee area, WV | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Burlington Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Calaveras County, CA | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Campbell-Clermont Counties, KY-OH | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |

Table A1-32

Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Direct and Indirect Impacts

Benzene 2050

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|---|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Canton-Massillon, OH | PM2.5 (2006 24-hour) | Maintenance, -- | 100 | 0 | 0.01 | 0.04 | 0.03 | 0.04 |
| Central New Hampshire, NH | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.01 | 0.00 | 0.01 |
| Central Steptoe Valley, NV | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Charleston, WV | PM2.5 (2006 24-hour) | Maintenance, -- | 100 | 0 | 0.01 | 0.05 | 0.03 | 0.05 |
| Charlotte Area, NC | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.02 | 0.10 | 0.06 | 0.09 |
| Charlotte-Rock Hill, NC-SC | Ozone (2008 8-hour) | Maintenance, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Chicago-Naperville, IL-IN-WI | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Chico (Butte County), CA | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Chico Area, CA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.01 | 0.00 | 0.01 |
| Chico, CA | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.01 | 0.01 | 0.01 |
| Cincinnati, OH-KY-IN | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Clark County; Las Vegas planning area, NV | PM10 (1987 24-hour) | Maintenance, Serious | 100 | 0 | 0.03 | 0.12 | 0.08 | 0.12 |
| Cleveland Area, OH | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.04 | 0.14 | 0.10 | 0.15 |
| Cleveland, OH | PM2.5 (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 0.05 | 0.18 | 0.13 | 0.19 |
| Cleveland-Akron-Lorain, OH | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Cleveland-Akron-Lorain, OH | PM2.5 (2006 24-hour) | Maintenance, -- | 100 | 0 | 0.08 | 0.31 | 0.22 | 0.32 |
| Cochise County; Paul Spur/Douglas planning area, AZ | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.01 | 0.00 | 0.01 |
| Colorado Springs Area, CO | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.08 | 0.25 | 0.19 | 0.28 |
| Columbus, OH | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Cook County; Lyons Township, IL | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.01 | 0.00 | 0.01 |
| Cook County; Southeast Chicago, IL | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.01 | 0.00 | 0.01 |
| Coshocton County; Franklin Township, OH | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Coso Junction, CA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Cuyahoga County (part), OH | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Cuyahoga County, OH | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.04 | 0.14 | 0.10 | 0.15 |

Appendix A Air Quality Non-Attainment Area Results

Table A1-32

Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Direct and Indirect Impacts

Benzene 2050

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Dallas-Fort Worth, TX | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Delaware County, PA | PM2.5 (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 0.05 | 0.16 | 0.13 | 0.18 |
| Denver-Boulder Area, CO | CO (1971 8-hour) | Maintenance, Serious | 100 | 0 | 0.37 | 1.13 | 0.89 | 1.29 |
| Denver-Boulder-Greeley-Ft Collins-Loveland, CO | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Detroit Area, MI | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.06 | 0.20 | 0.14 | 0.21 |
| Detroit, MI | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.02 | 0.07 | 0.05 | 0.08 |
| Detroit-Ann Arbor, MI | PM2.5 (2006 24-hour) | Maintenance, -- | 100 | 0 | 0.21 | 0.73 | 0.52 | 0.78 |
| Dona Ana County; Anthony, NM | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.01 |
| Douglas, AZ | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Dukes County, MA | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Duluth Area, MN | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.02 | 0.05 | 0.04 | 0.06 |
| East Chicago Area, IN | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.05 | 0.14 | 0.12 | 0.17 |
| East Helena Area, MT | SO ₂ (1971 24-hour/Annual) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| East Kern County Area, CA | PM10 (1987 24-hour) | Nonattainment, Serious | 70 | 0 | 0.02 | 0.05 | 0.04 | 0.06 |
| El Paso County, TX | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.03 | 0.09 | 0.07 | 0.10 |
| El Paso, TX | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.01 | 0.04 | 0.03 | 0.04 |
| Eugene-Springfield Area, OR | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.01 | 0.03 | 0.02 | 0.03 |
| Fairbanks Area, AK | CO (1971 8-hour) | Maintenance, Serious | 100 | 0 | 0.02 | 0.05 | 0.04 | 0.05 |
| Fairbanks, AK | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.02 | 0.07 | 0.06 | 0.08 |

Table A1-32
Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Direct and Indirect Impacts
Benzene 2050

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|---|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Flathead County; Columbia Falls and vicinity, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Flathead County; Kalispell and vicinity, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.01 | 0.01 | 0.01 |
| Flathead County; Whitefish and vicinity, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Fort Collins Area, CO | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.01 | 0.04 | 0.03 | 0.05 |
| Freehold Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Fremont County; Canon City Area, CO | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.01 | 0.01 | 0.01 |
| Fresno Area, CA | CO (1971 8-hour) | Maintenance, Moderate > 12.7ppm | 100 | 0 | 0.01 | 0.03 | 0.02 | 0.03 |
| Grants Pass Area, OR | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.01 | 0.01 | 0.01 |
| Great Falls Area, MT | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.01 | 0.01 | 0.02 |
| Greater Connecticut, CT | Ozone (2008 8-hour) | Nonattainment, Moderate | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Greeley Area, CO | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.05 | 0.16 | 0.13 | 0.18 |
| Hancock and Brooke Counties (Part); The city of Weirton, WV | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.01 | 0.01 | 0.01 |
| Hancock County (Part) The city of Weirton, including Butler and Clay: Magisterial Districts, WV | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Harrisburg-Lebanon-Carlisle-York, PA | PM2.5 (2006 24-hour) | Maintenance, Moderate | 100 | 0 | 0.04 | 0.14 | 0.10 | 0.15 |
| Hartford-New Britain-Middletown Area, CT | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.02 | 0.10 | 0.07 | 0.10 |
| Hayden, AZ | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Hayden, AZ | SO ₂ (1971 24-hour/Annual) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Hayden, AZ | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Hillsborough County, FL | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.01 | 0.01 | 0.01 |
| Houston-Galveston-Brazoria, TX | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Humphreys County; (part) TVA Johnsonville, TN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Imperial Co, CA | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.01 | 0.01 | 0.01 |

Appendix A Air Quality Non-Attainment Area Results

Table A1-32

Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Direct and Indirect Impacts

Benzene 2050

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Imperial County, CA | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Imperial County, CA | PM2.5 (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.01 | 0.01 | 0.01 |
| Imperial County; Imperial Valley planning area, CA | PM10 (1987 24-hour) | Nonattainment, Serious | 70 | 0 | 0.00 | 0.01 | 0.01 | 0.01 |
| Indian Wells, CA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.02 | 0.05 | 0.04 | 0.06 |
| Indiana, PA | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.01 | 0.00 | 0.01 |
| Indianapolis Area, IN | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Indianapolis, IN | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.02 | 0.06 | 0.04 | 0.06 |
| Inyo County; Owens Valley planning area, CA | PM10 (1987 24-hour) | Nonattainment, Serious | 70 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Jackson County, MO | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.01 | 0.02 | 0.01 | 0.02 |
| Jackson County; Medford-Ashland (including White City), OR | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.01 | 0.04 | 0.03 | 0.04 |
| Jamestown, NY | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Jefferson County, KY | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Jefferson County, MO | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.01 | 0.02 | 0.01 | 0.02 |
| Jefferson County; (part) Steubenville & Mingo Junction, OH | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Jefferson County; (part), OH | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Johnstown, PA | PM2.5 (2006 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.01 | 0.01 | 0.01 |
| Josephine County; Grants Pass, OR | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.01 | 0.01 | 0.01 |
| Juneau; Mendenhall Valley area, AK | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.01 | 0.01 | 0.01 |
| Kern County (Eastern Kern), CA | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| King County; Kent, WA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.01 | 0.00 | 0.01 |
| King County; Seattle, WA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Klamath County; Klamath Falls, OR | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.02 | 0.01 | 0.02 |
| Klamath Falls Area, OR | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.02 | 0.01 | 0.02 |
| Klamath Falls, OR | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.02 | 0.01 | 0.02 |

Table A1-32

Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Direct and Indirect Impacts

Benzene 2050

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Knoxville, TN | Ozone (2008 8-hour) | Maintenance, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Knoxville-Sevierville-La Follette, TN | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.05 | 0.18 | 0.13 | 0.20 |
| La Porte County: (part), IN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lake County (part); Lakeview, OR | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lake County, OH | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.01 | 0.02 | 0.02 | 0.02 |
| Lake County: (part), IN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lake County; (part) Eastlake, Timberlake, Lakeline, Willoughby, Mentor, OH | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lake County; Cities of East Chicago, Hammond, Whiting, and Gary, IN | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.06 | 0.17 | 0.13 | 0.19 |
| Lake County; Polson, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lake County; Ronan, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lake Tahoe Nevada Area, NV | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lake Tahoe North Shore Area, CA | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lake Tahoe South Shore Area, CA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lancaster, PA | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lancaster, PA | PM2.5 (2006 24-hour) | Maintenance, Moderate | 100 | 0 | 0.01 | 0.04 | 0.02 | 0.04 |
| Lane County (part); Oakridge, OR | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lane County; Eugene/Springfield, OR | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.01 | 0.03 | 0.02 | 0.03 |
| Las Vegas Area, NV | CO (1971 8-hour) | Maintenance, Serious | 100 | 0 | 0.03 | 0.12 | 0.08 | 0.12 |
| LaSalle County; Oglesby, IL | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Laurel Area, MT | SO ₂ (1971 24-hour/Annual) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lebanon County, PA | PM2.5 (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 0.01 | 0.03 | 0.02 | 0.03 |
| Lemont, IL | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.01 | 0.03 | 0.02 | 0.03 |
| Liberty-Clairton, PA | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |

Appendix A Air Quality Non-Attainment Area Results

Table A1-32

Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Direct and Indirect Impacts

Benzene 2050

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Lincoln County; Libby and vicinity, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Logan, UT-ID | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.01 | 0.02 | 0.01 | 0.02 |
| Longmont Area, CO | CO (1971 8-hour) | Maintenance, Moderate ≤ 12.7ppm | 100 | 0 | 0.01 | 0.04 | 0.03 | 0.04 |
| Lorain County (part), OH | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Los Angeles, CA | PM2.5 (2006 24-hour) | Nonattainment, Serious | 100 | 0 | 0.18 | 0.91 | 0.52 | 0.82 |
| Los Angeles-San Bernardino Counties (West Mojave Desert), CA | Ozone (2008 8-hour) | Nonattainment, Severe 15 | 25 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Los Angeles-South Coast Air Basin Area, CA | CO (1971 8-hour) | Maintenance, Serious | 100 | 0 | 0.18 | 0.91 | 0.52 | 0.82 |
| Los Angeles-South Coast Air Basin Area, CA | NO ₂ (1971 Annual) | Maintenance, -- | 100 | 0 | 0.18 | 0.91 | 0.52 | 0.82 |
| Los Angeles-South Coast Air Basin, CA | Ozone (2008 8-hour) | Nonattainment, Extreme | 10 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Los Angeles-South Coast Air Basin, CA | PM2.5 (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 0.18 | 0.91 | 0.52 | 0.82 |
| Lowell Area, MA | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.01 | 0.01 | 0.02 |
| Lucas County (part), OH | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Madison County; Granite City Township and Nameoki Township, IL | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.01 | 0.01 | 0.01 |
| Manchester Area, NH | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Maricopa and Pinal Counties; Phoenix planning area, AZ | PM10 (1987 24-hour) | Nonattainment, Serious | 70 | 0 | 0.06 | 0.27 | 0.17 | 0.25 |
| Marion County; Lawrence, Washington, and Warrant Townships, IN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Mariposa County, CA | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Marshall, WV | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.01 | 0.01 | 0.01 |
| Medford Area, OR | CO (1971 8-hour) | Maintenance, Moderate ≤ 12.7ppm | 100 | 0 | 0.01 | 0.02 | 0.01 | 0.02 |
| Memphis Area, TN | CO (1971 8-hour) | Maintenance, Moderate ≤ 12.7ppm | 100 | 0 | 0.03 | 0.11 | 0.08 | 0.11 |

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Benzene 2050

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|---|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Memphis, TN-MS-AR | Ozone (2008 8-hour) | Nonattainment TN & Maintenance MS/AR, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Miami, AZ | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Miami, AZ | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Miami, AZ | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Milwaukee-Racine, WI | PM2.5 (2006 24-hour) | Maintenance, -- | 100 | 0 | 0.03 | 0.11 | 0.07 | 0.11 |
| Minneapolis-St. Paul Area, MN | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.28 | 0.89 | 0.68 | 1.00 |
| Missoula Area, MT | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.01 | 0.03 | 0.02 | 0.03 |
| Missoula county; Missoula and vicinity, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.01 | 0.02 | 0.02 | 0.03 |
| Modesto Area, CA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.01 | 0.02 | 0.02 | 0.02 |
| Mohave County (part); Bullhead City, AZ | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.02 | 0.01 | 0.02 |
| Mono County; Mammoth Lake planning area, CA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Mono County; Mono Basin, CA | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Morenci, AZ | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Morgan County, IN | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Morongo Band of Mission Indians | Ozone (2008 8-hour) | Nonattainment, Serious | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Morristown Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Muscatine County; (part), IA | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Muscatine, IA | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.01 | 0.01 | 0.02 |
| Muskingum River, OH | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Nashua Area, NH | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Nassau County, FL | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Nevada County (Western part), CA | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| New Haven County, CT | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |

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Benzene 2050

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| New Haven-Meriden-Waterbury Area, CT | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.02 | 0.09 | 0.06 | 0.09 |
| New Manchester-Grant magisterial district in Hancock County, WV | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| New York County, NY | PM ₁₀ (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.03 | 0.10 | 0.07 | 0.10 |
| New York, NY-NJ-CT | PM _{2.5} (2006 24-hour) | Maintenance, -- | 100 | 0 | 0.48 | 1.79 | 1.23 | 1.84 |
| New York-N. New Jersey-Long Island Area, NY-NJ-CT | CO (1971 8-hour) | Maintenance, Moderate > 12.7ppm | 100 | 0 | 0.29 | 1.07 | 0.74 | 1.11 |
| New York-N. New Jersey-Long Island, NY-NJ-CT | Ozone (2008 8-hour) | Nonattainment, Moderate | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| NJ portion of the Northeast Pennsylvania-Upper Delaware Valley Interstate AQCR: (part), NJ | SO ₂ (1971 24-hour/Annual) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Nogales, AZ | PM _{2.5} (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.01 | 0.01 | 0.01 |
| Oakridge, OR | PM _{2.5} (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Ogden Area, UT | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.01 | 0.00 | 0.01 |
| Ogden Area, UT | PM ₁₀ (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.01 | 0.00 | 0.01 |
| Olmsted County; (part), MN | PM ₁₀ (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.01 | 0.01 | 0.01 |
| Olmsted; City of Rochester, MN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |

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Benzene 2050

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Pechanga Band of Luiseno Mission Indians of the Pechanga Reservation | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Pekin, IL | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Penns Grove Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Peoria County: Hollis Twp, IL | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Peoria County: Peoria, IL | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Perth Amboy Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.01 | 0.01 | 0.01 |
| Philadelphia-Camden County Area, PA-NJ | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.22 | 0.65 | 0.52 | 0.75 |
| Philadelphia-Wilmington, PA-NJ-DE | PM _{2.5} (2006 24-hour) | Maintenance, Moderate for PA and DE Subject to Former Subpart 1 for NJ | 100 | 0 | 0.35 | 1.12 | 0.85 | 1.25 |
| Philadelphia-Wilmington-Atlantic City, PA-NJ-MD-DE | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Phoenix Area, AZ | CO (1971 8-hour) | Maintenance, Serious | 100 | 0 | 0.06 | 0.25 | 0.16 | 0.24 |
| Phoenix-Mesa, AZ | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Pierce County; Tacoma, WA | PM ₁₀ (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.01 | 0.01 | 0.01 |
| Pima County; Ajo planning area, AZ | PM ₁₀ (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Pima County; Rillito planning area, AZ | PM ₁₀ (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.01 | 0.01 | 0.01 |
| Pinal and Gila Counties; Payson, AZ | PM ₁₀ (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.01 | 0.01 | 0.01 |
| Pinal County (part); West Pinal, AZ | PM ₁₀ (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.01 | 0.05 | 0.03 | 0.05 |
| Pitkin County; Aspen, CO | PM ₁₀ (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.01 | 0.00 | 0.01 |
| Pittsburgh Area, PA | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.01 | 0.02 | 0.02 | 0.02 |
| Pittsburgh-Beaver Valley, PA | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Pittsburgh-Beaver Valley, PA | PM _{2.5} (2006 24-hour) | Maintenance, Moderate | 100 | 0 | 0.05 | 0.20 | 0.14 | 0.21 |
| Plumas County, CA | PM _{2.5} (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Polk County, TN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |

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Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Direct and Indirect Impacts

Benzene 2050

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|-------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Portland Area: Portland Metro Service District Boundary, OR | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.03 | 0.11 | 0.07 | 0.11 |
| Power-Bannock Counties; Fort Hall Indian Reservation, ID | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Power-Bannock Counties; Portneuf Valley Area, ID | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.01 | 0.03 | 0.03 | 0.04 |
| Provo Area, UT | CO (1971 8-hour) | Maintenance, Moderate > 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Provo, UT | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.01 | 0.03 | 0.02 | 0.02 |
| Prowers County; Lamar, CO | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Raleigh-Durham Area, NC | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.04 | 0.16 | 0.11 | 0.16 |
| Ramsey County; (part), MN | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Reading, PA | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Reno Area, NV | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.01 | 0.04 | 0.03 | 0.05 |
| Rhinelander, WI | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.01 | 0.02 | 0.02 | 0.02 |
| Riverside County (Coachella Valley), CA | Ozone (2008 8-hour) | Nonattainment, Severe 15 | 25 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Riverside County; Coachella Valley planning area, CA | PM10 (1987 24-hour) | Nonattainment, Serious | 70 | 0 | 0.00 | 0.02 | 0.01 | 0.02 |
| Riverside, Los Angeles, Orange, and San Bernardino Counties; South Coast Air Basin, CA | PM10 (1987 24-hour) | Maintenance, Serious | 100 | 0 | 0.18 | 0.91 | 0.52 | 0.82 |
| Rosebud County; Lame Deer, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.01 | 0.01 | 0.01 |
| Routt County (part); Steamboat Springs, CO | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.01 | 0.01 | 0.01 |
| Sacramento Area, CA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.01 | 0.07 | 0.04 | 0.06 |
| Sacramento County, CA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.01 | 0.07 | 0.04 | 0.06 |
| Sacramento Metro, CA | Ozone (2008 8-hour) | Nonattainment, Severe 15 | 25 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Sacramento, CA | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.03 | 0.13 | 0.07 | 0.12 |
| Salem Area, OR | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.01 | 0.04 | 0.03 | 0.04 |
| Salt Lake City Area, UT | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.02 | 0.06 | 0.04 | 0.06 |
| Salt Lake City, UT | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.07 | 0.23 | 0.17 | 0.25 |

Table A1-32
Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Direct and Indirect Impacts
Benzene 2050

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|---|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Salt Lake County, UT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.03 | 0.11 | 0.08 | 0.12 |
| Salt Lake County, UT | SO ₂ (1971 24-hour/Annual) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| San Bernardino County (part); excluding Searles Valley Planning area and South Coast Air Basin, CA | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.03 | 0.01 | 0.02 |
| San Diego Area, CA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.07 | 0.29 | 0.19 | 0.29 |
| San Diego County, CA | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| San Francisco Bay Area, CA | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| San Francisco Bay Area, CA | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.15 | 0.59 | 0.38 | 0.58 |
| San Francisco-Oakland-San Jose Area, CA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.14 | 0.55 | 0.37 | 0.55 |
| San Joaquin Valley Air Basin; Fresno, Kern, Kings, Madera, Merced, San Joaquin, Stanislaus, Tulare Counties, CA | PM10 (1987 24-hour) | Maintenance, Serious | 100 | 0 | 0.11 | 0.44 | 0.29 | 0.44 |
| San Joaquin Valley, CA | Ozone (2008 8-hour) | Nonattainment, Extreme | 10 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| San Joaquin Valley, CA | PM2.5 (2006 24-hour) | Nonattainment, Serious | 100 | 0 | 0.11 | 0.44 | 0.29 | 0.44 |
| San Joaquin Valley, CA | PM2.5 (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 0.11 | 0.44 | 0.29 | 0.44 |
| San Luis Obispo (Eastern San Luis Obispo), CA | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| San Manuel, AZ | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| San Miguel County; Telluride, CO | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Sanders County (part); Thompson Falls and vicinity, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Santa Cruz County; Nogales planning area, AZ | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.01 | 0.01 | 0.01 |
| Seaford, DE | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Seattle-Tacoma Area, WA | CO (1971 8-hour) | Maintenance, Moderate > 12.7ppm | 100 | 0 | 0.19 | 0.61 | 0.46 | 0.67 |
| Seattle-Tacoma, WA | PM2.5 (2006 24-hour) | Maintenance, Moderate | 100 | 0 | 0.04 | 0.11 | 0.09 | 0.13 |
| Sheboygan County, WI | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |

Appendix A Air Quality Non-Attainment Area Results

Table A1-32

Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Direct and Indirect Impacts

Benzene 2050

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|---|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Sheridan County; City of Sheridan, WY | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.01 | 0.01 | 0.02 |
| Shoshone County (part); excluding Pinehurst, ID | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.01 | 0.00 | 0.01 |
| Shoshone County; City of Pinehurst, ID | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Silver Bow County; Butte, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.01 | 0.01 | 0.01 |
| Somerville Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Southwest Indiana, IN | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Spokane Area, WA | CO (1971 8-hour) | Maintenance, Serious | 100 | 0 | 0.02 | 0.05 | 0.04 | 0.06 |
| Spokane County; (part), WA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.02 | 0.06 | 0.04 | 0.06 |
| Springfield Area, MA | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.01 | 0.02 | 0.01 | 0.02 |
| St. Bernard Parish, LA | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.04 | 0.12 | 0.10 | 0.14 |
| St. Louis Area, MO | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.10 | 0.30 | 0.23 | 0.34 |
| St. Louis-St. Charles-Farmington, MO-IL | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Steubenville, OH-WV | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.01 | 0.03 | 0.02 | 0.03 |
| Steubenville-Weirton, OH-WV | PM2.5 (2006 24-hour) | Maintenance, -- | 100 | 0 | 0.02 | 0.05 | 0.04 | 0.06 |
| Stockton Area, CA | CO (1971 8-hour) | Maintenance, Moderate ≤ 12.7ppm | 100 | 0 | 0.02 | 0.06 | 0.04 | 0.06 |
| Sullivan County, TN | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.01 | 0.00 | 0.01 |
| Syracuse Area; Onondaga County, NY | CO (1971 8-hour) | Maintenance, Moderate ≤ 12.7ppm | 100 | 0 | 0.04 | 0.12 | 0.09 | 0.13 |
| Tazewell County; Groveland Twp, IL | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Terre Haute, IN | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.01 | 0.01 | 0.01 |

Table A1-32
Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Direct and Indirect Impacts
Benzene 2050

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|---|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Thurston County; Cities of Olympia, Tumwater, and Lacey, WA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.02 | 0.01 | 0.02 |
| Toms River Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Tooele County (part), UT | SO ₂ (1971 24-hour/Annual) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Trenton Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.01 | 0.00 | 0.01 |
| Trona, CA | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Tucson Area, AZ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.05 | 0.16 | 0.12 | 0.18 |
| Tuscan Buttes, CA | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Union County; LaGrande, OR | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.01 | 0.01 | 0.01 |
| Upper Green River Basin Area, WY | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Utah County, UT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.01 | 0.03 | 0.02 | 0.02 |
| Vancouver Area: Clark County (part), WA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.02 | 0.05 | 0.04 | 0.06 |
| Ventura County, CA | Ozone (2008 8-hour) | Nonattainment, Serious | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Vermillion County; Part of Clinton Township, IN | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Vigo County, IN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Walla Walla County; Wallula, WA | PM10 (1987 24-hour) | Maintenance, Serious | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Waltham Area, MA | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.01 | 0.01 | 0.01 |
| Warren County: Conewago Twp, PA | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Warren County: Warren Boro, Pleasant Twp, Glade Twp, PA | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Warren, PA | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.01 | 0.01 | 0.01 |
| Washington Area, DC-MD-VA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.01 | 0.05 | 0.03 | 0.04 |
| Washington, DC-MD-VA | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Washoe County; Reno planning area, NV | PM10 (1987 24-hour) | Nonattainment, Serious | 70 | 0 | 0.01 | 0.04 | 0.03 | 0.04 |

Appendix A Air Quality Non-Attainment Area Results

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Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Direct and Indirect Impacts

Benzene 2050

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|---|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Wayne County: Boston, Center, Franklin, Wayne & Webster Townships, IN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Wayne County; (part), MI | PM ₁₀ (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.01 | 0.02 | 0.01 | 0.02 |
| West Central Pinal County, AZ | PM _{2.5} (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.01 | 0.01 | 0.01 |
| West Silver Valley, ID | PM _{2.5} (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Winston-Salem Area, NC | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.01 | 0.04 | 0.03 | 0.04 |
| Worcester Area, MA | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.01 | 0.03 | 0.02 | 0.03 |
| Yakima Area, WA | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.01 | 0.01 | 0.01 |
| Yakima County; (part), WA | PM ₁₀ (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.01 | 0.03 | 0.02 | 0.03 |
| Yuba City-Marysville, CA | PM _{2.5} (2006 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.01 | 0.01 | 0.01 |
| Yuma County; Yuma planning area, AZ | PM ₁₀ (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.01 | 0.03 | 0.02 | 0.04 |

^a Reductions are shown as positive values. Negative values are emissions increases. Values of less than 0.005 tons per year are rounded to zero.

^b Nonattainment or maintenance status as of 5/13/2016. Source: U.S. EPA, The Green Book Nonattainment Areas for Criteria Pollutants; <http://www.epa.gov/airquality/greenbook/>. "--" indicates that no severity classification has been established for the NAAQS pollutant.

^c Emissions thresholds in tons per year. Where the threshold differs by precursor pollutant, the smallest of the precursor thresholds is shown. These thresholds are provided for information only; a general conformity determination is not required for the Proposed Action. Source: 40 CFR 93.853.

Notes: CO = carbon monoxide; NAAQS = National Ambient Air Quality Standards; NO₂ = nitrogen dioxide; PM = particulate matter; SO₂ = sulfur dioxide

Table A1-33
Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Direct and Indirect Impacts
1,3-Butadiene 2018

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Ada County; Boise, ID | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Adams, Denver, and Boulder Counties; Denver Metropolitan area, CO | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Ajo, AZ | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Albuquerque Area, NM | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Allegheny County Air Basin: Hazelwood monitor, PA | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Allegheny County, PA | PM2.5 (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Allegheny County; The area including Liberty, Lincoln, Port Vue, and Glassport Boroughs and the City of Clairton, PA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Allegheny, PA | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Allentown, PA | PM2.5 (2006 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Allentown-Bethlehem-Easton, PA | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Anchorage Area, AK | CO (1971 8-hour) | Maintenance, Serious | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Anchorage; Eagle River, AK | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| AQCR 012: Portions of Grant County, NM | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| AQCR 109-Millinocket, ME | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| AQCR 131: Anoka, Carver, Dakota, Hennepin, Ramsey, Scott, and Washington counties (Minneapolis-St. Paul), MN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| AQCR 237: Brown County: Green Bay sub-city area, WI | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| AQCR 238: Marathon County: Rothschild Sub-city area, Rib Mountain, Weston, WI | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| AQCR 238: Oneida County: Rhinelander Sub-city area, WI | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| AQCR 239: Milwaukee County: Milwaukee sub-city area, WI | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |

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1,3-Butadiene 2018

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| AQCR 240: Dane County: Madison sub-city area, WI | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Archuleta County; Pagosa Springs, CO | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Armstrong County: Madison Twp, Mahoning Twp, Boggs Twp, Washington Twp, Pine Twp, PA | SO ₂ (1971 24-hour/Annual) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Aroostock County; City of Presque Isle, ME | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Atlanta, GA | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Atlantic City Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Bakersfield Area, CA | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Baltimore Area, MD | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Baltimore, MD | Ozone (2008 8-hour) | Nonattainment, Moderate | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Baton Rouge, LA | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Beaver, PA | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Benton County; (part) TVA Johnsonville, TN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Billings Area, MT | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Billings, MT | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Birmingham, AL | PM2.5 (2006 24-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Boise-Northern Ada County Area, ID | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Bonner County; The Sandpoint Area, ID | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Boston Area, MA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Boyd County (part), KY | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Brooke; Follansbee area, WV | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Burlington Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Calaveras County, CA | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Campbell-Clermont Counties, KY-OH | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |

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1,3-Butadiene 2018

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|---|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Canton-Massillon, OH | PM2.5 (2006 24-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Central New Hampshire, NH | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Central Steptoe Valley, NV | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Charleston, WV | PM2.5 (2006 24-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Charlotte Area, NC | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Charlotte-Rock Hill, NC-SC | Ozone (2008 8-hour) | Maintenance, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Chicago-Naperville, IL-IN-WI | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Chico (Butte County), CA | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Chico Area, CA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Chico, CA | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Cincinnati, OH-KY-IN | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Clark County; Las Vegas planning area, NV | PM10 (1987 24-hour) | Maintenance, Serious | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Cleveland Area, OH | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Cleveland, OH | PM2.5 (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Cleveland-Akron-Lorain, OH | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Cleveland-Akron-Lorain, OH | PM2.5 (2006 24-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Cochise County; Paul Spur/Douglas planning area, AZ | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Colorado Springs Area, CO | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Columbus, OH | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Cook County; Lyons Township, IL | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Cook County; Southeast Chicago, IL | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Coshocton County; Franklin Township, OH | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Coso Junction, CA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Cuyahoga County (part), OH | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Cuyahoga County, OH | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |

Appendix A Air Quality Non-Attainment Area Results

Table A1-33

Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Direct and Indirect Impacts

1,3-Butadiene 2018

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Dallas-Fort Worth, TX | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Delaware County, PA | PM2.5 (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Denver-Boulder Area, CO | CO (1971 8-hour) | Maintenance, Serious | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Denver-Boulder-Greeley-Ft Collins-Loveland, CO | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Detroit Area, MI | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Detroit, MI | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Detroit-Ann Arbor, MI | PM2.5 (2006 24-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Dona Ana County; Anthony, NM | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Douglas, AZ | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Dukes County, MA | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Duluth Area, MN | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| East Chicago Area, IN | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| East Helena Area, MT | SO ₂ (1971 24-hour/Annual) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| East Kern County Area, CA | PM10 (1987 24-hour) | Nonattainment, Serious | 70 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| El Paso County, TX | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| El Paso, TX | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Eugene-Springfield Area, OR | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Fairbanks Area, AK | CO (1971 8-hour) | Maintenance, Serious | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Fairbanks, AK | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |

Table A1-33
Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Direct and Indirect Impacts
1,3-Butadiene 2018

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|---|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Flathead County; Columbia Falls and vicinity, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Flathead County; Kalispell and vicinity, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Flathead County; Whitefish and vicinity, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Fort Collins Area, CO | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Freehold Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Fremont County; Canon City Area, CO | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Fresno Area, CA | CO (1971 8-hour) | Maintenance, Moderate > 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Grants Pass Area, OR | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Great Falls Area, MT | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Greater Connecticut, CT | Ozone (2008 8-hour) | Nonattainment, Moderate | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Greeley Area, CO | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Hancock and Brooke Counties (Part); The city of Weirton, WV | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Hancock County (Part) The city of Weirton, including Butler and Clay: Magisterial Districts, WV | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Harrisburg-Lebanon-Carlisle-York, PA | PM2.5 (2006 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Hartford-New Britain-Middletown Area, CT | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Hayden, AZ | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Hayden, AZ | SO ₂ (1971 24-hour/Annual) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Hayden, AZ | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Hillsborough County, FL | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Houston-Galveston-Brazoria, TX | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Humphreys County; (part) TVA Johnsonville, TN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Imperial Co, CA | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |

Appendix A Air Quality Non-Attainment Area Results

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1,3-Butadiene 2018

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Imperial County, CA | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Imperial County, CA | PM2.5 (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Imperial County; Imperial Valley planning area, CA | PM10 (1987 24-hour) | Nonattainment, Serious | 70 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Indian Wells, CA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Indiana, PA | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Indianapolis Area, IN | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Indianapolis, IN | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Inyo County; Owens Valley planning area, CA | PM10 (1987 24-hour) | Nonattainment, Serious | 70 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Jackson County, MO | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Jackson County; Medford-Ashland (including White City), OR | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Jamestown, NY | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Jefferson County, KY | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Jefferson County, MO | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Jefferson County; (part) Steubenville & Mingo Junction, OH | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Jefferson County; (part), OH | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Johnstown, PA | PM2.5 (2006 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Josephine County; Grants Pass, OR | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Juneau; Mendenhall Valley area, AK | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Kern County (Eastern Kern), CA | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| King County; Kent, WA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| King County; Seattle, WA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Klamath County; Klamath Falls, OR | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Klamath Falls Area, OR | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Klamath Falls, OR | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |

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1,3-Butadiene 2018

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Knoxville, TN | Ozone (2008 8-hour) | Maintenance, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Knoxville-Sevierville-La Follette, TN | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| La Porte County: (part), IN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lake County (part); Lakeview, OR | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lake County, OH | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lake County: (part), IN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lake County; (part) Eastlake, Timberlake, Lakeline, Willoughby, Mentor, OH | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lake County; Cities of East Chicago, Hammond, Whiting, and Gary, IN | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lake County; Polson, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lake County; Ronan, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lake Tahoe Nevada Area, NV | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lake Tahoe North Shore Area, CA | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lake Tahoe South Shore Area, CA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lancaster, PA | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lancaster, PA | PM2.5 (2006 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lane County (part); Oakridge, OR | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lane County; Eugene/Springfield, OR | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Las Vegas Area, NV | CO (1971 8-hour) | Maintenance, Serious | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| LaSalle County; Oglesby, IL | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Laurel Area, MT | SO ₂ (1971 24-hour/Annual) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lebanon County, PA | PM2.5 (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lemont, IL | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Liberty-Clairton, PA | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |

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|--|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Lincoln County; Libby and vicinity, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Logan, UT-ID | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Longmont Area, CO | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lorain County (part), OH | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Los Angeles, CA | PM2.5 (2006 24-hour) | Nonattainment, Serious | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Los Angeles-San Bernardino Counties (West Mojave Desert), CA | Ozone (2008 8-hour) | Nonattainment, Severe 15 | 25 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Los Angeles-South Coast Air Basin Area, CA | CO (1971 8-hour) | Maintenance, Serious | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Los Angeles-South Coast Air Basin Area, CA | NO ₂ (1971 Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Los Angeles-South Coast Air Basin, CA | Ozone (2008 8-hour) | Nonattainment, Extreme | 10 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Los Angeles-South Coast Air Basin, CA | PM2.5 (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lowell Area, MA | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lucas County (part), OH | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Madison County; Granite City Township and Nameoki Township, IL | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Manchester Area, NH | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Maricopa and Pinal Counties; Phoenix planning area, AZ | PM10 (1987 24-hour) | Nonattainment, Serious | 70 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Marion County; Lawrence, Washington, and Warrant Townships, IN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Mariposa County, CA | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Marshall, WV | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Medford Area, OR | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Memphis Area, TN | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |

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| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|---|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Memphis, TN-MS-AR | Ozone (2008 8-hour) | Nonattainment TN & Maintenance MS/AR, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Miami, AZ | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Miami, AZ | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Miami, AZ | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Milwaukee-Racine, WI | PM2.5 (2006 24-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Minneapolis-St. Paul Area, MN | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Missoula Area, MT | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Missoula county; Missoula and vicinity, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Modesto Area, CA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Mohave County (part); Bullhead City, AZ | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Mono County; Mammoth Lake planning area, CA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Mono County; Mono Basin, CA | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Morenci, AZ | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Morgan County, IN | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Morongo Band of Mission Indians | Ozone (2008 8-hour) | Nonattainment, Serious | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Morristown Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Muscatine County; (part), IA | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Muscatine, IA | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Muskingum River, OH | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Nashua Area, NH | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Nassau County, FL | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Nevada County (Western part), CA | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| New Haven County, CT | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |

Appendix A Air Quality Non-Attainment Area Results

Table A1-33

Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Direct and Indirect Impacts

1,3-Butadiene 2018

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| New Haven-Meriden-Waterbury Area, CT | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| New Manchester-Grant magisterial district in Hancock County, WV | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| New York County, NY | PM ₁₀ (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| New York, NY-NJ-CT | PM _{2.5} (2006 24-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| New York-N. New Jersey-Long Island Area, NY-NJ-CT | CO (1971 8-hour) | Maintenance, Moderate > 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| New York-N. New Jersey-Long Island, NY-NJ-CT | Ozone (2008 8-hour) | Nonattainment, Moderate | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| NJ portion of the Northeast Pennsylvania-Upper Delaware Valley Interstate AQCR: (part), NJ | SO ₂ (1971 24-hour/Annual) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Nogales, AZ | PM _{2.5} (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Oakridge, OR | PM _{2.5} (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Ogden Area, UT | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Ogden Area, UT | PM ₁₀ (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Olmsted County; (part), MN | PM ₁₀ (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Olmsted; City of Rochester, MN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |

Table A1-33
Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Direct and Indirect Impacts
1,3-Butadiene 2018

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Pechanga Band of Luiseno Mission Indians of the Pechanga Reservation | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Pekin, IL | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Penns Grove Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Peoria County: Hollis Twp, IL | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Peoria County: Peoria, IL | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Perth Amboy Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Philadelphia-Camden County Area, PA-NJ | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Philadelphia-Wilmington, PA-NJ-DE | PM _{2.5} (2006 24-hour) | Maintenance, Moderate for PA and DE Subject to Former Subpart 1 for NJ | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Philadelphia-Wilmington-Atlantic City, PA-NJ-MD-DE | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Phoenix Area, AZ | CO (1971 8-hour) | Maintenance, Serious | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Phoenix-Mesa, AZ | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Pierce County; Tacoma, WA | PM ₁₀ (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Pima County; Ajo planning area, AZ | PM ₁₀ (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Pima County; Rillito planning area, AZ | PM ₁₀ (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Pinal and Gila Counties; Payson, AZ | PM ₁₀ (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Pinal County (part); West Pinal, AZ | PM ₁₀ (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Pitkin County; Aspen, CO | PM ₁₀ (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Pittsburgh Area, PA | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Pittsburgh-Beaver Valley, PA | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Pittsburgh-Beaver Valley, PA | PM _{2.5} (2006 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Plumas County, CA | PM _{2.5} (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Polk County, TN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |

Appendix A Air Quality Non-Attainment Area Results

Table A1-33

Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Direct and Indirect Impacts

1,3-Butadiene 2018

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|-------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Portland Area: Portland Metro Service District Boundary, OR | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Power-Bannock Counties; Fort Hall Indian Reservation, ID | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Power-Bannock Counties; Portneuf Valley Area, ID | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Provo Area, UT | CO (1971 8-hour) | Maintenance, Moderate > 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Provo, UT | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Prowers County; Lamar, CO | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Raleigh-Durham Area, NC | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Ramsey County; (part), MN | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Reading, PA | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Reno Area, NV | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Rhinelander, WI | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Riverside County (Coachella Valley), CA | Ozone (2008 8-hour) | Nonattainment, Severe 15 | 25 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Riverside County; Coachella Valley planning area, CA | PM10 (1987 24-hour) | Nonattainment, Serious | 70 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Riverside, Los Angeles, Orange, and San Bernardino Counties; South Coast Air Basin, CA | PM10 (1987 24-hour) | Maintenance, Serious | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Rosebud County; Lame Deer, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Routt County (part); Steamboat Springs, CO | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Sacramento Area, CA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Sacramento County, CA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Sacramento Metro, CA | Ozone (2008 8-hour) | Nonattainment, Severe 15 | 25 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Sacramento, CA | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Salem Area, OR | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Salt Lake City Area, UT | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Salt Lake City, UT | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |

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Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Direct and Indirect Impacts
1,3-Butadiene 2018

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|---|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Salt Lake County, UT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Salt Lake County, UT | SO ₂ (1971 24-hour/Annual) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| San Bernardino County (part); excluding Searles Valley Planning area and South Coast Air Basin, CA | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| San Diego Area, CA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| San Diego County, CA | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| San Francisco Bay Area, CA | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| San Francisco Bay Area, CA | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| San Francisco-Oakland-San Jose Area, CA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| San Joaquin Valley Air Basin; Fresno, Kern, Kings, Madera, Merced, San Joaquin, Stanislaus, Tulare Counties, CA | PM10 (1987 24-hour) | Maintenance, Serious | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| San Joaquin Valley, CA | Ozone (2008 8-hour) | Nonattainment, Extreme | 10 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| San Joaquin Valley, CA | PM2.5 (2006 24-hour) | Nonattainment, Serious | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| San Joaquin Valley, CA | PM2.5 (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| San Luis Obispo (Eastern San Luis Obispo), CA | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| San Manuel, AZ | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| San Miguel County; Telluride, CO | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Sanders County (part); Thompson Falls and vicinity, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Santa Cruz County; Nogales planning area, AZ | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Seaford, DE | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Seattle-Tacoma Area, WA | CO (1971 8-hour) | Maintenance, Moderate > 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Seattle-Tacoma, WA | PM2.5 (2006 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Sheboygan County, WI | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |

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1,3-Butadiene 2018

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|---|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Sheridan County; City of Sheridan, WY | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Shoshone County (part); excluding Pinehurst, ID | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Shoshone County; City of Pinehurst, ID | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Silver Bow County; Butte, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Somerville Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Southwest Indiana, IN | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Spokane Area, WA | CO (1971 8-hour) | Maintenance, Serious | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Spokane County; (part), WA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Springfield Area, MA | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| St. Bernard Parish, LA | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| St. Louis Area, MO | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| St. Louis-St. Charles-Farmington, MO-IL | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Steubenville, OH-WV | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Steubenville-Weirton, OH-WV | PM2.5 (2006 24-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Stockton Area, CA | CO (1971 8-hour) | Maintenance, Moderate ≤ 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Sullivan County, TN | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Syracuse Area; Onondaga County, NY | CO (1971 8-hour) | Maintenance, Moderate ≤ 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Tazewell County; Groveland Twp, IL | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Terre Haute, IN | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |

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1,3-Butadiene 2018

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|---|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Thurston County; Cities of Olympia, Tumwater, and Lacey, WA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Toms River Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Tooele County (part), UT | SO ₂ (1971 24-hour/Annual) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Trenton Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Trona, CA | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Tucson Area, AZ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Tuscan Buttes, CA | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Union County; LaGrande, OR | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Upper Green River Basin Area, WY | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Utah County, UT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Vancouver Area: Clark County (part), WA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Ventura County, CA | Ozone (2008 8-hour) | Nonattainment, Serious | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Vermillion County; Part of Clinton Township, IN | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Vigo County, IN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Walla Walla County; Wallula, WA | PM10 (1987 24-hour) | Maintenance, Serious | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Waltham Area, MA | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Warren County: Conewago Twp, PA | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Warren County: Warren Boro, Pleasant Twp, Glade Twp, PA | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Warren, PA | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Washington Area, DC-MD-VA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Washington, DC-MD-VA | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Washoe County; Reno planning area, NV | PM10 (1987 24-hour) | Nonattainment, Serious | 70 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |

Appendix A Air Quality Non-Attainment Area Results

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1,3-Butadiene 2018

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|---|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Wayne County: Boston, Center, Franklin, Wayne & Webster Townships, IN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Wayne County; (part), MI | PM ₁₀ (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| West Central Pinal County, AZ | PM _{2.5} (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| West Silver Valley, ID | PM _{2.5} (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Winston-Salem Area, NC | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Worcester Area, MA | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Yakima Area, WA | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Yakima County; (part), WA | PM ₁₀ (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Yuba City-Marysville, CA | PM _{2.5} (2006 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Yuma County; Yuma planning area, AZ | PM ₁₀ (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |

^a Reductions are shown as positive values. Negative values are emissions increases. Values of less than 0.005 tons per year are rounded to zero.

^b Nonattainment or maintenance status as of 5/13/2016. Source: U.S. EPA, The Green Book Nonattainment Areas for Criteria Pollutants; <http://www.epa.gov/airquality/greenbook/>. "--" indicates that no severity classification has been established for the NAAQS pollutant.

^c Emissions thresholds in tons per year. Where the threshold differs by precursor pollutant, the smallest of the precursor thresholds is shown. These thresholds are provided for information only; a general conformity determination is not required for the Proposed Action. Source: 40 CFR 93.853.

Notes: CO = carbon monoxide; NAAQS = National Ambient Air Quality Standards; NO₂ = nitrogen dioxide; PM = particulate matter; SO₂ = sulfur dioxide

Table A1-34
Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Direct and Indirect Impacts
1,3-Butadiene 2025

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Ada County; Boise, ID | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Adams, Denver, and Boulder Counties; Denver Metropolitan area, CO | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | -0.01 | -0.02 |
| Ajo, AZ | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Albuquerque Area, NM | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | -0.01 | -0.01 |
| Allegheny County Air Basin: Hazelwood monitor, PA | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Allegheny County, PA | PM2.5 (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | -0.01 | -0.01 |
| Allegheny County; The area including Liberty, Lincoln, Port Vue, and Glassport Boroughs and the City of Clairton, PA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Allegheny, PA | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Allentown, PA | PM2.5 (2006 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | -0.01 |
| Allentown-Bethlehem-Easton, PA | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Anchorage Area, AK | CO (1971 8-hour) | Maintenance, Serious | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Anchorage; Eagle River, AK | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| AQCR 012: Portions of Grant County, NM | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| AQCR 109-Millinocket, ME | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| AQCR 131: Anoka, Carver, Dakota, Hennepin, Ramsey, Scott, and Washington counties (Minneapolis-St. Paul), MN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| AQCR 237: Brown County: Green Bay sub-city area, WI | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| AQCR 238: Marathon County: Rothschild Sub-city area, Rib Mountain, Weston, WI | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| AQCR 238: Oneida County: Rhinelander Sub-city area, WI | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| AQCR 239: Milwaukee County: Milwaukee sub-city area, WI | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |

Appendix A Air Quality Non-Attainment Area Results

Table A1-34

Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Direct and Indirect Impacts

1,3-Butadiene 2025

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| AQCR 240: Dane County: Madison sub-city area, WI | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Archuleta County; Pagosa Springs, CO | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Armstrong County: Madison Twp, Mahoning Twp, Boggs Twp, Washington Twp, Pine Twp, PA | SO ₂ (1971 24-hour/Annual) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Aroostock County; City of Presque Isle, ME | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Atlanta, GA | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Atlantic City Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Bakersfield Area, CA | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | -0.01 |
| Baltimore Area, MD | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Baltimore, MD | Ozone (2008 8-hour) | Nonattainment, Moderate | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Baton Rouge, LA | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Beaver, PA | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Benton County; (part) TVA Johnsonville, TN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Billings Area, MT | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.01 | 0.02 | 0.02 | 0.03 |
| Billings, MT | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.01 | 0.02 | 0.02 | 0.03 |
| Birmingham, AL | PM2.5 (2006 24-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | -0.01 | -0.01 |
| Boise-Northern Ada County Area, ID | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Bonner County; The Sandpoint Area, ID | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Boston Area, MA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | -0.01 | -0.01 |
| Boyd County (part), KY | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Brooke; Follansbee area, WV | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Burlington Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Calaveras County, CA | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Campbell-Clermont Counties, KY-OH | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |

Table A1-34
Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Direct and Indirect Impacts
1,3-Butadiene 2025

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|---|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Canton-Massillon, OH | PM2.5 (2006 24-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Central New Hampshire, NH | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Central Steptoe Valley, NV | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Charleston, WV | PM2.5 (2006 24-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Charlotte Area, NC | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | -0.01 | -0.01 |
| Charlotte-Rock Hill, NC-SC | Ozone (2008 8-hour) | Maintenance, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Chicago-Naperville, IL-IN-WI | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Chico (Butte County), CA | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Chico Area, CA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Chico, CA | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Cincinnati, OH-KY-IN | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Clark County; Las Vegas planning area, NV | PM10 (1987 24-hour) | Maintenance, Serious | 100 | 0 | 0.00 | -0.01 | -0.01 | -0.02 |
| Cleveland Area, OH | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | -0.01 | -0.01 |
| Cleveland, OH | PM2.5 (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | -0.01 | -0.01 |
| Cleveland-Akron-Lorain, OH | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Cleveland-Akron-Lorain, OH | PM2.5 (2006 24-hour) | Maintenance, -- | 100 | 0 | -0.01 | -0.01 | -0.02 | -0.03 |
| Cochise County; Paul Spur/Douglas planning area, AZ | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Colorado Springs Area, CO | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | -0.01 |
| Columbus, OH | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Cook County; Lyons Township, IL | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Cook County; Southeast Chicago, IL | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Coshocton County; Franklin Township, OH | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Coso Junction, CA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Cuyahoga County (part), OH | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Cuyahoga County, OH | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | -0.01 | -0.01 |

Appendix A Air Quality Non-Attainment Area Results

Table A1-34

**Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Direct and Indirect Impacts
1,3-Butadiene 2025**

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Dallas-Fort Worth, TX | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Delaware County, PA | PM2.5 (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Denver-Boulder Area, CO | CO (1971 8-hour) | Maintenance, Serious | 100 | 0 | -0.01 | -0.01 | -0.02 | -0.03 |
| Denver-Boulder-Greeley-Ft Collins-Loveland, CO | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Detroit Area, MI | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.01 | 0.01 | 0.01 |
| Detroit, MI | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.01 | 0.02 | 0.02 | 0.03 |
| Detroit-Ann Arbor, MI | PM2.5 (2006 24-hour) | Maintenance, -- | 100 | 0 | -0.01 | 0.00 | -0.02 | -0.03 |
| Dona Ana County; Anthony, NM | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Douglas, AZ | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Dukes County, MA | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Duluth Area, MN | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| East Chicago Area, IN | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.01 | 0.02 | 0.02 | 0.03 |
| East Helena Area, MT | SO ₂ (1971 24-hour/Annual) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| East Kern County Area, CA | PM10 (1987 24-hour) | Nonattainment, Serious | 70 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| El Paso County, TX | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| El Paso, TX | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Eugene-Springfield Area, OR | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Fairbanks Area, AK | CO (1971 8-hour) | Maintenance, Serious | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Fairbanks, AK | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |

Table A1-34
Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Direct and Indirect Impacts
1,3-Butadiene 2025

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|---|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Flathead County; Columbia Falls and vicinity, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Flathead County; Kalispell and vicinity, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Flathead County; Whitefish and vicinity, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Fort Collins Area, CO | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Freehold Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Fremont County; Canon City Area, CO | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Fresno Area, CA | CO (1971 8-hour) | Maintenance, Moderate > 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | -0.01 |
| Grants Pass Area, OR | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Great Falls Area, MT | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Greater Connecticut, CT | Ozone (2008 8-hour) | Nonattainment, Moderate | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Greeley Area, CO | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Hancock and Brooke Counties (Part); The city of Weirton, WV | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Hancock County (Part) The city of Weirton, including Butler and Clay: Magisterial Districts, WV | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Harrisburg-Lebanon-Carlisle-York, PA | PM2.5 (2006 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | -0.01 | -0.01 |
| Hartford-New Britain-Middletown Area, CT | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | -0.01 | -0.01 |
| Hayden, AZ | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Hayden, AZ | SO ₂ (1971 24-hour/Annual) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Hayden, AZ | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Hillsborough County, FL | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Houston-Galveston-Brazoria, TX | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Humphreys County; (part) TVA Johnsonville, TN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Imperial Co, CA | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |

Appendix A Air Quality Non-Attainment Area Results

Table A1-34

Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Direct and Indirect Impacts

1,3-Butadiene 2025

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Imperial County, CA | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Imperial County, CA | PM2.5 (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Imperial County; Imperial Valley planning area, CA | PM10 (1987 24-hour) | Nonattainment, Serious | 70 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Indian Wells, CA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Indiana, PA | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Indianapolis Area, IN | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Indianapolis, IN | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | -0.01 |
| Inyo County; Owens Valley planning area, CA | PM10 (1987 24-hour) | Nonattainment, Serious | 70 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Jackson County, MO | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Jackson County; Medford-Ashland (including White City), OR | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Jamestown, NY | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Jefferson County, KY | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Jefferson County, MO | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Jefferson County; (part) Steubenville & Mingo Junction, OH | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Jefferson County; (part), OH | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Johnstown, PA | PM2.5 (2006 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Josephine County; Grants Pass, OR | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Juneau; Mendenhall Valley area, AK | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Kern County (Eastern Kern), CA | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| King County; Kent, WA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| King County; Seattle, WA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Klamath County; Klamath Falls, OR | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Klamath Falls Area, OR | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Klamath Falls, OR | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |

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| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Knoxville, TN | Ozone (2008 8-hour) | Maintenance, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Knoxville-Sevierville-La Follette, TN | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | -0.01 | -0.01 |
| La Porte County: (part), IN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lake County (part); Lakeview, OR | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lake County, OH | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lake County: (part), IN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lake County; (part) Eastlake, Timberlake, Lakeline, Willoughby, Mentor, OH | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lake County; Cities of East Chicago, Hammond, Whiting, and Gary, IN | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.01 | 0.02 | 0.02 | 0.03 |
| Lake County; Polson, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lake County; Ronan, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lake Tahoe Nevada Area, NV | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lake Tahoe North Shore Area, CA | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lake Tahoe South Shore Area, CA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lancaster, PA | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lancaster, PA | PM2.5 (2006 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | -0.01 |
| Lane County (part); Oakridge, OR | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lane County; Eugene/Springfield, OR | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Las Vegas Area, NV | CO (1971 8-hour) | Maintenance, Serious | 100 | 0 | 0.00 | -0.01 | -0.01 | -0.02 |
| LaSalle County; Oglesby, IL | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Laurel Area, MT | SO ₂ (1971 24-hour/Annual) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lebanon County, PA | PM2.5 (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lemont, IL | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Liberty-Clairton, PA | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |

Appendix A Air Quality Non-Attainment Area Results

Table A1-34

Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Direct and Indirect Impacts

1,3-Butadiene 2025

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Lincoln County; Libby and vicinity, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Logan, UT-ID | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Longmont Area, CO | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lorain County (part), OH | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Los Angeles, CA | PM2.5 (2006 24-hour) | Nonattainment, Serious | 100 | 0 | -0.04 | -0.04 | -0.12 | -0.16 |
| Los Angeles-San Bernardino Counties (West Mojave Desert), CA | Ozone (2008 8-hour) | Nonattainment, Severe 15 | 25 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Los Angeles-South Coast Air Basin Area, CA | CO (1971 8-hour) | Maintenance, Serious | 100 | 0 | -0.04 | -0.04 | -0.12 | -0.16 |
| Los Angeles-South Coast Air Basin Area, CA | NO ₂ (1971 Annual) | Maintenance, -- | 100 | 0 | -0.04 | -0.04 | -0.12 | -0.16 |
| Los Angeles-South Coast Air Basin, CA | Ozone (2008 8-hour) | Nonattainment, Extreme | 10 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Los Angeles-South Coast Air Basin, CA | PM2.5 (2012 Annual) | Nonattainment, Moderate | 100 | 0 | -0.04 | -0.04 | -0.12 | -0.16 |
| Lowell Area, MA | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lucas County (part), OH | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Madison County; Granite City Township and Nameoki Township, IL | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Manchester Area, NH | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Maricopa and Pinal Counties; Phoenix planning area, AZ | PM10 (1987 24-hour) | Nonattainment, Serious | 70 | 0 | -0.01 | -0.01 | -0.03 | -0.04 |
| Marion County; Lawrence, Washington, and Warrant Townships, IN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Mariposa County, CA | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Marshall, WV | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Medford Area, OR | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Memphis Area, TN | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | -0.01 | -0.01 |

Table A1-34

Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Direct and Indirect Impacts

1,3-Butadiene 2025

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|---|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Memphis, TN-MS-AR | Ozone (2008 8-hour) | Nonattainment TN & Maintenance MS/AR, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Miami, AZ | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Miami, AZ | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Miami, AZ | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Milwaukee-Racine, WI | PM2.5 (2006 24-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | -0.01 | -0.01 |
| Minneapolis-St. Paul Area, MN | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | -0.01 | -0.01 | -0.03 | -0.03 |
| Missoula Area, MT | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Missoula county; Missoula and vicinity, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Modesto Area, CA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Mohave County (part); Bullhead City, AZ | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Mono County; Mammoth Lake planning area, CA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Mono County; Mono Basin, CA | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Morenci, AZ | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Morgan County, IN | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Morongo Band of Mission Indians | Ozone (2008 8-hour) | Nonattainment, Serious | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Morristown Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Muscatine County; (part), IA | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Muscatine, IA | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Muskingum River, OH | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Nashua Area, NH | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Nassau County, FL | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Nevada County (Western part), CA | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| New Haven County, CT | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |

Appendix A Air Quality Non-Attainment Area Results

Table A1-34

Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Direct and Indirect Impacts

1,3-Butadiene 2025

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| New Haven-Meriden-Waterbury Area, CT | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | -0.01 | -0.01 |
| New Manchester-Grant magisterial district in Hancock County, WV | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| New York County, NY | PM ₁₀ (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | -0.01 |
| New York, NY-NJ-CT | PM _{2.5} (2006 24-hour) | Maintenance, -- | 100 | 0 | -0.05 | -0.05 | -0.14 | -0.18 |
| New York-N. New Jersey-Long Island Area, NY-NJ-CT | CO (1971 8-hour) | Maintenance, Moderate > 12.7ppm | 100 | 0 | -0.03 | -0.03 | -0.08 | -0.10 |
| New York-N. New Jersey-Long Island, NY-NJ-CT | Ozone (2008 8-hour) | Nonattainment, Moderate | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| NJ portion of the Northeast Pennsylvania-Upper Delaware Valley Interstate AQCR: (part), NJ | SO ₂ (1971 24-hour/Annual) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Nogales, AZ | PM _{2.5} (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Oakridge, OR | PM _{2.5} (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Ogden Area, UT | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Ogden Area, UT | PM ₁₀ (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Olmsted County; (part), MN | PM ₁₀ (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Olmsted; City of Rochester, MN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |

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Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Direct and Indirect Impacts
1,3-Butadiene 2025

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Pechanga Band of Luiseno Mission Indians of the Pechanga Reservation | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Pekin, IL | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Penns Grove Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Peoria County: Hollis Twp, IL | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Peoria County: Peoria, IL | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Perth Amboy Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Philadelphia-Camden County Area, PA-NJ | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | -0.01 | -0.01 |
| Philadelphia-Wilmington, PA-NJ-DE | PM _{2.5} (2006 24-hour) | Maintenance, Moderate for PA and DE Subject to Former Subpart 1 for NJ | 100 | 0 | -0.01 | -0.01 | -0.03 | -0.04 |
| Philadelphia-Wilmington-Atlantic City, PA-NJ-MD-DE | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Phoenix Area, AZ | CO (1971 8-hour) | Maintenance, Serious | 100 | 0 | -0.01 | -0.01 | -0.03 | -0.04 |
| Phoenix-Mesa, AZ | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Pierce County; Tacoma, WA | PM ₁₀ (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Pima County; Ajo planning area, AZ | PM ₁₀ (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Pima County; Rillito planning area, AZ | PM ₁₀ (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Pinal and Gila Counties; Payson, AZ | PM ₁₀ (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Pinal County (part); West Pinal, AZ | PM ₁₀ (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Pitkin County; Aspen, CO | PM ₁₀ (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Pittsburgh Area, PA | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Pittsburgh-Beaver Valley, PA | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Pittsburgh-Beaver Valley, PA | PM _{2.5} (2006 24-hour) | Maintenance, Moderate | 100 | 0 | -0.01 | -0.01 | -0.02 | -0.02 |
| Plumas County, CA | PM _{2.5} (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Polk County, TN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |

Appendix A Air Quality Non-Attainment Area Results

Table A1-34

Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Direct and Indirect Impacts

1,3-Butadiene 2025

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|-------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Portland Area: Portland Metro Service District Boundary, OR | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | -0.01 | -0.01 |
| Power-Bannock Counties; Fort Hall Indian Reservation, ID | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Power-Bannock Counties; Portneuf Valley Area, ID | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Provo Area, UT | CO (1971 8-hour) | Maintenance, Moderate > 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Provo, UT | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Prowers County; Lamar, CO | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Raleigh-Durham Area, NC | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | -0.01 | -0.02 |
| Ramsey County; (part), MN | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Reading, PA | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Reno Area, NV | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Rhinelander, WI | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Riverside County (Coachella Valley), CA | Ozone (2008 8-hour) | Nonattainment, Severe 15 | 25 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Riverside County; Coachella Valley planning area, CA | PM10 (1987 24-hour) | Nonattainment, Serious | 70 | 0 | 0.00 | 0.00 | 0.00 | -0.01 |
| Riverside, Los Angeles, Orange, and San Bernardino Counties; South Coast Air Basin, CA | PM10 (1987 24-hour) | Maintenance, Serious | 100 | 0 | -0.04 | -0.04 | -0.12 | -0.16 |
| Rosebud County; Lame Deer, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Routt County (part); Steamboat Springs, CO | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Sacramento Area, CA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | -0.01 | -0.02 |
| Sacramento County, CA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | -0.01 | -0.01 |
| Sacramento Metro, CA | Ozone (2008 8-hour) | Nonattainment, Severe 15 | 25 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Sacramento, CA | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | -0.01 | -0.01 | -0.02 | -0.03 |
| Salem Area, OR | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Salt Lake City Area, UT | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Salt Lake City, UT | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | -0.01 | -0.02 |

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|---|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Salt Lake County, UT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | -0.01 | -0.01 |
| Salt Lake County, UT | SO ₂ (1971 24-hour/Annual) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| San Bernardino County (part); excluding Searles Valley Planning area and South Coast Air Basin, CA | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | -0.01 | -0.01 |
| San Diego Area, CA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | -0.01 | -0.01 | -0.03 | -0.04 |
| San Diego County, CA | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| San Francisco Bay Area, CA | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| San Francisco Bay Area, CA | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | -0.02 | -0.02 | -0.06 | -0.07 |
| San Francisco-Oakland-San Jose Area, CA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | -0.02 | -0.02 | -0.05 | -0.07 |
| San Joaquin Valley Air Basin; Fresno, Kern, Kings, Madera, Merced, San Joaquin, Stanislaus, Tulare Counties, CA | PM10 (1987 24-hour) | Maintenance, Serious | 100 | 0 | -0.01 | -0.01 | -0.04 | -0.05 |
| San Joaquin Valley, CA | Ozone (2008 8-hour) | Nonattainment, Extreme | 10 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| San Joaquin Valley, CA | PM2.5 (2006 24-hour) | Nonattainment, Serious | 100 | 0 | -0.01 | -0.01 | -0.04 | -0.05 |
| San Joaquin Valley, CA | PM2.5 (2012 Annual) | Nonattainment, Moderate | 100 | 0 | -0.01 | -0.01 | -0.04 | -0.05 |
| San Luis Obispo (Eastern San Luis Obispo), CA | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| San Manuel, AZ | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| San Miguel County; Telluride, CO | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Sanders County (part); Thompson Falls and vicinity, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Santa Cruz County; Nogales planning area, AZ | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Seaford, DE | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Seattle-Tacoma Area, WA | CO (1971 8-hour) | Maintenance, Moderate > 12.7ppm | 100 | 0 | -0.01 | -0.01 | -0.02 | -0.03 |
| Seattle-Tacoma, WA | PM2.5 (2006 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | -0.01 |
| Sheboygan County, WI | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |

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| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|---|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Sheridan County; City of Sheridan, WY | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Shoshone County (part); excluding Pinehurst, ID | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Shoshone County; City of Pinehurst, ID | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Silver Bow County; Butte, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Somerville Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Southwest Indiana, IN | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Spokane Area, WA | CO (1971 8-hour) | Maintenance, Serious | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Spokane County; (part), WA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Springfield Area, MA | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| St. Bernard Parish, LA | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| St. Louis Area, MO | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | -0.01 | -0.01 |
| St. Louis-St. Charles-Farmington, MO-IL | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Steubenville, OH-WV | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Steubenville-Weirton, OH-WV | PM2.5 (2006 24-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Stockton Area, CA | CO (1971 8-hour) | Maintenance, Moderate ≤ 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Sullivan County, TN | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Syracuse Area; Onondaga County, NY | CO (1971 8-hour) | Maintenance, Moderate ≤ 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | -0.01 |
| Tazewell County; Groveland Twp, IL | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Terre Haute, IN | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |

Table A1-34
Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Direct and Indirect Impacts
1,3-Butadiene 2025

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|---|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Thurston County; Cities of Olympia, Tumwater, and Lacey, WA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Toms River Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Tooele County (part), UT | SO ₂ (1971 24-hour/Annual) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Trenton Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Trona, CA | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Tucson Area, AZ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | -0.01 | -0.01 |
| Tuscan Buttes, CA | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Union County; LaGrande, OR | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Upper Green River Basin Area, WY | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Utah County, UT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Vancouver Area: Clark County (part), WA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Ventura County, CA | Ozone (2008 8-hour) | Nonattainment, Serious | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Vermillion County; Part of Clinton Township, IN | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Vigo County, IN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Walla Walla County; Wallula, WA | PM10 (1987 24-hour) | Maintenance, Serious | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Waltham Area, MA | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Warren County: Conewago Twp, PA | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Warren County: Warren Boro, Pleasant Twp, Glade Twp, PA | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Warren, PA | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Washington Area, DC-MD-VA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | -0.01 | -0.01 |
| Washington, DC-MD-VA | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Washoe County; Reno planning area, NV | PM10 (1987 24-hour) | Nonattainment, Serious | 70 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |

Appendix A Air Quality Non-Attainment Area Results

Table A1-34

**Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Direct and Indirect Impacts
1,3-Butadiene 2025**

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|---|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Wayne County: Boston, Center, Franklin, Wayne & Webster Townships, IN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Wayne County; (part), MI | PM ₁₀ (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.01 | 0.02 | 0.02 | 0.03 |
| West Central Pinal County, AZ | PM _{2.5} (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| West Silver Valley, ID | PM _{2.5} (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Winston-Salem Area, NC | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Worcester Area, MA | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Yakima Area, WA | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Yakima County; (part), WA | PM ₁₀ (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Yuba City-Marysville, CA | PM _{2.5} (2006 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Yuma County; Yuma planning area, AZ | PM ₁₀ (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |

^a Reductions are shown as positive values. Negative values are emissions increases. Values of less than 0.005 tons per year are rounded to zero.

^b Nonattainment or maintenance status as of 5/13/2016. Source: U.S. EPA, The Green Book Nonattainment Areas for Criteria Pollutants; <http://www.epa.gov/airquality/greenbook/>. "--" indicates that no severity classification has been established for the NAAQS pollutant.

^c Emissions thresholds in tons per year. Where the threshold differs by precursor pollutant, the smallest of the precursor thresholds is shown. These thresholds are provided for information only; a general conformity determination is not required for the Proposed Action. Source: 40 CFR 93.853.

Notes: CO = carbon monoxide; NAAQS = National Ambient Air Quality Standards; NO₂ = nitrogen dioxide; PM = particulate matter; SO₂ = sulfur dioxide

Table A1-35
Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Direct and Indirect Impacts
1,3-Butadiene 2040

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Ada County; Boise, ID | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | -0.01 | -0.01 |
| Adams, Denver, and Boulder Counties; Denver Metropolitan area, CO | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | -0.01 | -0.02 | -0.04 | -0.04 |
| Ajo, AZ | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Albuquerque Area, NM | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | -0.01 | -0.01 | -0.02 | -0.02 |
| Allegheny County Air Basin: Hazelwood monitor, PA | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Allegheny County, PA | PM2.5 (2012 Annual) | Nonattainment, Moderate | 100 | 0 | -0.01 | -0.01 | -0.02 | -0.02 |
| Allegheny County; The area including Liberty, Lincoln, Port Vue, and Glassport Boroughs and the City of Clairton, PA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Allegheny, PA | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Allentown, PA | PM2.5 (2006 24-hour) | Maintenance, Moderate | 100 | 0 | -0.01 | -0.01 | -0.01 | -0.02 |
| Allentown-Bethlehem-Easton, PA | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Anchorage Area, AK | CO (1971 8-hour) | Maintenance, Serious | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Anchorage; Eagle River, AK | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| AQCR 012: Portions of Grant County, NM | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| AQCR 109-Millinocket, ME | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| AQCR 131: Anoka, Carver, Dakota, Hennepin, Ramsey, Scott, and Washington counties (Minneapolis-St. Paul), MN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| AQCR 237: Brown County: Green Bay sub-city area, WI | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| AQCR 238: Marathon County: Rothschild Sub-city area, Rib Mountain, Weston, WI | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| AQCR 238: Oneida County: Rhinelander Sub-city area, WI | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| AQCR 239: Milwaukee County: Milwaukee sub-city area, WI | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |

Appendix A Air Quality Non-Attainment Area Results

Table A1-35

Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Direct and Indirect Impacts

1,3-Butadiene 2040

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| AQCR 240: Dane County: Madison sub-city area, WI | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Archuleta County; Pagosa Springs, CO | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Armstrong County: Madison Twp, Mahoning Twp, Boggs Twp, Washington Twp, Pine Twp, PA | SO ₂ (1971 24-hour/Annual) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Aroostock County; City of Presque Isle, ME | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Atlanta, GA | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Atlantic City Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Bakersfield Area, CA | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | -0.01 | -0.01 |
| Baltimore Area, MD | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Baltimore, MD | Ozone (2008 8-hour) | Nonattainment, Moderate | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Baton Rouge, LA | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Beaver, PA | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Benton County; (part) TVA Johnsonville, TN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Billings Area, MT | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.02 | 0.07 | 0.05 | 0.08 |
| Billings, MT | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.02 | 0.07 | 0.06 | 0.08 |
| Birmingham, AL | PM2.5 (2006 24-hour) | Maintenance, -- | 100 | 0 | -0.01 | -0.01 | -0.03 | -0.03 |
| Boise-Northern Ada County Area, ID | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | -0.01 | -0.01 |
| Bonner County; The Sandpoint Area, ID | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Boston Area, MA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | -0.01 | -0.01 | -0.02 | -0.02 |
| Boyd County (part), KY | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Brooke; Follansbee area, WV | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Burlington Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Calaveras County, CA | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Campbell-Clermont Counties, KY-OH | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |

Table A1-35
Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Direct and Indirect Impacts
1,3-Butadiene 2040

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|---|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Canton-Massillon, OH | PM2.5 (2006 24-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | -0.01 | -0.01 |
| Central New Hampshire, NH | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | -0.01 | -0.01 |
| Central Steptoe Valley, NV | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Charleston, WV | PM2.5 (2006 24-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | -0.01 | -0.01 |
| Charlotte Area, NC | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | -0.01 | -0.01 | -0.03 | -0.03 |
| Charlotte-Rock Hill, NC-SC | Ozone (2008 8-hour) | Maintenance, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Chicago-Naperville, IL-IN-WI | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Chico (Butte County), CA | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Chico Area, CA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Chico, CA | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | -0.01 |
| Cincinnati, OH-KY-IN | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Clark County; Las Vegas planning area, NV | PM10 (1987 24-hour) | Maintenance, Serious | 100 | 0 | -0.01 | -0.02 | -0.04 | -0.04 |
| Cleveland Area, OH | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | -0.01 | -0.01 | -0.02 | -0.03 |
| Cleveland, OH | PM2.5 (2012 Annual) | Nonattainment, Moderate | 100 | 0 | -0.01 | -0.01 | -0.03 | -0.03 |
| Cleveland-Akron-Lorain, OH | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Cleveland-Akron-Lorain, OH | PM2.5 (2006 24-hour) | Maintenance, -- | 100 | 0 | -0.03 | -0.03 | -0.06 | -0.07 |
| Cochise County; Paul Spur/Douglas planning area, AZ | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Colorado Springs Area, CO | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | -0.01 | -0.01 | -0.01 | -0.01 |
| Columbus, OH | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Cook County; Lyons Township, IL | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Cook County; Southeast Chicago, IL | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Coshocton County; Franklin Township, OH | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Coso Junction, CA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Cuyahoga County (part), OH | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Cuyahoga County, OH | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | -0.01 | -0.01 | -0.02 | -0.03 |

Appendix A Air Quality Non-Attainment Area Results

Table A1-35

Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Direct and Indirect Impacts

1,3-Butadiene 2040

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Dallas-Fort Worth, TX | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Delaware County, PA | PM2.5 (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | -0.01 | -0.01 |
| Denver-Boulder Area, CO | CO (1971 8-hour) | Maintenance, Serious | 100 | 0 | -0.02 | -0.03 | -0.06 | -0.07 |
| Denver-Boulder-Greeley-Ft Collins-Loveland, CO | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Detroit Area, MI | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.01 | 0.06 | 0.03 | 0.05 |
| Detroit, MI | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.02 | 0.07 | 0.06 | 0.08 |
| Detroit-Ann Arbor, MI | PM2.5 (2006 24-hour) | Maintenance, -- | 100 | 0 | -0.02 | 0.03 | -0.06 | -0.04 |
| Dona Ana County; Anthony, NM | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Douglas, AZ | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Dukes County, MA | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Duluth Area, MN | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| East Chicago Area, IN | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.02 | 0.07 | 0.05 | 0.08 |
| East Helena Area, MT | SO ₂ (1971 24-hour/Annual) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| East Kern County Area, CA | PM10 (1987 24-hour) | Nonattainment, Serious | 70 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| El Paso County, TX | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | -0.01 | -0.01 |
| El Paso, TX | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Eugene-Springfield Area, OR | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | -0.01 | -0.01 |
| Fairbanks Area, AK | CO (1971 8-hour) | Maintenance, Serious | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Fairbanks, AK | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |

Table A1-35
Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Direct and Indirect Impacts
1,3-Butadiene 2040

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|---|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Flathead County; Columbia Falls and vicinity, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Flathead County; Kalispell and vicinity, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Flathead County; Whitefish and vicinity, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Fort Collins Area, CO | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Freehold Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Fremont County; Canon City Area, CO | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Fresno Area, CA | CO (1971 8-hour) | Maintenance, Moderate > 12.7ppm | 100 | 0 | -0.01 | -0.01 | -0.01 | -0.01 |
| Grants Pass Area, OR | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Great Falls Area, MT | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Greater Connecticut, CT | Ozone (2008 8-hour) | Nonattainment, Moderate | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Greeley Area, CO | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | -0.01 | -0.01 |
| Hancock and Brooke Counties (Part); The city of Weirton, WV | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Hancock County (Part) The city of Weirton, including Butler and Clay: Magisterial Districts, WV | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Harrisburg-Lebanon-Carlisle-York, PA | PM2.5 (2006 24-hour) | Maintenance, Moderate | 100 | 0 | -0.01 | -0.01 | -0.03 | -0.03 |
| Hartford-New Britain-Middletown Area, CT | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | -0.01 | -0.01 | -0.03 | -0.03 |
| Hayden, AZ | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Hayden, AZ | SO ₂ (1971 24-hour/Annual) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Hayden, AZ | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Hillsborough County, FL | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Houston-Galveston-Brazoria, TX | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Humphreys County; (part) TVA Johnsonville, TN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Imperial Co, CA | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | -0.01 | -0.01 |

Appendix A Air Quality Non-Attainment Area Results

Table A1-35

Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Direct and Indirect Impacts

1,3-Butadiene 2040

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Imperial County, CA | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Imperial County, CA | PM2.5 (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | -0.01 | -0.01 |
| Imperial County; Imperial Valley planning area, CA | PM10 (1987 24-hour) | Nonattainment, Serious | 70 | 0 | 0.00 | 0.00 | -0.01 | -0.01 |
| Indian Wells, CA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Indiana, PA | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Indianapolis Area, IN | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Indianapolis, IN | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | -0.01 | -0.01 |
| Inyo County; Owens Valley planning area, CA | PM10 (1987 24-hour) | Nonattainment, Serious | 70 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Jackson County, MO | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Jackson County; Medford-Ashland (including White City), OR | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | -0.01 |
| Jamestown, NY | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Jefferson County, KY | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Jefferson County, MO | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Jefferson County; (part) Steubenville & Mingo Junction, OH | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Jefferson County; (part), OH | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Johnstown, PA | PM2.5 (2006 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Josephine County; Grants Pass, OR | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Juneau; Mendenhall Valley area, AK | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Kern County (Eastern Kern), CA | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| King County; Kent, WA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| King County; Seattle, WA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Klamath County; Klamath Falls, OR | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Klamath Falls Area, OR | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Klamath Falls, OR | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |

Table A1-35
Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Direct and Indirect Impacts
1,3-Butadiene 2040

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Knoxville, TN | Ozone (2008 8-hour) | Maintenance, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Knoxville-Sevierville-La Follette, TN | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | -0.01 | -0.01 | -0.02 | -0.03 |
| La Porte County: (part), IN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lake County (part); Lakeview, OR | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lake County, OH | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | -0.01 | -0.01 |
| Lake County: (part), IN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lake County; (part) Eastlake, Timberlake, Lakeline, Willoughby, Mentor, OH | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lake County; Cities of East Chicago, Hammond, Whiting, and Gary, IN | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.02 | 0.07 | 0.05 | 0.08 |
| Lake County; Polson, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lake County; Ronan, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lake Tahoe Nevada Area, NV | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lake Tahoe North Shore Area, CA | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lake Tahoe South Shore Area, CA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lancaster, PA | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lancaster, PA | PM2.5 (2006 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | -0.01 | -0.01 | -0.01 |
| Lane County (part); Oakridge, OR | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lane County; Eugene/Springfield, OR | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | -0.01 | -0.01 |
| Las Vegas Area, NV | CO (1971 8-hour) | Maintenance, Serious | 100 | 0 | -0.01 | -0.02 | -0.04 | -0.04 |
| LaSalle County; Oglesby, IL | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Laurel Area, MT | SO ₂ (1971 24-hour/Annual) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lebanon County, PA | PM2.5 (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lemont, IL | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Liberty-Clairton, PA | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |

Appendix A Air Quality Non-Attainment Area Results

Table A1-35

Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Direct and Indirect Impacts

1,3-Butadiene 2040

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Lincoln County; Libby and vicinity, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Logan, UT-ID | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Longmont Area, CO | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lorain County (part), OH | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Los Angeles, CA | PM2.5 (2006 24-hour) | Nonattainment, Serious | 100 | 0 | -0.13 | -0.12 | -0.33 | -0.37 |
| Los Angeles-San Bernardino Counties (West Mojave Desert), CA | Ozone (2008 8-hour) | Nonattainment, Severe 15 | 25 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Los Angeles-South Coast Air Basin Area, CA | CO (1971 8-hour) | Maintenance, Serious | 100 | 0 | -0.13 | -0.12 | -0.33 | -0.37 |
| Los Angeles-South Coast Air Basin Area, CA | NO ₂ (1971 Annual) | Maintenance, -- | 100 | 0 | -0.13 | -0.12 | -0.33 | -0.37 |
| Los Angeles-South Coast Air Basin, CA | Ozone (2008 8-hour) | Nonattainment, Extreme | 10 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Los Angeles-South Coast Air Basin, CA | PM2.5 (2012 Annual) | Nonattainment, Moderate | 100 | 0 | -0.13 | -0.12 | -0.33 | -0.37 |
| Lowell Area, MA | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lucas County (part), OH | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Madison County; Granite City Township and Nameoki Township, IL | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Manchester Area, NH | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Maricopa and Pinal Counties; Phoenix planning area, AZ | PM10 (1987 24-hour) | Nonattainment, Serious | 70 | 0 | -0.03 | -0.04 | -0.09 | -0.10 |
| Marion County; Lawrence, Washington, and Warrant Townships, IN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Mariposa County, CA | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Marshall, WV | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Medford Area, OR | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Memphis Area, TN | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | -0.01 | -0.01 | -0.02 | -0.02 |

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Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Direct and Indirect Impacts
1,3-Butadiene 2040

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|---|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Memphis, TN-MS-AR | Ozone (2008 8-hour) | Nonattainment TN & Maintenance MS/AR, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Miami, AZ | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Miami, AZ | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Miami, AZ | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Milwaukee-Racine, WI | PM2.5 (2006 24-hour) | Maintenance, -- | 100 | 0 | -0.01 | -0.01 | -0.03 | -0.03 |
| Minneapolis-St. Paul Area, MN | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | -0.03 | -0.03 | -0.07 | -0.08 |
| Missoula Area, MT | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Missoula county; Missoula and vicinity, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Modesto Area, CA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Mohave County (part); Bullhead City, AZ | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Mono County; Mammoth Lake planning area, CA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Mono County; Mono Basin, CA | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Morenci, AZ | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Morgan County, IN | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Morongo Band of Mission Indians | Ozone (2008 8-hour) | Nonattainment, Serious | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Morristown Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Muscatine County; (part), IA | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Muscatine, IA | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Muskingum River, OH | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Nashua Area, NH | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Nassau County, FL | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Nevada County (Western part), CA | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| New Haven County, CT | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |

Appendix A Air Quality Non-Attainment Area Results

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1,3-Butadiene 2040

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| New Haven-Meriden-Waterbury Area, CT | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | -0.01 | -0.01 | -0.02 | -0.02 |
| New Manchester-Grant magisterial district in Hancock County, WV | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| New York County, NY | PM ₁₀ (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | -0.01 | -0.01 | -0.01 | -0.02 |
| New York, NY-NJ-CT | PM _{2.5} (2006 24-hour) | Maintenance, -- | 100 | 0 | -0.15 | -0.16 | -0.38 | -0.43 |
| New York-N. New Jersey-Long Island Area, NY-NJ-CT | CO (1971 8-hour) | Maintenance, Moderate > 12.7ppm | 100 | 0 | -0.08 | -0.09 | -0.21 | -0.24 |
| New York-N. New Jersey-Long Island, NY-NJ-CT | Ozone (2008 8-hour) | Nonattainment, Moderate | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| NJ portion of the Northeast Pennsylvania-Upper Delaware Valley Interstate AQCR: (part), NJ | SO ₂ (1971 24-hour/Annual) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Nogales, AZ | PM _{2.5} (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Oakridge, OR | PM _{2.5} (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Ogden Area, UT | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Ogden Area, UT | PM ₁₀ (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Olmsted County; (part), MN | PM ₁₀ (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Olmsted; City of Rochester, MN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |

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Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Direct and Indirect Impacts
1,3-Butadiene 2040

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Pechanga Band of Luiseno Mission Indians of the Pechanga Reservation | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Pekin, IL | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Penns Grove Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Peoria County: Hollis Twp, IL | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Peoria County: Peoria, IL | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Perth Amboy Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Philadelphia-Camden County Area, PA-NJ | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | -0.01 | 0.00 | -0.02 | -0.02 |
| Philadelphia-Wilmington, PA-NJ-DE | PM _{2.5} (2006 24-hour) | Maintenance, Moderate for PA and DE Subject to Former Subpart 1 for NJ | 100 | 0 | -0.03 | -0.03 | -0.09 | -0.09 |
| Philadelphia-Wilmington-Atlantic City, PA-NJ-MD-DE | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Phoenix Area, AZ | CO (1971 8-hour) | Maintenance, Serious | 100 | 0 | -0.03 | -0.04 | -0.08 | -0.09 |
| Phoenix-Mesa, AZ | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Pierce County; Tacoma, WA | PM ₁₀ (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Pima County; Ajo planning area, AZ | PM ₁₀ (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Pima County; Rillito planning area, AZ | PM ₁₀ (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Pinal and Gila Counties; Payson, AZ | PM ₁₀ (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Pinal County (part); West Pinal, AZ | PM ₁₀ (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | -0.01 | -0.01 |
| Pitkin County; Aspen, CO | PM ₁₀ (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Pittsburgh Area, PA | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Pittsburgh-Beaver Valley, PA | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Pittsburgh-Beaver Valley, PA | PM _{2.5} (2006 24-hour) | Maintenance, Moderate | 100 | 0 | -0.02 | -0.02 | -0.04 | -0.05 |
| Plumas County, CA | PM _{2.5} (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Polk County, TN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |

Appendix A Air Quality Non-Attainment Area Results

Table A1-35

Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Direct and Indirect Impacts

1,3-Butadiene 2040

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|-------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Portland Area: Portland Metro Service District Boundary, OR | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | -0.01 | -0.01 | -0.03 | -0.03 |
| Power-Bannock Counties; Fort Hall Indian Reservation, ID | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Power-Bannock Counties; Portneuf Valley Area, ID | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Provo Area, UT | CO (1971 8-hour) | Maintenance, Moderate > 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Provo, UT | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | -0.01 | -0.01 |
| Prowers County; Lamar, CO | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Raleigh-Durham Area, NC | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | -0.01 | -0.01 | -0.03 | -0.04 |
| Ramsey County; (part), MN | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Reading, PA | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Reno Area, NV | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | -0.01 | -0.01 |
| Rhinelander, WI | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Riverside County (Coachella Valley), CA | Ozone (2008 8-hour) | Nonattainment, Severe 15 | 25 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Riverside County; Coachella Valley planning area, CA | PM10 (1987 24-hour) | Nonattainment, Serious | 70 | 0 | 0.00 | -0.01 | -0.01 | -0.01 |
| Riverside, Los Angeles, Orange, and San Bernardino Counties; South Coast Air Basin, CA | PM10 (1987 24-hour) | Maintenance, Serious | 100 | 0 | -0.13 | -0.12 | -0.33 | -0.37 |
| Rosebud County; Lame Deer, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Routt County (part); Steamboat Springs, CO | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Sacramento Area, CA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | -0.01 | -0.01 | -0.03 | -0.04 |
| Sacramento County, CA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | -0.01 | -0.01 | -0.03 | -0.03 |
| Sacramento Metro, CA | Ozone (2008 8-hour) | Nonattainment, Severe 15 | 25 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Sacramento, CA | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | -0.02 | -0.02 | -0.05 | -0.06 |
| Salem Area, OR | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | -0.01 | -0.01 |
| Salt Lake City Area, UT | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.01 | 0.00 | 0.00 |
| Salt Lake City, UT | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | -0.01 | -0.01 | -0.03 | -0.03 |

Table A1-35
Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Direct and Indirect Impacts
1,3-Butadiene 2040

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|---|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Salt Lake County, UT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | -0.01 | 0.00 | -0.02 | -0.02 |
| Salt Lake County, UT | SO ₂ (1971 24-hour/Annual) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| San Bernardino County (part); excluding Searles Valley Planning area and South Coast Air Basin, CA | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | -0.01 | -0.01 | -0.01 | -0.02 |
| San Diego Area, CA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | -0.03 | -0.03 | -0.08 | -0.09 |
| San Diego County, CA | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| San Francisco Bay Area, CA | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| San Francisco Bay Area, CA | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | -0.06 | -0.06 | -0.15 | -0.17 |
| San Francisco-Oakland-San Jose Area, CA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | -0.05 | -0.06 | -0.14 | -0.16 |
| San Joaquin Valley Air Basin; Fresno, Kern, Kings, Madera, Merced, San Joaquin, Stanislaus, Tulare Counties, CA | PM10 (1987 24-hour) | Maintenance, Serious | 100 | 0 | -0.04 | -0.04 | -0.10 | -0.12 |
| San Joaquin Valley, CA | Ozone (2008 8-hour) | Nonattainment, Extreme | 10 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| San Joaquin Valley, CA | PM2.5 (2006 24-hour) | Nonattainment, Serious | 100 | 0 | -0.04 | -0.04 | -0.10 | -0.12 |
| San Joaquin Valley, CA | PM2.5 (2012 Annual) | Nonattainment, Moderate | 100 | 0 | -0.04 | -0.04 | -0.10 | -0.12 |
| San Luis Obispo (Eastern San Luis Obispo), CA | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| San Manuel, AZ | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| San Miguel County; Telluride, CO | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Sanders County (part); Thompson Falls and vicinity, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Santa Cruz County; Nogales planning area, AZ | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Seaford, DE | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Seattle-Tacoma Area, WA | CO (1971 8-hour) | Maintenance, Moderate > 12.7ppm | 100 | 0 | -0.03 | -0.03 | -0.07 | -0.07 |
| Seattle-Tacoma, WA | PM2.5 (2006 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | -0.01 | -0.01 |
| Sheboygan County, WI | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |

Appendix A Air Quality Non-Attainment Area Results

Table A1-35

Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Direct and Indirect Impacts

1,3-Butadiene 2040

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|---|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Sheridan County; City of Sheridan, WY | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Shoshone County (part); excluding Pinehurst, ID | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Shoshone County; City of Pinehurst, ID | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Silver Bow County; Butte, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Somerville Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Southwest Indiana, IN | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Spokane Area, WA | CO (1971 8-hour) | Maintenance, Serious | 100 | 0 | 0.00 | 0.00 | -0.01 | -0.01 |
| Spokane County; (part), WA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | -0.01 | -0.01 |
| Springfield Area, MA | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| St. Bernard Parish, LA | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| St. Louis Area, MO | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | -0.01 | -0.01 | -0.02 | -0.02 |
| St. Louis-St. Charles-Farmington, MO-IL | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Steubenville, OH-WV | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Steubenville-Weirton, OH-WV | PM2.5 (2006 24-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Stockton Area, CA | CO (1971 8-hour) | Maintenance, Moderate ≤ 12.7ppm | 100 | 0 | 0.00 | 0.00 | -0.01 | -0.01 |
| Sullivan County, TN | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Syracuse Area; Onondaga County, NY | CO (1971 8-hour) | Maintenance, Moderate ≤ 12.7ppm | 100 | 0 | 0.00 | -0.01 | -0.01 | -0.01 |
| Tazewell County; Groveland Twp, IL | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Terre Haute, IN | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |

Table A1-35

Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Direct and Indirect Impacts

1,3-Butadiene 2040

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|---|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Thurston County; Cities of Olympia, Tumwater, and Lacey, WA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Toms River Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Tooele County (part), UT | SO ₂ (1971 24-hour/Annual) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Trenton Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Trona, CA | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Tucson Area, AZ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | -0.01 | -0.01 | -0.02 | -0.02 |
| Tuscan Buttes, CA | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Union County; LaGrande, OR | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Upper Green River Basin Area, WY | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Utah County, UT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | -0.01 | -0.01 |
| Vancouver Area: Clark County (part), WA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | -0.01 | -0.01 |
| Ventura County, CA | Ozone (2008 8-hour) | Nonattainment, Serious | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Vermillion County; Part of Clinton Township, IN | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Vigo County, IN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Walla Walla County; Wallula, WA | PM10 (1987 24-hour) | Maintenance, Serious | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Waltham Area, MA | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Warren County: Conewago Twp, PA | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Warren County: Warren Boro, Pleasant Twp, Glade Twp, PA | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Warren, PA | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Washington Area, DC-MD-VA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | -0.01 | -0.01 | -0.02 | -0.02 |
| Washington, DC-MD-VA | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Washoe County; Reno planning area, NV | PM10 (1987 24-hour) | Nonattainment, Serious | 70 | 0 | 0.00 | 0.00 | -0.01 | -0.01 |

Appendix A Air Quality Non-Attainment Area Results

Table A1-35

Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Direct and Indirect Impacts

1,3-Butadiene 2040

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|---|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Wayne County: Boston, Center, Franklin, Wayne & Webster Townships, IN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Wayne County; (part), MI | PM ₁₀ (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.03 | 0.08 | 0.06 | 0.09 |
| West Central Pinal County, AZ | PM _{2.5} (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| West Silver Valley, ID | PM _{2.5} (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Winston-Salem Area, NC | CO (1971 8-hour) | Maintenance, Moderate ≤ 12.7ppm | 100 | 0 | 0.00 | 0.00 | -0.01 | -0.01 |
| Worcester Area, MA | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | -0.01 | -0.01 |
| Yakima Area, WA | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Yakima County; (part), WA | PM ₁₀ (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Yuba City-Marysville, CA | PM _{2.5} (2006 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | -0.01 |
| Yuma County; Yuma planning area, AZ | PM ₁₀ (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |

^a Reductions are shown as positive values. Negative values are emissions increases. Values of less than 0.005 tons per year are rounded to zero.

^b Nonattainment or maintenance status as of 5/13/2016. Source: U.S. EPA, The Green Book Nonattainment Areas for Criteria Pollutants; <http://www.epa.gov/airquality/greenbook/>. "--" indicates that no severity classification has been established for the NAAQS pollutant.

^c Emissions thresholds in tons per year. Where the threshold differs by precursor pollutant, the smallest of the precursor thresholds is shown. These thresholds are provided for information only; a general conformity determination is not required for the Proposed Action. Source: 40 CFR 93.853.

Notes: CO = carbon monoxide; NAAQS = National Ambient Air Quality Standards; NO₂ = nitrogen dioxide; PM = particulate matter; SO₂ = sulfur dioxide

Table A1-36
Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Direct and Indirect Impacts
1,3-Butadiene 2050

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Ada County; Boise, ID | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | -0.01 | -0.01 |
| Adams, Denver, and Boulder Counties; Denver Metropolitan area, CO | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | -0.01 | -0.02 | -0.04 | -0.05 |
| Ajo, AZ | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Albuquerque Area, NM | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | -0.01 | -0.01 | -0.02 | -0.02 |
| Allegheny County Air Basin: Hazelwood monitor, PA | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Allegheny County, PA | PM2.5 (2012 Annual) | Nonattainment, Moderate | 100 | 0 | -0.01 | -0.01 | -0.02 | -0.03 |
| Allegheny County; The area including Liberty, Lincoln, Port Vue, and Glassport Boroughs and the City of Clairton, PA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Allegheny, PA | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Allentown, PA | PM2.5 (2006 24-hour) | Maintenance, Moderate | 100 | 0 | -0.01 | -0.01 | -0.02 | -0.02 |
| Allentown-Bethlehem-Easton, PA | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Anchorage Area, AK | CO (1971 8-hour) | Maintenance, Serious | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Anchorage; Eagle River, AK | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| AQCR 012: Portions of Grant County, NM | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| AQCR 109-Millinocket, ME | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| AQCR 131: Anoka, Carver, Dakota, Hennepin, Ramsey, Scott, and Washington counties (Minneapolis-St. Paul), MN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| AQCR 237: Brown County: Green Bay sub-city area, WI | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| AQCR 238: Marathon County: Rothschild Sub-city area, Rib Mountain, Weston, WI | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| AQCR 238: Oneida County: Rhinelander Sub-city area, WI | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| AQCR 239: Milwaukee County: Milwaukee sub-city area, WI | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |

Appendix A Air Quality Non-Attainment Area Results

Table A1-36

Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Direct and Indirect Impacts

1,3-Butadiene 2050

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| AQCR 240: Dane County: Madison sub-city area, WI | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Archuleta County; Pagosa Springs, CO | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Armstrong County: Madison Twp, Mahoning Twp, Boggs Twp, Washington Twp, Pine Twp, PA | SO ₂ (1971 24-hour/Annual) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Aroostock County; City of Presque Isle, ME | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Atlanta, GA | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Atlantic City Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Bakersfield Area, CA | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | -0.01 | -0.01 |
| Baltimore Area, MD | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Baltimore, MD | Ozone (2008 8-hour) | Nonattainment, Moderate | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Baton Rouge, LA | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Beaver, PA | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Benton County; (part) TVA Johnsonville, TN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Billings Area, MT | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.03 | 0.08 | 0.06 | 0.09 |
| Billings, MT | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.03 | 0.08 | 0.06 | 0.09 |
| Birmingham, AL | PM2.5 (2006 24-hour) | Maintenance, -- | 100 | 0 | -0.01 | -0.01 | -0.03 | -0.04 |
| Boise-Northern Ada County Area, ID | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | -0.01 | -0.01 |
| Bonner County; The Sandpoint Area, ID | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Boston Area, MA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | -0.01 | -0.01 | -0.02 | -0.02 |
| Boyd County (part), KY | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Brooke; Follansbee area, WV | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Burlington Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Calaveras County, CA | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Campbell-Clermont Counties, KY-OH | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |

Table A1-36
Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Direct and Indirect Impacts
1,3-Butadiene 2050

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|---|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Canton-Massillon, OH | PM2.5 (2006 24-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | -0.01 | -0.01 |
| Central New Hampshire, NH | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | -0.01 | -0.01 |
| Central Steptoe Valley, NV | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Charleston, WV | PM2.5 (2006 24-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | -0.01 | -0.01 |
| Charlotte Area, NC | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | -0.01 | -0.01 | -0.03 | -0.04 |
| Charlotte-Rock Hill, NC-SC | Ozone (2008 8-hour) | Maintenance, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Chicago-Naperville, IL-IN-WI | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Chico (Butte County), CA | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Chico Area, CA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Chico, CA | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | -0.01 | -0.01 |
| Cincinnati, OH-KY-IN | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Clark County; Las Vegas planning area, NV | PM10 (1987 24-hour) | Maintenance, Serious | 100 | 0 | -0.02 | -0.02 | -0.04 | -0.05 |
| Cleveland Area, OH | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | -0.01 | -0.01 | -0.03 | -0.03 |
| Cleveland, OH | PM2.5 (2012 Annual) | Nonattainment, Moderate | 100 | 0 | -0.01 | -0.01 | -0.03 | -0.04 |
| Cleveland-Akron-Lorain, OH | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Cleveland-Akron-Lorain, OH | PM2.5 (2006 24-hour) | Maintenance, -- | 100 | 0 | -0.03 | -0.03 | -0.07 | -0.08 |
| Cochise County; Paul Spur/Douglas planning area, AZ | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Colorado Springs Area, CO | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | -0.01 | -0.01 | -0.01 | -0.02 |
| Columbus, OH | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Cook County; Lyons Township, IL | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Cook County; Southeast Chicago, IL | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Coshocton County; Franklin Township, OH | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Coso Junction, CA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Cuyahoga County (part), OH | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Cuyahoga County, OH | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | -0.01 | -0.01 | -0.03 | -0.03 |

Appendix A Air Quality Non-Attainment Area Results

Table A1-36

Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Direct and Indirect Impacts

1,3-Butadiene 2050

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Dallas-Fort Worth, TX | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Delaware County, PA | PM2.5 (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | -0.01 | -0.01 |
| Denver-Boulder Area, CO | CO (1971 8-hour) | Maintenance, Serious | 100 | 0 | -0.02 | -0.03 | -0.07 | -0.08 |
| Denver-Boulder-Greeley-Ft Collins-Loveland, CO | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Detroit Area, MI | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.02 | 0.08 | 0.04 | 0.07 |
| Detroit, MI | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.03 | 0.09 | 0.06 | 0.10 |
| Detroit-Ann Arbor, MI | PM2.5 (2006 24-hour) | Maintenance, -- | 100 | 0 | -0.02 | 0.04 | -0.06 | -0.04 |
| Dona Ana County; Anthony, NM | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Douglas, AZ | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Dukes County, MA | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Duluth Area, MN | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| East Chicago Area, IN | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.03 | 0.08 | 0.06 | 0.09 |
| East Helena Area, MT | SO ₂ (1971 24-hour/Annual) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| East Kern County Area, CA | PM10 (1987 24-hour) | Nonattainment, Serious | 70 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| El Paso County, TX | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | -0.01 | -0.01 |
| El Paso, TX | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Eugene-Springfield Area, OR | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | -0.01 | -0.01 |
| Fairbanks Area, AK | CO (1971 8-hour) | Maintenance, Serious | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Fairbanks, AK | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |

Table A1-36
Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Direct and Indirect Impacts
1,3-Butadiene 2050

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|---|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Flathead County; Columbia Falls and vicinity, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Flathead County; Kalispell and vicinity, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Flathead County; Whitefish and vicinity, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Fort Collins Area, CO | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Freehold Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Fremont County; Canon City Area, CO | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Fresno Area, CA | CO (1971 8-hour) | Maintenance, Moderate > 12.7ppm | 100 | 0 | -0.01 | -0.01 | -0.01 | -0.02 |
| Grants Pass Area, OR | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Great Falls Area, MT | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Greater Connecticut, CT | Ozone (2008 8-hour) | Nonattainment, Moderate | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Greeley Area, CO | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | -0.01 | -0.01 |
| Hancock and Brooke Counties (Part); The city of Weirton, WV | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Hancock County (Part) The city of Weirton, including Butler and Clay: Magisterial Districts, WV | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Harrisburg-Lebanon-Carlisle-York, PA | PM2.5 (2006 24-hour) | Maintenance, Moderate | 100 | 0 | -0.01 | -0.01 | -0.03 | -0.04 |
| Hartford-New Britain-Middletown Area, CT | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | -0.01 | -0.01 | -0.03 | -0.03 |
| Hayden, AZ | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Hayden, AZ | SO ₂ (1971 24-hour/Annual) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Hayden, AZ | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Hillsborough County, FL | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Houston-Galveston-Brazoria, TX | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Humphreys County; (part) TVA Johnsonville, TN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Imperial Co, CA | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | -0.01 | -0.01 |

Appendix A Air Quality Non-Attainment Area Results

Table A1-36

Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Direct and Indirect Impacts

1,3-Butadiene 2050

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Imperial County, CA | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Imperial County, CA | PM2.5 (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | -0.01 | -0.01 |
| Imperial County; Imperial Valley planning area, CA | PM10 (1987 24-hour) | Nonattainment, Serious | 70 | 0 | 0.00 | 0.00 | -0.01 | -0.01 |
| Indian Wells, CA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Indiana, PA | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Indianapolis Area, IN | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Indianapolis, IN | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | -0.01 | -0.01 |
| Inyo County; Owens Valley planning area, CA | PM10 (1987 24-hour) | Nonattainment, Serious | 70 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Jackson County, MO | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Jackson County; Medford-Ashland (including White City), OR | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | -0.01 | -0.01 |
| Jamestown, NY | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Jefferson County, KY | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Jefferson County, MO | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Jefferson County; (part) Steubenville & Mingo Junction, OH | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Jefferson County; (part), OH | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Johnstown, PA | PM2.5 (2006 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Josephine County; Grants Pass, OR | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Juneau; Mendenhall Valley area, AK | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Kern County (Eastern Kern), CA | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| King County; Kent, WA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| King County; Seattle, WA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Klamath County; Klamath Falls, OR | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Klamath Falls Area, OR | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Klamath Falls, OR | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |

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Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Direct and Indirect Impacts
1,3-Butadiene 2050

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Knoxville, TN | Ozone (2008 8-hour) | Maintenance, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Knoxville-Sevierville-La Follette, TN | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | -0.01 | -0.01 | -0.03 | -0.03 |
| La Porte County: (part), IN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lake County (part); Lakeview, OR | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lake County, OH | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | -0.01 | -0.01 |
| Lake County: (part), IN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lake County; (part) Eastlake, Timberlake, Lakeline, Willoughby, Mentor, OH | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lake County; Cities of East Chicago, Hammond, Whiting, and Gary, IN | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.03 | 0.08 | 0.06 | 0.09 |
| Lake County; Polson, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lake County; Ronan, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lake Tahoe Nevada Area, NV | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lake Tahoe North Shore Area, CA | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lake Tahoe South Shore Area, CA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lancaster, PA | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lancaster, PA | PM2.5 (2006 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | -0.01 | -0.01 | -0.02 |
| Lane County (part); Oakridge, OR | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lane County; Eugene/Springfield, OR | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | -0.01 | -0.01 |
| Las Vegas Area, NV | CO (1971 8-hour) | Maintenance, Serious | 100 | 0 | -0.02 | -0.02 | -0.04 | -0.05 |
| LaSalle County; Oglesby, IL | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Laurel Area, MT | SO ₂ (1971 24-hour/Annual) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lebanon County, PA | PM2.5 (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | -0.01 |
| Lemont, IL | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Liberty-Clairton, PA | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |

Appendix A Air Quality Non-Attainment Area Results

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Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Direct and Indirect Impacts

1,3-Butadiene 2050

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Lincoln County; Libby and vicinity, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Logan, UT-ID | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Longmont Area, CO | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lorain County (part), OH | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Los Angeles, CA | PM2.5 (2006 24-hour) | Nonattainment, Serious | 100 | 0 | -0.13 | -0.12 | -0.38 | -0.41 |
| Los Angeles-San Bernardino Counties (West Mojave Desert), CA | Ozone (2008 8-hour) | Nonattainment, Severe 15 | 25 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Los Angeles-South Coast Air Basin Area, CA | CO (1971 8-hour) | Maintenance, Serious | 100 | 0 | -0.13 | -0.12 | -0.38 | -0.41 |
| Los Angeles-South Coast Air Basin Area, CA | NO ₂ (1971 Annual) | Maintenance, -- | 100 | 0 | -0.13 | -0.12 | -0.38 | -0.41 |
| Los Angeles-South Coast Air Basin, CA | Ozone (2008 8-hour) | Nonattainment, Extreme | 10 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Los Angeles-South Coast Air Basin, CA | PM2.5 (2012 Annual) | Nonattainment, Moderate | 100 | 0 | -0.13 | -0.12 | -0.38 | -0.41 |
| Lowell Area, MA | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lucas County (part), OH | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Madison County; Granite City Township and Nameoki Township, IL | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Manchester Area, NH | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Maricopa and Pinal Counties; Phoenix planning area, AZ | PM10 (1987 24-hour) | Nonattainment, Serious | 70 | 0 | -0.03 | -0.04 | -0.10 | -0.11 |
| Marion County; Lawrence, Washington, and Warrant Townships, IN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Mariposa County, CA | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Marshall, WV | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Medford Area, OR | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Memphis Area, TN | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | -0.01 | -0.01 | -0.02 | -0.03 |

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Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Direct and Indirect Impacts
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| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|---|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Memphis, TN-MS-AR | Ozone (2008 8-hour) | Nonattainment TN & Maintenance MS/AR, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Miami, AZ | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Miami, AZ | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Miami, AZ | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Milwaukee-Racine, WI | PM2.5 (2006 24-hour) | Maintenance, -- | 100 | 0 | -0.01 | -0.01 | -0.03 | -0.04 |
| Minneapolis-St. Paul Area, MN | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | -0.03 | -0.03 | -0.08 | -0.09 |
| Missoula Area, MT | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Missoula county; Missoula and vicinity, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Modesto Area, CA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | -0.01 |
| Mohave County (part); Bullhead City, AZ | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Mono County; Mammoth Lake planning area, CA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Mono County; Mono Basin, CA | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Morenci, AZ | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Morgan County, IN | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Morongo Band of Mission Indians | Ozone (2008 8-hour) | Nonattainment, Serious | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Morristown Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Muscatine County; (part), IA | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Muscatine, IA | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Muskingum River, OH | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Nashua Area, NH | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Nassau County, FL | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Nevada County (Western part), CA | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| New Haven County, CT | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |

Appendix A Air Quality Non-Attainment Area Results

Table A1-36

Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Direct and Indirect Impacts

1,3-Butadiene 2050

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| New Haven-Meriden-Waterbury Area, CT | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | -0.01 | -0.01 | -0.02 | -0.03 |
| New Manchester-Grant magisterial district in Hancock County, WV | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| New York County, NY | PM ₁₀ (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | -0.01 | -0.01 | -0.02 | -0.02 |
| New York, NY-NJ-CT | PM _{2.5} (2006 24-hour) | Maintenance, -- | 100 | 0 | -0.15 | -0.17 | -0.43 | -0.48 |
| New York-N. New Jersey-Long Island Area, NY-NJ-CT | CO (1971 8-hour) | Maintenance, Moderate > 12.7ppm | 100 | 0 | -0.08 | -0.10 | -0.24 | -0.27 |
| New York-N. New Jersey-Long Island, NY-NJ-CT | Ozone (2008 8-hour) | Nonattainment, Moderate | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| NJ portion of the Northeast Pennsylvania-Upper Delaware Valley Interstate AQCR: (part), NJ | SO ₂ (1971 24-hour/Annual) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Nogales, AZ | PM _{2.5} (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Oakridge, OR | PM _{2.5} (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Ogden Area, UT | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Ogden Area, UT | PM ₁₀ (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Olmsted County; (part), MN | PM ₁₀ (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Olmsted; City of Rochester, MN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |

Table A1-36
Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Direct and Indirect Impacts
1,3-Butadiene 2050

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Pechanga Band of Luiseno Mission Indians of the Pechanga Reservation | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Pekin, IL | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Penns Grove Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Peoria County: Hollis Twp, IL | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Peoria County: Peoria, IL | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Perth Amboy Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Philadelphia-Camden County Area, PA-NJ | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | -0.01 | 0.00 | -0.02 | -0.02 |
| Philadelphia-Wilmington, PA-NJ-DE | PM _{2.5} (2006 24-hour) | Maintenance, Moderate for PA and DE Subject to Former Subpart 1 for NJ | 100 | 0 | -0.03 | -0.03 | -0.10 | -0.11 |
| Philadelphia-Wilmington-Atlantic City, PA-NJ-MD-DE | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Phoenix Area, AZ | CO (1971 8-hour) | Maintenance, Serious | 100 | 0 | -0.03 | -0.04 | -0.09 | -0.11 |
| Phoenix-Mesa, AZ | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Pierce County; Tacoma, WA | PM ₁₀ (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Pima County; Ajo planning area, AZ | PM ₁₀ (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Pima County; Rillito planning area, AZ | PM ₁₀ (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Pinal and Gila Counties; Payson, AZ | PM ₁₀ (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Pinal County (part); West Pinal, AZ | PM ₁₀ (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | -0.01 | -0.01 |
| Pitkin County; Aspen, CO | PM ₁₀ (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Pittsburgh Area, PA | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | -0.01 |
| Pittsburgh-Beaver Valley, PA | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Pittsburgh-Beaver Valley, PA | PM _{2.5} (2006 24-hour) | Maintenance, Moderate | 100 | 0 | -0.02 | -0.02 | -0.05 | -0.05 |
| Plumas County, CA | PM _{2.5} (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Polk County, TN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |

Appendix A Air Quality Non-Attainment Area Results

Table A1-36

Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Direct and Indirect Impacts

1,3-Butadiene 2050

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|-------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Portland Area: Portland Metro Service District Boundary, OR | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | -0.01 | -0.01 | -0.03 | -0.04 |
| Power-Bannock Counties; Fort Hall Indian Reservation, ID | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Power-Bannock Counties; Portneuf Valley Area, ID | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Provo Area, UT | CO (1971 8-hour) | Maintenance, Moderate > 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Provo, UT | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | -0.01 | -0.01 |
| Prowers County; Lamar, CO | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Raleigh-Durham Area, NC | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | -0.01 | -0.01 | -0.04 | -0.04 |
| Ramsey County; (part), MN | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Reading, PA | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Reno Area, NV | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | -0.01 | -0.01 |
| Rhinelander, WI | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Riverside County (Coachella Valley), CA | Ozone (2008 8-hour) | Nonattainment, Severe 15 | 25 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Riverside County; Coachella Valley planning area, CA | PM10 (1987 24-hour) | Nonattainment, Serious | 70 | 0 | 0.00 | -0.01 | -0.01 | -0.02 |
| Riverside, Los Angeles, Orange, and San Bernardino Counties; South Coast Air Basin, CA | PM10 (1987 24-hour) | Maintenance, Serious | 100 | 0 | -0.13 | -0.12 | -0.38 | -0.41 |
| Rosebud County; Lame Deer, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Routt County (part); Steamboat Springs, CO | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Sacramento Area, CA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | -0.01 | -0.01 | -0.03 | -0.04 |
| Sacramento County, CA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | -0.01 | -0.01 | -0.03 | -0.04 |
| Sacramento Metro, CA | Ozone (2008 8-hour) | Nonattainment, Severe 15 | 25 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Sacramento, CA | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | -0.02 | -0.02 | -0.06 | -0.07 |
| Salem Area, OR | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | -0.01 | -0.01 |
| Salt Lake City Area, UT | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.01 | 0.00 | 0.01 |
| Salt Lake City, UT | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | -0.01 | -0.01 | -0.04 | -0.04 |

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1,3-Butadiene 2050

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|---|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Salt Lake County, UT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | -0.01 | 0.00 | -0.02 | -0.02 |
| Salt Lake County, UT | SO ₂ (1971 24-hour/Annual) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| San Bernardino County (part); excluding Searles Valley Planning area and South Coast Air Basin, CA | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | -0.01 | -0.01 | -0.02 |
| San Diego Area, CA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | -0.03 | -0.04 | -0.09 | -0.10 |
| San Diego County, CA | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| San Francisco Bay Area, CA | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| San Francisco Bay Area, CA | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | -0.06 | -0.06 | -0.17 | -0.19 |
| San Francisco-Oakland-San Jose Area, CA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | -0.05 | -0.06 | -0.16 | -0.17 |
| San Joaquin Valley Air Basin; Fresno, Kern, Kings, Madera, Merced, San Joaquin, Stanislaus, Tulare Counties, CA | PM10 (1987 24-hour) | Maintenance, Serious | 100 | 0 | -0.04 | -0.05 | -0.12 | -0.13 |
| San Joaquin Valley, CA | Ozone (2008 8-hour) | Nonattainment, Extreme | 10 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| San Joaquin Valley, CA | PM2.5 (2006 24-hour) | Nonattainment, Serious | 100 | 0 | -0.04 | -0.05 | -0.12 | -0.13 |
| San Joaquin Valley, CA | PM2.5 (2012 Annual) | Nonattainment, Moderate | 100 | 0 | -0.04 | -0.05 | -0.12 | -0.13 |
| San Luis Obispo (Eastern San Luis Obispo), CA | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| San Manuel, AZ | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| San Miguel County; Telluride, CO | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Sanders County (part); Thompson Falls and vicinity, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Santa Cruz County; Nogales planning area, AZ | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Seaford, DE | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Seattle-Tacoma Area, WA | CO (1971 8-hour) | Maintenance, Moderate > 12.7ppm | 100 | 0 | -0.03 | -0.03 | -0.07 | -0.08 |
| Seattle-Tacoma, WA | PM2.5 (2006 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | -0.01 | -0.01 |
| Sheboygan County, WI | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |

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| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|---|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Sheridan County; City of Sheridan, WY | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Shoshone County (part); excluding Pinehurst, ID | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Shoshone County; City of Pinehurst, ID | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Silver Bow County; Butte, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Somerville Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Southwest Indiana, IN | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Spokane Area, WA | CO (1971 8-hour) | Maintenance, Serious | 100 | 0 | 0.00 | 0.00 | -0.01 | -0.01 |
| Spokane County; (part), WA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | -0.01 | -0.01 |
| Springfield Area, MA | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | -0.01 |
| St. Bernard Parish, LA | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| St. Louis Area, MO | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | -0.01 | -0.01 | -0.02 | -0.03 |
| St. Louis-St. Charles-Farmington, MO-IL | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Steubenville, OH-WV | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Steubenville-Weirton, OH-WV | PM2.5 (2006 24-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Stockton Area, CA | CO (1971 8-hour) | Maintenance, Moderate ≤ 12.7ppm | 100 | 0 | 0.00 | 0.00 | -0.01 | -0.01 |
| Sullivan County, TN | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Syracuse Area; Onondaga County, NY | CO (1971 8-hour) | Maintenance, Moderate ≤ 12.7ppm | 100 | 0 | -0.01 | -0.01 | -0.01 | -0.02 |
| Tazewell County; Groveland Twp, IL | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Terre Haute, IN | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |

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1,3-Butadiene 2050

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|---|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Thurston County; Cities of Olympia, Tumwater, and Lacey, WA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Toms River Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Tooele County (part), UT | SO ₂ (1971 24-hour/Annual) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Trenton Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Trona, CA | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Tucson Area, AZ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | -0.01 | -0.01 | -0.02 | -0.03 |
| Tuscan Buttes, CA | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Union County; LaGrande, OR | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Upper Green River Basin Area, WY | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Utah County, UT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | -0.01 | -0.01 |
| Vancouver Area: Clark County (part), WA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | -0.01 | -0.01 |
| Ventura County, CA | Ozone (2008 8-hour) | Nonattainment, Serious | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Vermillion County; Part of Clinton Township, IN | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Vigo County, IN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Walla Walla County; Wallula, WA | PM10 (1987 24-hour) | Maintenance, Serious | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Waltham Area, MA | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Warren County: Conewago Twp, PA | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Warren County: Warren Boro, Pleasant Twp, Glade Twp, PA | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Warren, PA | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Washington Area, DC-MD-VA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | -0.01 | -0.01 | -0.02 | -0.02 |
| Washington, DC-MD-VA | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Washoe County; Reno planning area, NV | PM10 (1987 24-hour) | Nonattainment, Serious | 70 | 0 | 0.00 | 0.00 | -0.01 | -0.01 |

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Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Direct and Indirect Impacts

1,3-Butadiene 2050

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|---|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Wayne County: Boston, Center, Franklin, Wayne & Webster Townships, IN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Wayne County; (part), MI | PM ₁₀ (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.03 | 0.09 | 0.07 | 0.11 |
| West Central Pinal County, AZ | PM _{2.5} (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| West Silver Valley, ID | PM _{2.5} (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Winston-Salem Area, NC | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | -0.01 | -0.01 |
| Worcester Area, MA | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | -0.01 | -0.01 |
| Yakima Area, WA | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Yakima County; (part), WA | PM ₁₀ (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Yuba City-Marysville, CA | PM _{2.5} (2006 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | -0.01 | -0.01 |
| Yuma County; Yuma planning area, AZ | PM ₁₀ (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |

^a Reductions are shown as positive values. Negative values are emissions increases. Values of less than 0.005 tons per year are rounded to zero.

^b Nonattainment or maintenance status as of 5/13/2016. Source: U.S. EPA, The Green Book Nonattainment Areas for Criteria Pollutants; <http://www.epa.gov/airquality/greenbook/>. "--" indicates that no severity classification has been established for the NAAQS pollutant.

^c Emissions thresholds in tons per year. Where the threshold differs by precursor pollutant, the smallest of the precursor thresholds is shown. These thresholds are provided for information only; a general conformity determination is not required for the Proposed Action. Source: 40 CFR 93.853.

Notes: CO = carbon monoxide; NAAQS = National Ambient Air Quality Standards; NO₂ = nitrogen dioxide; PM = particulate matter; SO₂ = sulfur dioxide

Table A1-37
Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Direct and Indirect Impacts
Diesel Particulate Matter (DPM) 2018

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Ada County; Boise, ID | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.01 | 0.01 | 0.01 | 0.01 |
| Adams, Denver, and Boulder Counties; Denver Metropolitan area, CO | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.06 | 0.06 | 0.06 | 0.07 |
| Ajo, AZ | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Albuquerque Area, NM | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.02 | 0.02 | 0.02 | 0.02 |
| Allegheny County Air Basin: Hazelwood monitor, PA | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Allegheny County, PA | PM2.5 (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 0.03 | 0.03 | 0.03 | 0.03 |
| Allegheny County; The area including Liberty, Lincoln, Port Vue, and Glassport Boroughs and the City of Clairton, PA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Allegheny, PA | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Allentown, PA | PM2.5 (2006 24-hour) | Maintenance, Moderate | 100 | 0 | 0.02 | 0.02 | 0.02 | 0.02 |
| Allentown-Bethlehem-Easton, PA | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Anchorage Area, AK | CO (1971 8-hour) | Maintenance, Serious | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Anchorage; Eagle River, AK | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| AQCR 012: Portions of Grant County, NM | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| AQCR 109-Millinocket, ME | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| AQCR 131: Anoka, Carver, Dakota, Hennepin, Ramsey, Scott, and Washington counties (Minneapolis-St. Paul), MN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| AQCR 237: Brown County: Green Bay sub-city area, WI | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| AQCR 238: Marathon County: Rothschild Sub-city area, Rib Mountain, Weston, WI | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| AQCR 238: Oneida County: Rhinelander Sub-city area, WI | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| AQCR 239: Milwaukee County: Milwaukee sub-city area, WI | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |

Appendix A Air Quality Non-Attainment Area Results

Table A1-37

**Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Direct and Indirect Impacts
Diesel Particulate Matter (DPM) 2018**

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| AQCR 240: Dane County: Madison sub-city area, WI | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Archuleta County; Pagosa Springs, CO | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Armstrong County: Madison Twp, Mahoning Twp, Boggs Twp, Washington Twp, Pine Twp, PA | SO ₂ (1971 24-hour/Annual) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Aroostock County; City of Presque Isle, ME | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Atlanta, GA | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Atlantic City Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Bakersfield Area, CA | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.04 | 0.06 | 0.06 | 0.08 |
| Baltimore Area, MD | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Baltimore, MD | Ozone (2008 8-hour) | Nonattainment, Moderate | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Baton Rouge, LA | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Beaver, PA | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Benton County; (part) TVA Johnsonville, TN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Billings Area, MT | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.21 | 0.34 | 0.38 | 0.46 |
| Billings, MT | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.21 | 0.34 | 0.38 | 0.46 |
| Birmingham, AL | PM2.5 (2006 24-hour) | Maintenance, -- | 100 | 0 | 0.04 | 0.05 | 0.05 | 0.05 |
| Boise-Northern Ada County Area, ID | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.01 | 0.01 | 0.01 | 0.01 |
| Bonner County; The Sandpoint Area, ID | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Boston Area, MA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.03 | 0.04 | 0.04 | 0.04 |
| Boyd County (part), KY | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Brooke; Follansbee area, WV | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Burlington Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Calaveras County, CA | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Campbell-Clermont Counties, KY-OH | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |

Table A1-37

Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Direct and Indirect Impacts
 Diesel Particulate Matter (DPM) 2018

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|---|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Canton-Massillon, OH | PM2.5 (2006 24-hour) | Maintenance, -- | 100 | 0 | 0.12 | 0.19 | 0.21 | 0.26 |
| Central New Hampshire, NH | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.01 | 0.01 | 0.01 | 0.01 |
| Central Steptoe Valley, NV | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Charleston, WV | PM2.5 (2006 24-hour) | Maintenance, -- | 100 | 0 | 0.01 | 0.01 | 0.01 | 0.01 |
| Charlotte Area, NC | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.04 | 0.04 | 0.04 | 0.05 |
| Charlotte-Rock Hill, NC-SC | Ozone (2008 8-hour) | Maintenance, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Chicago-Naperville, IL-IN-WI | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Chico (Butte County), CA | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Chico Area, CA | CO (1971 8-hour) | Maintenance, Moderate ≤ 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Chico, CA | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.01 | 0.01 | 0.01 | 0.01 |
| Cincinnati, OH-KY-IN | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Clark County; Las Vegas planning area, NV | PM10 (1987 24-hour) | Maintenance, Serious | 100 | 0 | 0.05 | 0.06 | 0.06 | 0.06 |
| Cleveland Area, OH | CO (1971 8-hour) | Maintenance, Moderate ≤ 12.7ppm | 100 | 0 | 0.03 | 0.03 | 0.03 | 0.04 |
| Cleveland, OH | PM2.5 (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 0.04 | 0.04 | 0.04 | 0.05 |
| Cleveland-Akron-Lorain, OH | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Cleveland-Akron-Lorain, OH | PM2.5 (2006 24-hour) | Maintenance, -- | 100 | 0 | 0.09 | 0.09 | 0.09 | 0.10 |
| Cochise County; Paul Spur/Douglas planning area, AZ | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Colorado Springs Area, CO | CO (1971 8-hour) | Maintenance, Moderate ≤ 12.7ppm | 100 | 0 | 0.02 | 0.02 | 0.02 | 0.02 |
| Columbus, OH | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Cook County; Lyons Township, IL | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Cook County; Southeast Chicago, IL | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Coshocton County; Franklin Township, OH | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Coso Junction, CA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Cuyahoga County (part), OH | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Cuyahoga County, OH | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.03 | 0.03 | 0.03 | 0.04 |

Appendix A Air Quality Non-Attainment Area Results

Table A1-37

**Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Direct and Indirect Impacts
Diesel Particulate Matter (DPM) 2018**

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Dallas-Fort Worth, TX | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Delaware County, PA | PM2.5 (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 0.40 | 0.64 | 0.71 | 0.86 |
| Denver-Boulder Area, CO | CO (1971 8-hour) | Maintenance, Serious | 100 | 0 | 0.23 | 0.33 | 0.35 | 0.42 |
| Denver-Boulder-Greeley-Ft Collins-Loveland, CO | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Detroit Area, MI | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.09 | 0.11 | 0.12 | 0.14 |
| Detroit, MI | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.04 | 0.06 | 0.07 | 0.08 |
| Detroit-Ann Arbor, MI | PM2.5 (2006 24-hour) | Maintenance, -- | 100 | 0 | 0.20 | 0.23 | 0.22 | 0.26 |
| Dona Ana County; Anthony, NM | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Douglas, AZ | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Dukes County, MA | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Duluth Area, MN | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| East Chicago Area, IN | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.15 | 0.25 | 0.28 | 0.33 |
| East Helena Area, MT | SO ₂ (1971 24-hour/Annual) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| East Kern County Area, CA | PM10 (1987 24-hour) | Nonattainment, Serious | 70 | 0 | 0.03 | 0.04 | 0.05 | 0.06 |
| El Paso County, TX | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.05 | 0.07 | 0.08 | 0.09 |
| El Paso, TX | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.04 | 0.06 | 0.06 | 0.08 |
| Eugene-Springfield Area, OR | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.01 | 0.01 | 0.01 | 0.01 |
| Fairbanks Area, AK | CO (1971 8-hour) | Maintenance, Serious | 100 | 0 | 0.00 | 0.01 | 0.01 | 0.01 |
| Fairbanks, AK | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.01 | 0.01 | 0.01 | 0.01 |

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Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Direct and Indirect Impacts
 Diesel Particulate Matter (DPM) 2018

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|---|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Flathead County; Columbia Falls and vicinity, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Flathead County; Kalispell and vicinity, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Flathead County; Whitefish and vicinity, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Fort Collins Area, CO | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Freehold Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Fremont County; Canon City Area, CO | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Fresno Area, CA | CO (1971 8-hour) | Maintenance, Moderate > 12.7ppm | 100 | 0 | 0.02 | 0.02 | 0.02 | 0.02 |
| Grants Pass Area, OR | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Great Falls Area, MT | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.02 | 0.04 | 0.04 | 0.05 |
| Greater Connecticut, CT | Ozone (2008 8-hour) | Nonattainment, Moderate | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Greeley Area, CO | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.02 | 0.02 | 0.02 | 0.02 |
| Hancock and Brooke Counties (Part); The city of Weirton, WV | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Hancock County (Part) The city of Weirton, including Butler and Clay; Magisterial Districts, WV | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Harrisburg-Lebanon-Carlisle-York, PA | PM2.5 (2006 24-hour) | Maintenance, Moderate | 100 | 0 | 0.04 | 0.04 | 0.04 | 0.05 |
| Hartford-New Britain-Middletown Area, CT | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.04 | 0.04 | 0.04 | 0.04 |
| Hayden, AZ | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Hayden, AZ | SO ₂ (1971 24-hour/Annual) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Hayden, AZ | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Hillsborough County, FL | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Houston-Galveston-Brazoria, TX | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Humphreys County; (part) TVA Johnsonville, TN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Imperial Co, CA | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.01 | 0.01 | 0.01 | 0.01 |

Appendix A Air Quality Non-Attainment Area Results

Table A1-37

**Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Direct and Indirect Impacts
Diesel Particulate Matter (DPM) 2018**

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Imperial County, CA | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Imperial County, CA | PM2.5 (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 0.01 | 0.01 | 0.01 | 0.01 |
| Imperial County; Imperial Valley planning area, CA | PM10 (1987 24-hour) | Nonattainment, Serious | 70 | 0 | 0.01 | 0.01 | 0.01 | 0.01 |
| Indian Wells, CA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.03 | 0.04 | 0.05 | 0.06 |
| Indiana, PA | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Indianapolis Area, IN | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Indianapolis, IN | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.02 | 0.02 | 0.02 | 0.02 |
| Inyo County; Owens Valley planning area, CA | PM10 (1987 24-hour) | Nonattainment, Serious | 70 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Jackson County, MO | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Jackson County; Medford-Ashland (including White City), OR | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.01 | 0.01 | 0.01 | 0.01 |
| Jamestown, NY | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Jefferson County, KY | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Jefferson County, MO | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Jefferson County; (part) Steubenville & Mingo Junction, OH | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Jefferson County; (part), OH | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Johnstown, PA | PM2.5 (2006 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Josephine County; Grants Pass, OR | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Juneau; Mendenhall Valley area, AK | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Kern County (Eastern Kern), CA | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| King County; Kent, WA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| King County; Seattle, WA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Klamath County; Klamath Falls, OR | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Klamath Falls Area, OR | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Klamath Falls, OR | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |

Table A1-37
Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Direct and Indirect Impacts
Diesel Particulate Matter (DPM) 2018

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Knoxville, TN | Ozone (2008 8-hour) | Maintenance, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Knoxville-Sevierville-La Follette, TN | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.03 | 0.03 | 0.03 | 0.04 |
| La Porte County: (part), IN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lake County (part); Lakeview, OR | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lake County, OH | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.01 | 0.01 | 0.01 | 0.01 |
| Lake County: (part), IN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lake County; (part) Eastlake, Timberlake, Lakeline, Willoughby, Mentor, OH | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lake County; Cities of East Chicago, Hammond, Whiting, and Gary, IN | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.16 | 0.25 | 0.28 | 0.34 |
| Lake County; Polson, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lake County; Ronan, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lake Tahoe Nevada Area, NV | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lake Tahoe North Shore Area, CA | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lake Tahoe South Shore Area, CA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lancaster, PA | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lancaster, PA | PM2.5 (2006 24-hour) | Maintenance, Moderate | 100 | 0 | 0.02 | 0.02 | 0.02 | 0.02 |
| Lane County (part); Oakridge, OR | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lane County; Eugene/Springfield, OR | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.01 | 0.01 | 0.01 | 0.01 |
| Las Vegas Area, NV | CO (1971 8-hour) | Maintenance, Serious | 100 | 0 | 0.05 | 0.06 | 0.06 | 0.06 |
| LaSalle County; Oglesby, IL | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Laurel Area, MT | SO ₂ (1971 24-hour/Annual) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lebanon County, PA | PM2.5 (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 0.01 | 0.01 | 0.01 | 0.01 |
| Lemont, IL | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.23 | 0.37 | 0.42 | 0.50 |
| Liberty-Clairton, PA | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |

Appendix A Air Quality Non-Attainment Area Results

Table A1-37

**Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Direct and Indirect Impacts
Diesel Particulate Matter (DPM) 2018**

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Lincoln County; Libby and vicinity, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Logan, UT-ID | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Longmont Area, CO | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lorain County (part), OH | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Los Angeles, CA | PM2.5 (2006 24-hour) | Nonattainment, Serious | 100 | 0 | 1.20 | 1.68 | 1.77 | 2.12 |
| Los Angeles-San Bernardino Counties (West Mojave Desert), CA | Ozone (2008 8-hour) | Nonattainment, Severe 15 | 25 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Los Angeles-South Coast Air Basin Area, CA | CO (1971 8-hour) | Maintenance, Serious | 100 | 0 | 1.20 | 1.68 | 1.77 | 2.12 |
| Los Angeles-South Coast Air Basin Area, CA | NO ₂ (1971 Annual) | Maintenance, -- | 100 | 0 | 1.20 | 1.68 | 1.77 | 2.12 |
| Los Angeles-South Coast Air Basin, CA | Ozone (2008 8-hour) | Nonattainment, Extreme | 10 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Los Angeles-South Coast Air Basin, CA | PM2.5 (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 1.20 | 1.68 | 1.77 | 2.12 |
| Lowell Area, MA | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lucas County (part), OH | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Madison County; Granite City Township and Nameoki Township, IL | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.20 | 0.32 | 0.35 | 0.42 |
| Manchester Area, NH | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Maricopa and Pinal Counties; Phoenix planning area, AZ | PM10 (1987 24-hour) | Nonattainment, Serious | 70 | 0 | 0.12 | 0.13 | 0.12 | 0.14 |
| Marion County; Lawrence, Washington, and Warrant Townships, IN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Mariposa County, CA | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Marshall, WV | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.13 | 0.22 | 0.24 | 0.29 |
| Medford Area, OR | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Memphis Area, TN | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.10 | 0.15 | 0.16 | 0.20 |

Table A1-37
Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Direct and Indirect Impacts
Diesel Particulate Matter (DPM) 2018

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|---|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Memphis, TN-MS-AR | Ozone (2008 8-hour) | Nonattainment TN & Maintenance MS/AR, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Miami, AZ | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Miami, AZ | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Miami, AZ | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Milwaukee-Racine, WI | PM2.5 (2006 24-hour) | Maintenance, -- | 100 | 0 | 0.04 | 0.04 | 0.04 | 0.05 |
| Minneapolis-St. Paul Area, MN | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.34 | 0.50 | 0.54 | 0.65 |
| Missoula Area, MT | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.03 | 0.04 | 0.04 | 0.05 |
| Missoula county; Missoula and vicinity, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.03 | 0.04 | 0.04 | 0.05 |
| Modesto Area, CA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.01 | 0.01 | 0.01 | 0.01 |
| Mohave County (part); Bullhead City, AZ | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Mono County; Mammoth Lake planning area, CA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Mono County; Mono Basin, CA | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Morenci, AZ | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Morgan County, IN | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Morongo Band of Mission Indians | Ozone (2008 8-hour) | Nonattainment, Serious | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Morristown Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Muscatine County; (part), IA | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Muscatine, IA | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Muskingum River, OH | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Nashua Area, NH | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Nassau County, FL | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Nevada County (Western part), CA | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| New Haven County, CT | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |

Appendix A Air Quality Non-Attainment Area Results

Table A1-37

**Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Direct and Indirect Impacts
Diesel Particulate Matter (DPM) 2018**

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| New Haven-Meriden-Waterbury Area, CT | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.03 | 0.03 | 0.03 | 0.03 |
| New Manchester-Grant magisterial district in Hancock County, WV | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| New York County, NY | PM ₁₀ (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.02 | 0.02 | 0.02 | 0.02 |
| New York, NY-NJ-CT | PM _{2.5} (2006 24-hour) | Maintenance, -- | 100 | 0 | 0.63 | 0.74 | 0.72 | 0.85 |
| New York-N. New Jersey-Long Island Area, NY-NJ-CT | CO (1971 8-hour) | Maintenance, Moderate > 12.7ppm | 100 | 0 | 0.38 | 0.46 | 0.46 | 0.54 |
| New York-N. New Jersey-Long Island, NY-NJ-CT | Ozone (2008 8-hour) | Nonattainment, Moderate | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| NJ portion of the Northeast Pennsylvania-Upper Delaware Valley Interstate AQCR: (part), NJ | SO ₂ (1971 24-hour/Annual) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Nogales, AZ | PM _{2.5} (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Oakridge, OR | PM _{2.5} (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Ogden Area, UT | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Ogden Area, UT | PM ₁₀ (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Olmsted County; (part), MN | PM ₁₀ (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Olmsted; City of Rochester, MN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |

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Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Direct and Indirect Impacts
Diesel Particulate Matter (DPM) 2018

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Pechanga Band of Luiseno Mission Indians of the Pechanga Reservation | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Pekin, IL | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Penns Grove Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Peoria County: Hollis Twp, IL | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Peoria County: Peoria, IL | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Perth Amboy Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.02 | 0.03 | 0.04 | 0.04 |
| Philadelphia-Camden County Area, PA-NJ | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.23 | 0.36 | 0.39 | 0.47 |
| Philadelphia-Wilmington, PA-NJ-DE | PM _{2.5} (2006 24-hour) | Maintenance, Moderate for PA and DE Subject to Former Subpart 1 for NJ | 100 | 0 | 0.81 | 1.23 | 1.35 | 1.62 |
| Philadelphia-Wilmington-Atlantic City, PA-NJ-MD-DE | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Phoenix Area, AZ | CO (1971 8-hour) | Maintenance, Serious | 100 | 0 | 0.11 | 0.12 | 0.11 | 0.13 |
| Phoenix-Mesa, AZ | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Pierce County; Tacoma, WA | PM ₁₀ (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Pima County; Ajo planning area, AZ | PM ₁₀ (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Pima County; Rillito planning area, AZ | PM ₁₀ (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Pinal and Gila Counties; Payson, AZ | PM ₁₀ (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Pinal County (part); West Pinal, AZ | PM ₁₀ (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.01 | 0.01 | 0.01 | 0.01 |
| Pitkin County; Aspen, CO | PM ₁₀ (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Pittsburgh Area, PA | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.01 | 0.01 | 0.01 | 0.01 |
| Pittsburgh-Beaver Valley, PA | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Pittsburgh-Beaver Valley, PA | PM _{2.5} (2006 24-hour) | Maintenance, Moderate | 100 | 0 | 0.07 | 0.08 | 0.08 | 0.09 |
| Plumas County, CA | PM _{2.5} (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Polk County, TN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |

Appendix A Air Quality Non-Attainment Area Results

Table A1-37

**Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Direct and Indirect Impacts
Diesel Particulate Matter (DPM) 2018**

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|-------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Portland Area: Portland Metro Service District Boundary, OR | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.04 | 0.04 | 0.04 | 0.04 |
| Power-Bannock Counties; Fort Hall Indian Reservation, ID | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Power-Bannock Counties; Portneuf Valley Area, ID | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Provo Area, UT | CO (1971 8-hour) | Maintenance, Moderate > 12.7ppm | 100 | 0 | 0.01 | 0.01 | 0.01 | 0.01 |
| Provo, UT | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.02 | 0.02 | 0.02 | 0.02 |
| Prowers County; Lamar, CO | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Raleigh-Durham Area, NC | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.04 | 0.05 | 0.04 | 0.05 |
| Ramsey County; (part), MN | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Reading, PA | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Reno Area, NV | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.01 | 0.01 | 0.01 | 0.01 |
| Rhineland, WI | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Riverside County (Coachella Valley), CA | Ozone (2008 8-hour) | Nonattainment, Severe 15 | 25 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Riverside County; Coachella Valley planning area, CA | PM10 (1987 24-hour) | Nonattainment, Serious | 70 | 0 | 0.02 | 0.02 | 0.02 | 0.02 |
| Riverside, Los Angeles, Orange, and San Bernardino Counties; South Coast Air Basin, CA | PM10 (1987 24-hour) | Maintenance, Serious | 100 | 0 | 1.20 | 1.68 | 1.77 | 2.12 |
| Rosebud County; Lame Deer, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Routt County (part); Steamboat Springs, CO | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.01 | 0.01 | 0.01 |
| Sacramento Area, CA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.04 | 0.05 | 0.04 | 0.05 |
| Sacramento County, CA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.04 | 0.04 | 0.04 | 0.05 |
| Sacramento Metro, CA | Ozone (2008 8-hour) | Nonattainment, Severe 15 | 25 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Sacramento, CA | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.15 | 0.20 | 0.20 | 0.24 |
| Salem Area, OR | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.01 | 0.01 | 0.01 | 0.01 |
| Salt Lake City Area, UT | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.08 | 0.13 | 0.14 | 0.17 |
| Salt Lake City, UT | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.14 | 0.19 | 0.20 | 0.24 |

Table A1-37

Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Direct and Indirect Impacts
 Diesel Particulate Matter (DPM) 2018

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|---|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Salt Lake County, UT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.11 | 0.16 | 0.17 | 0.20 |
| Salt Lake County, UT | SO ₂ (1971 24-hour/Annual) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| San Bernardino County (part); excluding Searles Valley Planning area and South Coast Air Basin, CA | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.02 | 0.02 | 0.02 | 0.02 |
| San Diego Area, CA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.11 | 0.12 | 0.11 | 0.12 |
| San Diego County, CA | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| San Francisco Bay Area, CA | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| San Francisco Bay Area, CA | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 1.04 | 1.58 | 1.72 | 2.06 |
| San Francisco-Oakland-San Jose Area, CA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 1.03 | 1.56 | 1.70 | 2.04 |
| San Joaquin Valley Air Basin; Fresno, Kern, Kings, Madera, Merced, San Joaquin, Stanislaus, Tulare Counties, CA | PM10 (1987 24-hour) | Maintenance, Serious | 100 | 0 | 0.17 | 0.20 | 0.19 | 0.22 |
| San Joaquin Valley, CA | Ozone (2008 8-hour) | Nonattainment, Extreme | 10 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| San Joaquin Valley, CA | PM2.5 (2006 24-hour) | Nonattainment, Serious | 100 | 0 | 0.17 | 0.20 | 0.19 | 0.22 |
| San Joaquin Valley, CA | PM2.5 (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 0.17 | 0.20 | 0.19 | 0.22 |
| San Luis Obispo (Eastern San Luis Obispo), CA | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| San Manuel, AZ | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| San Miguel County; Telluride, CO | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Sanders County (part); Thompson Falls and vicinity, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Santa Cruz County; Nogales planning area, AZ | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Seaford, DE | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Seattle-Tacoma Area, WA | CO (1971 8-hour) | Maintenance, Moderate > 12.7ppm | 100 | 0 | 0.09 | 0.10 | 0.09 | 0.11 |
| Seattle-Tacoma, WA | PM2.5 (2006 24-hour) | Maintenance, Moderate | 100 | 0 | 0.02 | 0.02 | 0.02 | 0.02 |
| Sheboygan County, WI | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |

Appendix A Air Quality Non-Attainment Area Results

Table A1-37

**Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Direct and Indirect Impacts
Diesel Particulate Matter (DPM) 2018**

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|---|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Sheridan County; City of Sheridan, WY | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Shoshone County (part); excluding Pinehurst, ID | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Shoshone County; City of Pinehurst, ID | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Silver Bow County; Butte, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Somerville Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Southwest Indiana, IN | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Spokane Area, WA | CO (1971 8-hour) | Maintenance, Serious | 100 | 0 | 0.01 | 0.01 | 0.01 | 0.01 |
| Spokane County; (part), WA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.01 | 0.01 | 0.01 | 0.01 |
| Springfield Area, MA | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.01 | 0.01 | 0.01 | 0.01 |
| St. Bernard Parish, LA | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.35 | 0.57 | 0.63 | 0.76 |
| St. Louis Area, MO | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.03 | 0.03 | 0.03 | 0.03 |
| St. Louis-St. Charles-Farmington, MO-IL | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Steubenville, OH-WV | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Steubenville-Weirton, OH-WV | PM2.5 (2006 24-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.01 | 0.01 | 0.01 |
| Stockton Area, CA | CO (1971 8-hour) | Maintenance, Moderate ≤ 12.7ppm | 100 | 0 | 0.01 | 0.01 | 0.01 | 0.02 |
| Sullivan County, TN | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Syracuse Area; Onondaga County, NY | CO (1971 8-hour) | Maintenance, Moderate ≤ 12.7ppm | 100 | 0 | 0.02 | 0.02 | 0.02 | 0.02 |
| Tazewell County; Groveland Twp, IL | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Terre Haute, IN | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.01 | 0.01 | 0.01 | 0.02 |

Table A1-37
Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Direct and Indirect Impacts
Diesel Particulate Matter (DPM) 2018

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|---|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Thurston County; Cities of Olympia, Tumwater, and Lacey, WA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Toms River Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Tooele County (part), UT | SO ₂ (1971 24-hour/Annual) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Trenton Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Trona, CA | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Tucson Area, AZ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.03 | 0.03 | 0.03 | 0.03 |
| Tuscan Buttes, CA | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Union County; LaGrande, OR | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Upper Green River Basin Area, WY | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Utah County, UT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.02 | 0.02 | 0.02 | 0.02 |
| Vancouver Area: Clark County (part), WA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.01 | 0.01 | 0.01 | 0.01 |
| Ventura County, CA | Ozone (2008 8-hour) | Nonattainment, Serious | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Vermillion County; Part of Clinton Township, IN | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Vigo County, IN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Walla Walla County; Wallula, WA | PM10 (1987 24-hour) | Maintenance, Serious | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Waltham Area, MA | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Warren County: Conewago Twp, PA | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Warren County: Warren Boro, Pleasant Twp, Glade Twp, PA | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Warren, PA | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.05 | 0.08 | 0.09 | 0.10 |
| Washington Area, DC-MD-VA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.02 | 0.02 | 0.02 | 0.02 |
| Washington, DC-MD-VA | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Washoe County; Reno planning area, NV | PM10 (1987 24-hour) | Nonattainment, Serious | 70 | 0 | 0.01 | 0.01 | 0.01 | 0.01 |

Appendix A Air Quality Non-Attainment Area Results

Table A1-37

**Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Direct and Indirect Impacts
Diesel Particulate Matter (DPM) 2018**

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|---|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Wayne County: Boston, Center, Franklin, Wayne & Webster Townships, IN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Wayne County; (part), MI | PM ₁₀ (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.04 | 0.06 | 0.06 | 0.08 |
| West Central Pinal County, AZ | PM _{2.5} (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| West Silver Valley, ID | PM _{2.5} (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Winston-Salem Area, NC | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.01 | 0.01 | 0.01 | 0.01 |
| Worcester Area, MA | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.01 | 0.01 | 0.01 | 0.01 |
| Yakima Area, WA | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Yakima County; (part), WA | PM ₁₀ (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Yuba City-Marysville, CA | PM _{2.5} (2006 24-hour) | Maintenance, Moderate | 100 | 0 | 0.01 | 0.01 | 0.01 | 0.01 |
| Yuma County; Yuma planning area, AZ | PM ₁₀ (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.01 | 0.01 | 0.01 | 0.01 |

^a Reductions are shown as positive values. Negative values are emissions increases. Values of less than 0.005 tons per year are rounded to zero.

^b Nonattainment or maintenance status as of 5/13/2016. Source: U.S. EPA, The Green Book Nonattainment Areas for Criteria Pollutants; <http://www.epa.gov/airquality/greenbook/>. "--" indicates that no severity classification has been established for the NAAQS pollutant.

^c Emissions thresholds in tons per year. Where the threshold differs by precursor pollutant, the smallest of the precursor thresholds is shown. These thresholds are provided for information only; a general conformity determination is not required for the Proposed Action. Source: 40 CFR 93.853.

Notes: CO = carbon monoxide; NAAQS = National Ambient Air Quality Standards; NO₂ = nitrogen dioxide; PM = particulate matter; SO₂ = sulfur dioxide

Table A1-38
Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Direct and Indirect Impacts
Diesel Particulate Matter (DPM) 2025

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Ada County; Boise, ID | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.01 | -0.01 | -0.06 | -0.06 |
| Adams, Denver, and Boulder Counties; Denver Metropolitan area, CO | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.21 | 0.36 | 0.16 | 0.38 |
| Ajo, AZ | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Albuquerque Area, NM | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.01 | -0.01 | -0.11 | -0.11 |
| Allegheny County Air Basin: Hazelwood monitor, PA | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Allegheny County, PA | PM2.5 (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 0.03 | 0.00 | -0.13 | -0.12 |
| Allegheny County; The area including Liberty, Lincoln, Port Vue, and Glassport Boroughs and the City of Clairton, PA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.01 | 0.03 | 0.03 | 0.04 |
| Allegheny, PA | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.01 | 0.03 | 0.02 | 0.03 |
| Allentown, PA | PM2.5 (2006 24-hour) | Maintenance, Moderate | 100 | 0 | 0.01 | -0.02 | -0.10 | -0.11 |
| Allentown-Bethlehem-Easton, PA | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Anchorage Area, AK | CO (1971 8-hour) | Maintenance, Serious | 100 | 0 | 0.00 | 0.00 | -0.02 | -0.02 |
| Anchorage; Eagle River, AK | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| AQCR 012: Portions of Grant County, NM | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| AQCR 109-Millinocket, ME | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| AQCR 131: Anoka, Carver, Dakota, Hennepin, Ramsey, Scott, and Washington counties (Minneapolis-St. Paul), MN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| AQCR 237: Brown County: Green Bay sub-city area, WI | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| AQCR 238: Marathon County: Rothschild Sub-city area, Rib Mountain, Weston, WI | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| AQCR 238: Oneida County: Rhinelander Sub-city area, WI | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| AQCR 239: Milwaukee County: Milwaukee sub-city area, WI | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |

Appendix A Air Quality Non-Attainment Area Results

Table A1-38

**Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Direct and Indirect Impacts
Diesel Particulate Matter (DPM) 2025**

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| AQCR 240: Dane County: Madison sub-city area, WI | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Archuleta County; Pagosa Springs, CO | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Armstrong County: Madison Twp, Mahoning Twp, Boggs Twp, Washington Twp, Pine Twp, PA | SO ₂ (1971 24-hour/Annual) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Aroostock County; City of Presque Isle, ME | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Atlanta, GA | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Atlantic City Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | -0.01 | -0.01 |
| Bakersfield Area, CA | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.66 | 1.47 | 1.54 | 2.38 |
| Baltimore Area, MD | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Baltimore, MD | Ozone (2008 8-hour) | Nonattainment, Moderate | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Baton Rouge, LA | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Beaver, PA | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Benton County; (part) TVA Johnsonville, TN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Billings Area, MT | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 5.30 | 12.11 | 13.25 | 20.11 |
| Billings, MT | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 5.30 | 12.12 | 13.27 | 20.13 |
| Birmingham, AL | PM2.5 (2006 24-hour) | Maintenance, -- | 100 | 0 | 0.08 | 0.09 | -0.09 | -0.03 |
| Boise-Northern Ada County Area, ID | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.01 | -0.01 | -0.06 | -0.06 |
| Bonner County; The Sandpoint Area, ID | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Boston Area, MA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.18 | 0.34 | 0.26 | 0.47 |
| Boyd County (part), KY | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Brooke; Follansbee area, WV | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Burlington Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Calaveras County, CA | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Campbell-Clermont Counties, KY-OH | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | -0.01 | -0.01 |

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Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Direct and Indirect Impacts
Diesel Particulate Matter (DPM) 2025

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|---|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Canton-Massillon, OH | PM2.5 (2006 24-hour) | Maintenance, -- | 100 | 0 | 2.82 | 6.40 | 6.95 | 10.58 |
| Central New Hampshire, NH | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | -0.01 | -0.04 | -0.04 |
| Central Steptoe Valley, NV | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Charleston, WV | PM2.5 (2006 24-hour) | Maintenance, -- | 100 | 0 | 0.01 | -0.01 | -0.07 | -0.07 |
| Charlotte Area, NC | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.02 | -0.04 | -0.24 | -0.25 |
| Charlotte-Rock Hill, NC-SC | Ozone (2008 8-hour) | Maintenance, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Chicago-Naperville, IL-IN-WI | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Chico (Butte County), CA | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Chico Area, CA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | -0.02 | -0.02 |
| Chico, CA | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | -0.01 | -0.04 | -0.04 |
| Cincinnati, OH-KY-IN | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Clark County; Las Vegas planning area, NV | PM10 (1987 24-hour) | Maintenance, Serious | 100 | 0 | 0.10 | 0.10 | -0.13 | -0.05 |
| Cleveland Area, OH | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.02 | -0.03 | -0.18 | -0.19 |
| Cleveland, OH | PM2.5 (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 0.02 | -0.04 | -0.24 | -0.25 |
| Cleveland-Akron-Lorain, OH | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Cleveland-Akron-Lorain, OH | PM2.5 (2006 24-hour) | Maintenance, -- | 100 | 0 | 0.05 | -0.09 | -0.52 | -0.54 |
| Cochise County; Paul Spur/Douglas planning area, AZ | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | -0.01 | -0.01 |
| Colorado Springs Area, CO | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.05 | 0.07 | -0.01 | 0.04 |
| Columbus, OH | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Cook County; Lyons Township, IL | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | -0.01 | -0.01 |
| Cook County; Southeast Chicago, IL | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | -0.01 | -0.01 |
| Coshocton County; Franklin Township, OH | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Coso Junction, CA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Cuyahoga County (part), OH | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Cuyahoga County, OH | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.02 | -0.03 | -0.18 | -0.19 |

Appendix A Air Quality Non-Attainment Area Results

Table A1-38

**Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Direct and Indirect Impacts
Diesel Particulate Matter (DPM) 2025**

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Dallas-Fort Worth, TX | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Delaware County, PA | PM2.5 (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 9.74 | 22.23 | 24.28 | 36.88 |
| Denver-Boulder Area, CO | CO (1971 8-hour) | Maintenance, Serious | 100 | 0 | 3.80 | 8.50 | 8.91 | 13.75 |
| Denver-Boulder-Greeley-Ft Collins-Loveland, CO | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Detroit Area, MI | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.89 | 1.91 | 1.83 | 2.93 |
| Detroit, MI | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.86 | 1.95 | 2.09 | 3.20 |
| Detroit-Ann Arbor, MI | PM2.5 (2006 24-hour) | Maintenance, -- | 100 | 0 | 0.96 | 1.81 | 1.21 | 2.29 |
| Dona Ana County; Anthony, NM | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Douglas, AZ | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Dukes County, MA | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Duluth Area, MN | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | -0.02 | -0.02 |
| East Chicago Area, IN | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 3.84 | 8.76 | 9.59 | 14.56 |
| East Helena Area, MT | SO ₂ (1971 24-hour/Annual) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| East Kern County Area, CA | PM10 (1987 24-hour) | Nonattainment, Serious | 70 | 0 | 0.65 | 1.49 | 1.63 | 2.47 |
| El Paso County, TX | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.88 | 1.97 | 2.09 | 3.21 |
| El Paso, TX | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.87 | 1.98 | 2.16 | 3.28 |
| Eugene-Springfield Area, OR | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | -0.01 | -0.04 | -0.04 |
| Fairbanks Area, AK | CO (1971 8-hour) | Maintenance, Serious | 100 | 0 | 0.11 | 0.24 | 0.26 | 0.40 |
| Fairbanks, AK | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.11 | 0.24 | 0.26 | 0.40 |

Table A1-38
Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Direct and Indirect Impacts
Diesel Particulate Matter (DPM) 2025

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|---|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Flathead County; Columbia Falls and vicinity, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Flathead County; Kalispell and vicinity, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | -0.01 | -0.01 |
| Flathead County; Whitefish and vicinity, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Fort Collins Area, CO | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | -0.02 | -0.02 |
| Freehold Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Fremont County; Canon City Area, CO | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | -0.01 | -0.01 |
| Fresno Area, CA | CO (1971 8-hour) | Maintenance, Moderate > 12.7ppm | 100 | 0 | 0.02 | 0.00 | -0.09 | -0.08 |
| Grants Pass Area, OR | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | -0.01 | -0.01 |
| Great Falls Area, MT | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.60 | 1.37 | 1.50 | 2.27 |
| Greater Connecticut, CT | Ozone (2008 8-hour) | Nonattainment, Moderate | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Greeley Area, CO | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.09 | 0.17 | 0.12 | 0.22 |
| Hancock and Brooke Counties (Part); The city of Weirton, WV | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.02 | 0.04 | 0.04 | 0.07 |
| Hancock County (Part) The city of Weirton, including Butler and Clay: Magisterial Districts, WV | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Harrisburg-Lebanon-Carlisle-York, PA | PM2.5 (2006 24-hour) | Maintenance, Moderate | 100 | 0 | 0.03 | -0.04 | -0.24 | -0.25 |
| Hartford-New Britain-Middletown Area, CT | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.02 | -0.04 | -0.22 | -0.22 |
| Hayden, AZ | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Hayden, AZ | SO ₂ (1971 24-hour/Annual) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Hayden, AZ | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Hillsborough County, FL | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Houston-Galveston-Brazoria, TX | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Humphreys County; (part) TVA Johnsonville, TN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Imperial Co, CA | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | -0.01 | -0.04 | -0.04 |

Appendix A Air Quality Non-Attainment Area Results

Table A1-38

**Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Direct and Indirect Impacts
Diesel Particulate Matter (DPM) 2025**

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Imperial County, CA | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Imperial County, CA | PM2.5 (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 0.00 | -0.01 | -0.04 | -0.04 |
| Imperial County; Imperial Valley planning area, CA | PM10 (1987 24-hour) | Nonattainment, Serious | 70 | 0 | 0.00 | -0.01 | -0.05 | -0.05 |
| Indian Wells, CA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.65 | 1.49 | 1.63 | 2.47 |
| Indiana, PA | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | -0.02 | -0.02 |
| Indianapolis Area, IN | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Indianapolis, IN | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.01 | -0.02 | -0.09 | -0.10 |
| Inyo County; Owens Valley planning area, CA | PM10 (1987 24-hour) | Nonattainment, Serious | 70 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Jackson County, MO | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | -0.01 | -0.01 |
| Jackson County; Medford-Ashland (including White City), OR | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | -0.01 | -0.04 | -0.04 |
| Jamestown, NY | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Jefferson County, KY | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.01 | 0.03 | 0.03 | 0.04 |
| Jefferson County, MO | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | -0.01 | -0.01 |
| Jefferson County; (part) Steubenville & Mingo Junction, OH | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Jefferson County; (part), OH | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Johnstown, PA | PM2.5 (2006 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | -0.02 | -0.02 |
| Josephine County; Grants Pass, OR | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | -0.01 | -0.01 |
| Juneau; Mendenhall Valley area, AK | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Kern County (Eastern Kern), CA | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| King County; Kent, WA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| King County; Seattle, WA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Klamath County; Klamath Falls, OR | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | -0.01 | -0.01 |
| Klamath Falls Area, OR | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | -0.01 | -0.01 |
| Klamath Falls, OR | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | -0.01 | -0.01 |

Table A1-38
Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Direct and Indirect Impacts
Diesel Particulate Matter (DPM) 2025

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Knoxville, TN | Ozone (2008 8-hour) | Maintenance, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Knoxville-Sevierville-La Follette, TN | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.02 | -0.03 | -0.19 | -0.20 |
| La Porte County: (part), IN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lake County (part); Lakeview, OR | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lake County, OH | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.01 | -0.01 | -0.05 | -0.05 |
| Lake County: (part), IN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lake County; (part) Eastlake, Timberlake, Lakeline, Willoughby, Mentor, OH | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lake County; Cities of East Chicago, Hammond, Whiting, and Gary, IN | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 3.84 | 8.76 | 9.56 | 14.52 |
| Lake County; Polson, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lake County; Ronan, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lake Tahoe Nevada Area, NV | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lake Tahoe North Shore Area, CA | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lake Tahoe South Shore Area, CA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | -0.01 | -0.01 |
| Lancaster, PA | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lancaster, PA | PM2.5 (2006 24-hour) | Maintenance, Moderate | 100 | 0 | 0.01 | -0.02 | -0.10 | -0.10 |
| Lane County (part); Oakridge, OR | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lane County; Eugene/Springfield, OR | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | -0.01 | -0.04 | -0.04 |
| Las Vegas Area, NV | CO (1971 8-hour) | Maintenance, Serious | 100 | 0 | 0.10 | 0.10 | -0.13 | -0.05 |
| LaSalle County; Oglesby, IL | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | -0.01 | -0.01 |
| Laurel Area, MT | SO ₂ (1971 24-hour/Annual) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lebanon County, PA | PM2.5 (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 0.00 | -0.01 | -0.03 | -0.04 |
| Lemont, IL | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 5.74 | 13.10 | 14.33 | 21.75 |
| Liberty-Clairton, PA | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.01 | 0.03 | 0.03 | 0.04 |

Appendix A Air Quality Non-Attainment Area Results

Table A1-38

**Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Direct and Indirect Impacts
Diesel Particulate Matter (DPM) 2025**

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Lincoln County; Libby and vicinity, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Logan, UT-ID | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | -0.02 | -0.02 |
| Longmont Area, CO | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | -0.01 | -0.01 |
| Lorain County (part), OH | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Los Angeles, CA | PM2.5 (2006 24-hour) | Nonattainment, Serious | 100 | 0 | 18.27 | 40.57 | 42.09 | 65.23 |
| Los Angeles-San Bernardino Counties (West Mojave Desert), CA | Ozone (2008 8-hour) | Nonattainment, Severe 15 | 25 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Los Angeles-South Coast Air Basin Area, CA | CO (1971 8-hour) | Maintenance, Serious | 100 | 0 | 18.27 | 40.57 | 42.08 | 65.22 |
| Los Angeles-South Coast Air Basin Area, CA | NO ₂ (1971 Annual) | Maintenance, -- | 100 | 0 | 18.27 | 40.57 | 42.08 | 65.22 |
| Los Angeles-South Coast Air Basin, CA | Ozone (2008 8-hour) | Nonattainment, Extreme | 10 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Los Angeles-South Coast Air Basin, CA | PM2.5 (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 18.27 | 40.57 | 42.09 | 65.23 |
| Lowell Area, MA | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | -0.02 | -0.02 |
| Lucas County (part), OH | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Madison County; Granite City Township and Nameoki Township, IL | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 4.88 | 11.15 | 12.20 | 18.52 |
| Manchester Area, NH | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | -0.02 | -0.02 |
| Maricopa and Pinal Counties; Phoenix planning area, AZ | PM10 (1987 24-hour) | Nonattainment, Serious | 70 | 0 | 0.07 | -0.12 | -0.69 | -0.72 |
| Marion County; Lawrence, Washington, and Warrant Townships, IN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Mariposa County, CA | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Marshall, WV | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 3.34 | 7.64 | 8.36 | 12.69 |
| Medford Area, OR | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | -0.02 | -0.02 |
| Memphis Area, TN | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 1.89 | 4.24 | 4.51 | 6.92 |

Table A1-38
Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Direct and Indirect Impacts
Diesel Particulate Matter (DPM) 2025

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|---|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Memphis, TN-MS-AR | Ozone (2008 8-hour) | Nonattainment TN & Maintenance MS/AR, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Miami, AZ | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Miami, AZ | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Miami, AZ | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Milwaukee-Racine, WI | PM2.5 (2006 24-hour) | Maintenance, -- | 100 | 0 | 0.07 | 0.07 | -0.11 | -0.06 |
| Minneapolis-St. Paul Area, MN | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 6.22 | 13.97 | 14.82 | 22.77 |
| Missoula Area, MT | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.57 | 1.29 | 1.40 | 2.13 |
| Missoula county; Missoula and vicinity, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.57 | 1.29 | 1.40 | 2.13 |
| Modesto Area, CA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.01 | 0.00 | -0.03 | -0.02 |
| Mohave County (part); Bullhead City, AZ | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | -0.02 | -0.02 |
| Mono County; Mammoth Lake planning area, CA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | -0.01 | -0.01 |
| Mono County; Mono Basin, CA | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Morenci, AZ | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Morgan County, IN | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | -0.01 | -0.01 |
| Morongo Band of Mission Indians | Ozone (2008 8-hour) | Nonattainment, Serious | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Morristown Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.02 | 0.03 | 0.03 | 0.05 |
| Muscatine County; (part), IA | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Muscatine, IA | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Muskingum River, OH | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Nashua Area, NH | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | -0.01 | -0.02 |
| Nassau County, FL | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Nevada County (Western part), CA | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| New Haven County, CT | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |

Appendix A Air Quality Non-Attainment Area Results

Table A1-38

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Diesel Particulate Matter (DPM) 2025**

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| New Haven-Meriden-Waterbury Area, CT | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.02 | -0.03 | -0.16 | -0.17 |
| New Manchester-Grant magisterial district in Hancock County, WV | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| New York County, NY | PM ₁₀ (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.01 | -0.02 | -0.11 | -0.11 |
| New York, NY-NJ-CT | PM _{2.5} (2006 24-hour) | Maintenance, -- | 100 | 0 | 3.25 | 6.19 | 4.32 | 7.99 |
| New York-N. New Jersey-Long Island Area, NY-NJ-CT | CO (1971 8-hour) | Maintenance, Moderate > 12.7ppm | 100 | 0 | 2.61 | 5.28 | 4.42 | 7.50 |
| New York-N. New Jersey-Long Island, NY-NJ-CT | Ozone (2008 8-hour) | Nonattainment, Moderate | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| NJ portion of the Northeast Pennsylvania-Upper Delaware Valley Interstate AQCR: (part), NJ | SO ₂ (1971 24-hour/Annual) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Nogales, AZ | PM _{2.5} (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | -0.01 | -0.01 |
| Oakridge, OR | PM _{2.5} (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Ogden Area, UT | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | -0.01 | -0.01 |
| Ogden Area, UT | PM ₁₀ (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | -0.01 | -0.01 |
| Olmsted County; (part), MN | PM ₁₀ (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | -0.01 | -0.01 |
| Olmsted; City of Rochester, MN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |

Table A1-38
Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Direct and Indirect Impacts
Diesel Particulate Matter (DPM) 2025

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Pechanga Band of Luiseno Mission Indians of the Pechanga Reservation | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Pekin, IL | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | -0.01 | -0.01 |
| Penns Grove Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Peoria County: Hollis Twp, IL | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Peoria County: Peoria, IL | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Perth Amboy Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.48 | 1.09 | 1.18 | 1.80 |
| Philadelphia-Camden County Area, PA-NJ | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 5.05 | 11.46 | 12.40 | 18.90 |
| Philadelphia-Wilmington, PA-NJ-DE | PM _{2.5} (2006 24-hour) | Maintenance, Moderate for PA and DE Subject to Former Subpart 1 for NJ | 100 | 0 | 16.96 | 38.43 | 41.42 | 63.23 |
| Philadelphia-Wilmington-Atlantic City, PA-NJ-MD-DE | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Phoenix Area, AZ | CO (1971 8-hour) | Maintenance, Serious | 100 | 0 | 0.07 | -0.11 | -0.66 | -0.69 |
| Phoenix-Mesa, AZ | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Pierce County; Tacoma, WA | PM ₁₀ (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.05 | 0.12 | 0.13 | 0.20 |
| Pima County; Ajo planning area, AZ | PM ₁₀ (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Pima County; Rillito planning area, AZ | PM ₁₀ (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | -0.01 | -0.01 |
| Pinal and Gila Counties; Payson, AZ | PM ₁₀ (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | -0.01 | -0.01 |
| Pinal County (part); West Pinal, AZ | PM ₁₀ (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.01 | -0.01 | -0.08 | -0.08 |
| Pitkin County; Aspen, CO | PM ₁₀ (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Pittsburgh Area, PA | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.02 | 0.02 | -0.01 | 0.01 |
| Pittsburgh-Beaver Valley, PA | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Pittsburgh-Beaver Valley, PA | PM _{2.5} (2006 24-hour) | Maintenance, Moderate | 100 | 0 | 0.34 | 0.64 | 0.43 | 0.81 |
| Plumas County, CA | PM _{2.5} (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Polk County, TN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |

Appendix A Air Quality Non-Attainment Area Results

Table A1-38

**Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Direct and Indirect Impacts
Diesel Particulate Matter (DPM) 2025**

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|-------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Portland Area: Portland Metro Service District Boundary, OR | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.03 | -0.02 | -0.20 | -0.20 |
| Power-Bannock Counties; Fort Hall Indian Reservation, ID | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Power-Bannock Counties; Portneuf Valley Area, ID | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | -0.02 | -0.02 |
| Provo Area, UT | CO (1971 8-hour) | Maintenance, Moderate > 12.7ppm | 100 | 0 | 0.08 | 0.17 | 0.18 | 0.28 |
| Provo, UT | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.08 | 0.16 | 0.12 | 0.21 |
| Prowers County; Lamar, CO | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Raleigh-Durham Area, NC | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.03 | -0.05 | -0.26 | -0.27 |
| Ramsey County; (part), MN | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Reading, PA | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Reno Area, NV | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.01 | -0.01 | -0.06 | -0.07 |
| Rhinelander, WI | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | -0.01 | -0.01 |
| Riverside County (Coachella Valley), CA | Ozone (2008 8-hour) | Nonattainment, Severe 15 | 25 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Riverside County; Coachella Valley planning area, CA | PM10 (1987 24-hour) | Nonattainment, Serious | 70 | 0 | 0.01 | -0.02 | -0.10 | -0.10 |
| Riverside, Los Angeles, Orange, and San Bernardino Counties; South Coast Air Basin, CA | PM10 (1987 24-hour) | Maintenance, Serious | 100 | 0 | 18.27 | 40.57 | 42.10 | 65.24 |
| Rosebud County; Lame Deer, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Routt County (part); Steamboat Springs, CO | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.09 | 0.20 | 0.21 | 0.33 |
| Sacramento Area, CA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.03 | -0.04 | -0.26 | -0.27 |
| Sacramento County, CA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.02 | -0.04 | -0.23 | -0.24 |
| Sacramento Metro, CA | Ozone (2008 8-hour) | Nonattainment, Severe 15 | 25 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Sacramento, CA | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 1.86 | 4.06 | 4.09 | 6.41 |
| Salem Area, OR | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | -0.01 | -0.05 | -0.05 |
| Salt Lake City Area, UT | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 1.94 | 4.42 | 4.82 | 7.33 |
| Salt Lake City, UT | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 2.18 | 4.86 | 5.08 | 7.84 |

Table A1-38
Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Direct and Indirect Impacts
Diesel Particulate Matter (DPM) 2025

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|---|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Salt Lake County, UT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 1.96 | 4.40 | 4.67 | 7.17 |
| Salt Lake County, UT | SO ₂ (1971 24-hour/Annual) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| San Bernardino County (part); excluding Searles Valley Planning area and South Coast Air Basin, CA | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.01 | -0.02 | -0.12 | -0.12 |
| San Diego Area, CA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.06 | -0.11 | -0.63 | -0.66 |
| San Diego County, CA | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| San Francisco Bay Area, CA | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| San Francisco Bay Area, CA | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 21.14 | 47.79 | 51.32 | 78.46 |
| San Francisco-Oakland-San Jose Area, CA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 21.12 | 47.81 | 51.42 | 78.57 |
| San Joaquin Valley Air Basin; Fresno, Kern, Kings, Madera, Merced, San Joaquin, Stanislaus, Tulare Counties, CA | PM10 (1987 24-hour) | Maintenance, Serious | 100 | 0 | 0.77 | 1.43 | 0.89 | 1.75 |
| San Joaquin Valley, CA | Ozone (2008 8-hour) | Nonattainment, Extreme | 10 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| San Joaquin Valley, CA | PM2.5 (2006 24-hour) | Nonattainment, Serious | 100 | 0 | 0.77 | 1.43 | 0.89 | 1.75 |
| San Joaquin Valley, CA | PM2.5 (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 0.77 | 1.43 | 0.89 | 1.75 |
| San Luis Obispo (Eastern San Luis Obispo), CA | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| San Manuel, AZ | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| San Miguel County; Telluride, CO | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Sanders County (part); Thompson Falls and vicinity, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Santa Cruz County; Nogales planning area, AZ | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | -0.01 | -0.01 |
| Seaford, DE | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Seattle-Tacoma Area, WA | CO (1971 8-hour) | Maintenance, Moderate > 12.7ppm | 100 | 0 | 0.11 | 0.03 | -0.39 | -0.34 |
| Seattle-Tacoma, WA | PM2.5 (2006 24-hour) | Maintenance, Moderate | 100 | 0 | 0.06 | 0.11 | 0.05 | 0.12 |
| Sheboygan County, WI | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |

Appendix A Air Quality Non-Attainment Area Results

Table A1-38

**Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Direct and Indirect Impacts
Diesel Particulate Matter (DPM) 2025**

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|---|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Sheridan County; City of Sheridan, WY | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | -0.01 |
| Shoshone County (part); excluding Pinehurst, ID | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | -0.01 | -0.01 |
| Shoshone County; City of Pinehurst, ID | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Silver Bow County; Butte, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | -0.01 | -0.01 |
| Somerville Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Southwest Indiana, IN | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Spokane Area, WA | CO (1971 8-hour) | Maintenance, Serious | 100 | 0 | 0.01 | -0.01 | -0.06 | -0.06 |
| Spokane County; (part), WA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.01 | -0.01 | -0.06 | -0.06 |
| Springfield Area, MA | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | -0.01 | -0.03 | -0.03 |
| St. Bernard Parish, LA | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 8.81 | 20.12 | 22.03 | 33.43 |
| St. Louis Area, MO | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.02 | -0.03 | -0.17 | -0.17 |
| St. Louis-St. Charles-Farmington, MO-IL | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Steubenville, OH-WV | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | -0.01 | -0.01 |
| Steubenville-Weirton, OH-WV | PM2.5 (2006 24-hour) | Maintenance, -- | 100 | 0 | 0.02 | 0.04 | 0.02 | 0.05 |
| Stockton Area, CA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.02 | 0.02 | -0.03 | -0.01 |
| Sullivan County, TN | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.01 | 0.02 | 0.02 | 0.04 |
| Syracuse Area; Onondaga County, NY | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.01 | -0.01 | -0.10 | -0.10 |
| Tazewell County; Groveland Twp, IL | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Terre Haute, IN | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.16 | 0.36 | 0.39 | 0.59 |

Table A1-38
Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Direct and Indirect Impacts
Diesel Particulate Matter (DPM) 2025

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|---|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Thurston County; Cities of Olympia, Tumwater, and Lacey, WA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | -0.02 | -0.02 |
| Toms River Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Tooele County (part), UT | SO ₂ (1971 24-hour/Annual) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Trenton Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | -0.02 | -0.02 |
| Trona, CA | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Tucson Area, AZ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.02 | -0.03 | -0.16 | -0.17 |
| Tuscan Buttes, CA | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Union County; LaGrande, OR | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | -0.01 | -0.01 |
| Upper Green River Basin Area, WY | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Utah County, UT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.08 | 0.16 | 0.12 | 0.21 |
| Vancouver Area: Clark County (part), WA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.01 | -0.01 | -0.05 | -0.05 |
| Ventura County, CA | Ozone (2008 8-hour) | Nonattainment, Serious | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Vermillion County; Part of Clinton Township, IN | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Vigo County, IN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Walla Walla County; Wallula, WA | PM10 (1987 24-hour) | Maintenance, Serious | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Waltham Area, MA | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | -0.01 | -0.01 |
| Warren County: Conewago Twp, PA | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Warren County: Warren Boro, Pleasant Twp, Glade Twp, PA | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Warren, PA | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 1.18 | 2.69 | 2.94 | 4.47 |
| Washington Area, DC-MD-VA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.01 | -0.02 | -0.12 | -0.13 |
| Washington, DC-MD-VA | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Washoe County; Reno planning area, NV | PM10 (1987 24-hour) | Nonattainment, Serious | 70 | 0 | 0.01 | -0.01 | -0.06 | -0.06 |

Appendix A Air Quality Non-Attainment Area Results

Table A1-38

**Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Direct and Indirect Impacts
Diesel Particulate Matter (DPM) 2025**

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|---|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Wayne County: Boston, Center, Franklin, Wayne & Webster Townships, IN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Wayne County; (part), MI | PM ₁₀ (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.86 | 1.96 | 2.13 | 3.24 |
| West Central Pinal County, AZ | PM _{2.5} (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | -0.02 | -0.02 |
| West Silver Valley, ID | PM _{2.5} (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Winston-Salem Area, NC | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.01 | -0.01 | -0.07 | -0.07 |
| Worcester Area, MA | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | -0.01 | -0.04 | -0.04 |
| Yakima Area, WA | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | -0.01 | -0.01 |
| Yakima County; (part), WA | PM ₁₀ (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | -0.02 | -0.02 |
| Yuba City-Marysville, CA | PM _{2.5} (2006 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | -0.01 | -0.04 | -0.04 |
| Yuma County; Yuma planning area, AZ | PM ₁₀ (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | -0.01 | -0.03 | -0.03 |

^a Reductions are shown as positive values. Negative values are emissions increases. Values of less than 0.005 tons per year are rounded to zero.

^b Nonattainment or maintenance status as of 5/13/2016. Source: U.S. EPA, The Green Book Nonattainment Areas for Criteria Pollutants; <http://www.epa.gov/airquality/greenbook/>. "--" indicates that no severity classification has been established for the NAAQS pollutant.

^c Emissions thresholds in tons per year. Where the threshold differs by precursor pollutant, the smallest of the precursor thresholds is shown. These thresholds are provided for information only; a general conformity determination is not required for the Proposed Action. Source: 40 CFR 93.853.

Notes: CO = carbon monoxide; NAAQS = National Ambient Air Quality Standards; NO₂ = nitrogen dioxide; PM = particulate matter; SO₂ = sulfur dioxide

Table A1-39
Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Direct and Indirect Impacts
Diesel Particulate Matter (DPM) 2040

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Ada County; Boise, ID | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.04 | 0.17 | 0.17 | 0.24 |
| Adams, Denver, and Boulder Counties; Denver Metropolitan area, CO | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.74 | 2.49 | 2.17 | 3.13 |
| Ajo, AZ | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Albuquerque Area, NM | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.08 | 0.37 | 0.35 | 0.50 |
| Allegheny County Air Basin: Hazelwood monitor, PA | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Allegheny County, PA | PM2.5 (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 0.13 | 0.57 | 0.53 | 0.76 |
| Allegheny County; The area including Liberty, Lincoln, Port Vue, and Glassport Boroughs and the City of Clairton, PA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.04 | 0.12 | 0.10 | 0.14 |
| Allegheny, PA | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.04 | 0.14 | 0.12 | 0.18 |
| Allentown, PA | PM2.5 (2006 24-hour) | Maintenance, Moderate | 100 | 0 | 0.07 | 0.31 | 0.30 | 0.43 |
| Allentown-Bethlehem-Easton, PA | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Anchorage Area, AK | CO (1971 8-hour) | Maintenance, Serious | 100 | 0 | 0.01 | 0.06 | 0.06 | 0.08 |
| Anchorage; Eagle River, AK | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.01 | 0.01 | 0.01 |
| AQCR 012: Portions of Grant County, NM | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| AQCR 109-Millinocket, ME | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| AQCR 131: Anoka, Carver, Dakota, Hennepin, Ramsey, Scott, and Washington counties (Minneapolis-St. Paul), MN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| AQCR 237: Brown County: Green Bay sub-city area, WI | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| AQCR 238: Marathon County: Rothschild Sub-city area, Rib Mountain, Weston, WI | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| AQCR 238: Oneida County: Rhinelander Sub-city area, WI | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| AQCR 239: Milwaukee County: Milwaukee sub-city area, WI | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |

Appendix A Air Quality Non-Attainment Area Results

Table A1-39

**Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Direct and Indirect Impacts
Diesel Particulate Matter (DPM) 2040**

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| AQCR 240: Dane County: Madison sub-city area, WI | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Archuleta County; Pagosa Springs, CO | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.01 | 0.01 | 0.02 |
| Armstrong County: Madison Twp, Mahoning Twp, Boggs Twp, Washington Twp, Pine Twp, PA | SO ₂ (1971 24-hour/Annual) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Aroostock County; City of Presque Isle, ME | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.01 | 0.01 | 0.01 |
| Atlanta, GA | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Atlantic City Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.01 | 0.03 | 0.03 | 0.04 |
| Bakersfield Area, CA | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 2.14 | 6.34 | 5.27 | 7.66 |
| Baltimore Area, MD | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.01 | 0.01 | 0.01 |
| Baltimore, MD | Ozone (2008 8-hour) | Nonattainment, Moderate | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Baton Rouge, LA | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Beaver, PA | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.01 | 0.01 | 0.01 |
| Benton County; (part) TVA Johnsonville, TN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Billings Area, MT | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 16.93 | 49.34 | 40.75 | 59.24 |
| Billings, MT | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 16.92 | 49.29 | 40.70 | 59.17 |
| Birmingham, AL | PM2.5 (2006 24-hour) | Maintenance, -- | 100 | 0 | 0.33 | 1.25 | 1.13 | 1.63 |
| Boise-Northern Ada County Area, ID | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.04 | 0.17 | 0.17 | 0.24 |
| Bonner County; The Sandpoint Area, ID | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.01 | 0.01 | 0.01 |
| Boston Area, MA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.60 | 1.91 | 1.63 | 2.37 |
| Boyd County (part), KY | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Brooke; Follansbee area, WV | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Burlington Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.01 |
| Calaveras County, CA | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Campbell-Clermont Counties, KY-OH | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.02 | 0.02 | 0.03 |

Table A1-39
Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Direct and Indirect Impacts
Diesel Particulate Matter (DPM) 2040

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|---|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Canton-Massillon, OH | PM2.5 (2006 24-hour) | Maintenance, -- | 100 | 0 | 9.01 | 26.31 | 21.76 | 31.63 |
| Central New Hampshire, NH | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.02 | 0.12 | 0.11 | 0.16 |
| Central Steptoe Valley, NV | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Charleston, WV | PM2.5 (2006 24-hour) | Maintenance, -- | 100 | 0 | 0.04 | 0.20 | 0.19 | 0.28 |
| Charlotte Area, NC | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.14 | 0.69 | 0.67 | 0.96 |
| Charlotte-Rock Hill, NC-SC | Ozone (2008 8-hour) | Maintenance, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Chicago-Naperville, IL-IN-WI | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Chico (Butte County), CA | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Chico Area, CA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.01 | 0.05 | 0.05 | 0.07 |
| Chico, CA | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.02 | 0.11 | 0.10 | 0.15 |
| Cincinnati, OH-KY-IN | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Clark County; Las Vegas planning area, NV | PM10 (1987 24-hour) | Maintenance, Serious | 100 | 0 | 0.40 | 1.50 | 1.36 | 1.96 |
| Cleveland Area, OH | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.11 | 0.52 | 0.50 | 0.72 |
| Cleveland, OH | PM2.5 (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 0.14 | 0.68 | 0.65 | 0.93 |
| Cleveland-Akron-Lorain, OH | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Cleveland-Akron-Lorain, OH | PM2.5 (2006 24-hour) | Maintenance, -- | 100 | 0 | 0.30 | 1.48 | 1.43 | 2.04 |
| Cochise County; Paul Spur/Douglas planning area, AZ | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.02 | 0.02 | 0.03 |
| Colorado Springs Area, CO | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.18 | 0.66 | 0.58 | 0.84 |
| Columbus, OH | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Cook County; Lyons Township, IL | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.01 | 0.05 | 0.04 | 0.06 |
| Cook County; Southeast Chicago, IL | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.01 | 0.05 | 0.05 | 0.07 |
| Coshocton County; Franklin Township, OH | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Coso Junction, CA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Cuyahoga County (part), OH | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Cuyahoga County, OH | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.11 | 0.52 | 0.50 | 0.71 |

Appendix A Air Quality Non-Attainment Area Results

Table A1-39

**Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Direct and Indirect Impacts
Diesel Particulate Matter (DPM) 2040**

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Dallas-Fort Worth, TX | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Delaware County, PA | PM2.5 (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 31.10 | 90.65 | 74.88 | 108.86 |
| Denver-Boulder Area, CO | CO (1971 8-hour) | Maintenance, Serious | 100 | 0 | 12.27 | 36.29 | 30.16 | 43.81 |
| Denver-Boulder-Greeley-Ft Collins-Loveland, CO | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Detroit Area, MI | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 2.90 | 8.78 | 7.36 | 10.68 |
| Detroit, MI | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 2.78 | 8.16 | 6.77 | 9.84 |
| Detroit-Ann Arbor, MI | PM2.5 (2006 24-hour) | Maintenance, -- | 100 | 0 | 3.32 | 10.76 | 9.27 | 13.41 |
| Dona Ana County; Anthony, NM | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.01 | 0.01 | 0.01 |
| Douglas, AZ | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Dukes County, MA | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Duluth Area, MN | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.02 | 0.07 | 0.07 | 0.10 |
| East Chicago Area, IN | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 12.24 | 35.66 | 29.45 | 42.81 |
| East Helena Area, MT | SO ₂ (1971 24-hour/Annual) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| East Kern County Area, CA | PM10 (1987 24-hour) | Nonattainment, Serious | 70 | 0 | 2.09 | 6.08 | 5.02 | 7.30 |
| El Paso County, TX | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 2.81 | 8.29 | 6.88 | 9.99 |
| El Paso, TX | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 2.77 | 8.06 | 6.66 | 9.68 |
| Eugene-Springfield Area, OR | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.03 | 0.13 | 0.12 | 0.18 |
| Fairbanks Area, AK | CO (1971 8-hour) | Maintenance, Serious | 100 | 0 | 0.34 | 1.00 | 0.83 | 1.20 |
| Fairbanks, AK | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.34 | 1.01 | 0.84 | 1.22 |

Table A1-39

Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Direct and Indirect Impacts
 Diesel Particulate Matter (DPM) 2040

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|---|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Flathead County; Columbia Falls and vicinity, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Flathead County; Kalispell and vicinity, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.02 | 0.02 | 0.03 |
| Flathead County; Whitefish and vicinity, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Fort Collins Area, CO | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.01 | 0.06 | 0.06 | 0.09 |
| Freehold Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.01 | 0.01 | 0.02 |
| Fremont County; Canon City Area, CO | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.02 | 0.02 | 0.03 |
| Fresno Area, CA | CO (1971 8-hour) | Maintenance, Moderate > 12.7ppm | 100 | 0 | 0.09 | 0.38 | 0.35 | 0.51 |
| Grants Pass Area, OR | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.01 | 0.03 | 0.02 | 0.03 |
| Great Falls Area, MT | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 1.91 | 5.56 | 4.59 | 6.68 |
| Greater Connecticut, CT | Ozone (2008 8-hour) | Nonattainment, Moderate | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Greeley Area, CO | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.29 | 0.94 | 0.81 | 1.17 |
| Hancock and Brooke Counties (Part); The city of Weirton, WV | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.06 | 0.18 | 0.15 | 0.21 |
| Hancock County (Part) The city of Weirton, including Butler and Clay: Magisterial Districts, WV | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Harrisburg-Lebanon-Carlisle-York, PA | PM2.5 (2006 24-hour) | Maintenance, Moderate | 100 | 0 | 0.14 | 0.70 | 0.68 | 0.97 |
| Hartford-New Britain-Middletown Area, CT | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.13 | 0.62 | 0.60 | 0.85 |
| Hayden, AZ | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Hayden, AZ | SO ₂ (1971 24-hour/Annual) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Hayden, AZ | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Hillsborough County, FL | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.01 | 0.01 | 0.01 |
| Houston-Galveston-Brazoria, TX | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Humphreys County; (part) TVA Johnsonville, TN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Imperial Co, CA | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.02 | 0.12 | 0.11 | 0.16 |

Appendix A Air Quality Non-Attainment Area Results

Table A1-39

**Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Direct and Indirect Impacts
Diesel Particulate Matter (DPM) 2040**

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Imperial County, CA | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Imperial County, CA | PM2.5 (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 0.02 | 0.12 | 0.11 | 0.16 |
| Imperial County; Imperial Valley planning area, CA | PM10 (1987 24-hour) | Nonattainment, Serious | 70 | 0 | 0.03 | 0.14 | 0.13 | 0.19 |
| Indian Wells, CA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 2.09 | 6.08 | 5.02 | 7.30 |
| Indiana, PA | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.01 | 0.05 | 0.05 | 0.07 |
| Indianapolis Area, IN | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Indianapolis, IN | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.05 | 0.26 | 0.25 | 0.36 |
| Inyo County; Owens Valley planning area, CA | PM10 (1987 24-hour) | Nonattainment, Serious | 70 | 0 | 0.00 | 0.00 | 0.00 | 0.01 |
| Jackson County, MO | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.01 | 0.03 | 0.03 | 0.04 |
| Jackson County; Medford-Ashland (including White City), OR | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.02 | 0.11 | 0.10 | 0.15 |
| Jamestown, NY | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Jefferson County, KY | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.04 | 0.10 | 0.09 | 0.12 |
| Jefferson County, MO | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.01 | 0.03 | 0.03 | 0.04 |
| Jefferson County; (part) Steubenville & Mingo Junction, OH | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Jefferson County; (part), OH | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Johnstown, PA | PM2.5 (2006 24-hour) | Maintenance, Moderate | 100 | 0 | 0.01 | 0.07 | 0.07 | 0.09 |
| Josephine County; Grants Pass, OR | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.01 | 0.03 | 0.02 | 0.03 |
| Juneau; Mendenhall Valley area, AK | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.01 |
| Kern County (Eastern Kern), CA | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| King County; Kent, WA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.01 | 0.01 | 0.02 |
| King County; Seattle, WA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.01 |
| Klamath County; Klamath Falls, OR | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.01 | 0.04 | 0.04 | 0.06 |
| Klamath Falls Area, OR | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.01 | 0.04 | 0.04 | 0.06 |
| Klamath Falls, OR | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.01 | 0.05 | 0.05 | 0.06 |

Table A1-39
Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Direct and Indirect Impacts
Diesel Particulate Matter (DPM) 2040

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Knoxville, TN | Ozone (2008 8-hour) | Maintenance, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Knoxville-Sevierville-La Follette, TN | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.11 | 0.54 | 0.52 | 0.75 |
| La Porte County: (part), IN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lake County (part); Lakeview, OR | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.01 |
| Lake County, OH | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.03 | 0.15 | 0.14 | 0.21 |
| Lake County: (part), IN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lake County; (part) Eastlake, Timberlake, Lakeline, Willoughby, Mentor, OH | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lake County; Cities of East Chicago, Hammond, Whiting, and Gary, IN | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 12.26 | 35.74 | 29.52 | 42.92 |
| Lake County; Polson, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lake County; Ronan, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lake Tahoe Nevada Area, NV | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.01 | 0.01 | 0.01 |
| Lake Tahoe North Shore Area, CA | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.01 |
| Lake Tahoe South Shore Area, CA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.01 | 0.01 | 0.02 |
| Lancaster, PA | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lancaster, PA | PM2.5 (2006 24-hour) | Maintenance, Moderate | 100 | 0 | 0.06 | 0.29 | 0.27 | 0.39 |
| Lane County (part); Oakridge, OR | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lane County; Eugene/Springfield, OR | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.03 | 0.13 | 0.12 | 0.18 |
| Las Vegas Area, NV | CO (1971 8-hour) | Maintenance, Serious | 100 | 0 | 0.40 | 1.50 | 1.36 | 1.96 |
| LaSalle County; Oglesby, IL | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.02 | 0.02 | 0.03 |
| Laurel Area, MT | SO ₂ (1971 24-hour/Annual) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lebanon County, PA | PM2.5 (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 0.02 | 0.10 | 0.09 | 0.14 |
| Lemont, IL | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 18.33 | 53.41 | 44.12 | 64.13 |
| Liberty-Clairton, PA | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.04 | 0.12 | 0.10 | 0.14 |

Appendix A Air Quality Non-Attainment Area Results

Table A1-39

**Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Direct and Indirect Impacts
Diesel Particulate Matter (DPM) 2040**

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Lincoln County; Libby and vicinity, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Logan, UT-ID | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.01 | 0.05 | 0.05 | 0.07 |
| Longmont Area, CO | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.01 | 0.04 | 0.04 | 0.06 |
| Lorain County (part), OH | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Los Angeles, CA | PM2.5 (2006 24-hour) | Nonattainment, Serious | 100 | 0 | 59.06 | 175.33 | 145.92 | 211.98 |
| Los Angeles-San Bernardino Counties (West Mojave Desert), CA | Ozone (2008 8-hour) | Nonattainment, Severe 15 | 25 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Los Angeles-South Coast Air Basin Area, CA | CO (1971 8-hour) | Maintenance, Serious | 100 | 0 | 59.07 | 175.34 | 145.93 | 211.98 |
| Los Angeles-South Coast Air Basin Area, CA | NO ₂ (1971 Annual) | Maintenance, -- | 100 | 0 | 59.07 | 175.34 | 145.93 | 211.98 |
| Los Angeles-South Coast Air Basin, CA | Ozone (2008 8-hour) | Nonattainment, Extreme | 10 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Los Angeles-South Coast Air Basin, CA | PM2.5 (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 59.06 | 175.32 | 145.91 | 211.96 |
| Lowell Area, MA | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.01 | 0.06 | 0.06 | 0.08 |
| Lucas County (part), OH | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Madison County; Granite City Township and Nameoki Township, IL | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 15.58 | 45.38 | 37.48 | 54.49 |
| Manchester Area, NH | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.01 | 0.05 | 0.04 | 0.06 |
| Maricopa and Pinal Counties; Phoenix planning area, AZ | PM10 (1987 24-hour) | Nonattainment, Serious | 70 | 0 | 0.41 | 1.98 | 1.91 | 2.74 |
| Marion County; Lawrence, Washington, and Warrant Townships, IN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Mariposa County, CA | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Marshall, WV | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 10.67 | 31.08 | 25.66 | 37.31 |
| Medford Area, OR | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.01 | 0.06 | 0.05 | 0.08 |
| Memphis Area, TN | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 6.07 | 17.86 | 14.82 | 21.53 |

Table A1-39
Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Direct and Indirect Impacts
Diesel Particulate Matter (DPM) 2040

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|---|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Memphis, TN-MS-AR | Ozone (2008 8-hour) | Nonattainment TN & Maintenance MS/AR, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Miami, AZ | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.01 |
| Miami, AZ | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Miami, AZ | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.01 |
| Milwaukee-Racine, WI | PM2.5 (2006 24-hour) | Maintenance, -- | 100 | 0 | 0.28 | 1.08 | 0.98 | 1.42 |
| Minneapolis-St. Paul Area, MN | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 20.01 | 58.95 | 48.91 | 71.07 |
| Missoula Area, MT | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 1.82 | 5.32 | 4.40 | 6.39 |
| Missoula county; Missoula and vicinity, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 1.82 | 5.32 | 4.40 | 6.39 |
| Modesto Area, CA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.04 | 0.14 | 0.13 | 0.19 |
| Mohave County (part); Bullhead City, AZ | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.01 | 0.05 | 0.05 | 0.08 |
| Mono County; Mammoth Lake planning area, CA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.02 | 0.02 | 0.03 |
| Mono County; Mono Basin, CA | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Morenci, AZ | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Morgan County, IN | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.02 | 0.02 | 0.03 |
| Morongo Band of Mission Indians | Ozone (2008 8-hour) | Nonattainment, Serious | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Morristown Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.05 | 0.16 | 0.13 | 0.19 |
| Muscatine County; (part), IA | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Muscatine, IA | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.01 | 0.01 | 0.02 |
| Muskingum River, OH | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.01 |
| Nashua Area, NH | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.01 | 0.04 | 0.04 | 0.06 |
| Nassau County, FL | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Nevada County (Western part), CA | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| New Haven County, CT | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.01 | 0.01 | 0.01 |

Appendix A Air Quality Non-Attainment Area Results

Table A1-39

Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Direct and Indirect Impacts

Diesel Particulate Matter (DPM) 2040

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| New Haven-Meriden-Waterbury Area, CT | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.10 | 0.47 | 0.45 | 0.65 |
| New Manchester-Grant magisterial district in Hancock County, WV | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| New York County, NY | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.06 | 0.31 | 0.30 | 0.43 |
| New York, NY-NJ-CT | PM2.5 (2006 24-hour) | Maintenance, -- | 100 | 0 | 11.16 | 35.97 | 30.91 | 44.75 |
| New York-N. New Jersey-Long Island Area, NY-NJ-CT | CO (1971 8-hour) | Maintenance, Moderate > 12.7ppm | 100 | 0 | 8.78 | 27.49 | 23.37 | 33.87 |
| New York-N. New Jersey-Long Island, NY-NJ-CT | Ozone (2008 8-hour) | Nonattainment, Moderate | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| NJ portion of the Northeast Pennsylvania-Upper Delaware Valley Interstate AQCR: (part), NJ | SO ₂ (1971 24-hour/Annual) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Nogales, AZ | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.01 | 0.03 | 0.03 | 0.04 |
| Oakridge, OR | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Ogden Area, UT | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.01 | 0.03 | 0.03 | 0.05 |
| Ogden Area, UT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.01 | 0.03 | 0.03 | 0.05 |
| Olmsted County; (part), MN | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.01 | 0.01 | 0.02 |
| Olmsted; City of Rochester, MN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |

Table A1-39
Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Direct and Indirect Impacts
Diesel Particulate Matter (DPM) 2040

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Pechanga Band of Luiseno Mission Indians of the Pechanga Reservation | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Pekin, IL | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.02 | 0.02 | 0.03 |
| Penns Grove Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Peoria County: Hollis Twp, IL | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Peoria County: Peoria, IL | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Perth Amboy Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 1.54 | 4.52 | 3.74 | 5.44 |
| Philadelphia-Camden County Area, PA-NJ | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 16.15 | 47.25 | 39.08 | 56.81 |
| Philadelphia-Wilmington, PA-NJ-DE | PM _{2.5} (2006 24-hour) | Maintenance, Moderate for PA and DE Subject to Former Subpart 1 for NJ | 100 | 0 | 54.35 | 159.22 | 131.80 | 191.56 |
| Philadelphia-Wilmington-Atlantic City, PA-NJ-MD-DE | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Phoenix Area, AZ | CO (1971 8-hour) | Maintenance, Serious | 100 | 0 | 0.39 | 1.89 | 1.83 | 2.62 |
| Phoenix-Mesa, AZ | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Pierce County; Tacoma, WA | PM ₁₀ (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.17 | 0.50 | 0.41 | 0.60 |
| Pima County; Ajo planning area, AZ | PM ₁₀ (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Pima County; Rillito planning area, AZ | PM ₁₀ (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.01 | 0.04 | 0.03 | 0.05 |
| Pinal and Gila Counties; Payson, AZ | PM ₁₀ (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.02 | 0.02 | 0.02 |
| Pinal County (part); West Pinal, AZ | PM ₁₀ (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.05 | 0.22 | 0.22 | 0.31 |
| Pitkin County; Aspen, CO | PM ₁₀ (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.01 | 0.01 | 0.02 |
| Pittsburgh Area, PA | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.06 | 0.21 | 0.19 | 0.27 |
| Pittsburgh-Beaver Valley, PA | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Pittsburgh-Beaver Valley, PA | PM _{2.5} (2006 24-hour) | Maintenance, Moderate | 100 | 0 | 1.18 | 3.82 | 3.29 | 4.76 |
| Plumas County, CA | PM _{2.5} (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Polk County, TN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |

Appendix A Air Quality Non-Attainment Area Results

Table A1-39

**Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Direct and Indirect Impacts
Diesel Particulate Matter (DPM) 2040**

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|-------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Portland Area: Portland Metro Service District Boundary, OR | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.15 | 0.70 | 0.66 | 0.95 |
| Power-Bannock Counties; Fort Hall Indian Reservation, ID | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Power-Bannock Counties; Portneuf Valley Area, ID | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.01 | 0.05 | 0.05 | 0.07 |
| Provo Area, UT | CO (1971 8-hour) | Maintenance, Moderate > 12.7ppm | 100 | 0 | 0.25 | 0.75 | 0.62 | 0.91 |
| Provo, UT | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.29 | 0.93 | 0.80 | 1.15 |
| Prowers County; Lamar, CO | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Raleigh-Durham Area, NC | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.15 | 0.75 | 0.72 | 1.04 |
| Ramsey County; (part), MN | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Reading, PA | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Reno Area, NV | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.04 | 0.17 | 0.17 | 0.24 |
| Rhinelander, WI | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.02 | 0.02 | 0.03 |
| Riverside County (Coachella Valley), CA | Ozone (2008 8-hour) | Nonattainment, Severe 15 | 25 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Riverside County; Coachella Valley planning area, CA | PM10 (1987 24-hour) | Nonattainment, Serious | 70 | 0 | 0.06 | 0.28 | 0.27 | 0.38 |
| Riverside, Los Angeles, Orange, and San Bernardino Counties; South Coast Air Basin, CA | PM10 (1987 24-hour) | Maintenance, Serious | 100 | 0 | 59.06 | 175.30 | 145.89 | 211.93 |
| Rosebud County; Lame Deer, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.02 | 0.01 | 0.02 |
| Routt County (part); Steamboat Springs, CO | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.28 | 0.83 | 0.69 | 1.00 |
| Sacramento Area, CA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.15 | 0.71 | 0.68 | 0.98 |
| Sacramento County, CA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.14 | 0.67 | 0.65 | 0.93 |
| Sacramento Metro, CA | Ozone (2008 8-hour) | Nonattainment, Severe 15 | 25 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Sacramento, CA | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 6.04 | 18.10 | 15.12 | 21.96 |
| Salem Area, OR | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.03 | 0.14 | 0.13 | 0.19 |
| Salt Lake City Area, UT | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 6.20 | 18.10 | 14.95 | 21.74 |
| Salt Lake City, UT | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 7.04 | 20.83 | 17.32 | 25.17 |

Table A1-39

Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Direct and Indirect Impacts
 Diesel Particulate Matter (DPM) 2040

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|---|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Salt Lake County, UT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 6.29 | 18.52 | 15.37 | 22.33 |
| Salt Lake County, UT | SO ₂ (1971 24-hour/Annual) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| San Bernardino County (part); excluding Searles Valley Planning area and South Coast Air Basin, CA | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.06 | 0.30 | 0.29 | 0.42 |
| San Diego Area, CA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.37 | 1.82 | 1.75 | 2.51 |
| San Diego County, CA | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| San Francisco Bay Area, CA | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| San Francisco Bay Area, CA | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 67.78 | 198.84 | 164.68 | 239.34 |
| San Francisco-Oakland-San Jose Area, CA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 67.72 | 198.53 | 164.39 | 238.92 |
| San Joaquin Valley Air Basin; Fresno, Kern, Kings, Madera, Merced, San Joaquin, Stanislaus, Tulare Counties, CA | PM10 (1987 24-hour) | Maintenance, Serious | 100 | 0 | 2.69 | 8.79 | 7.59 | 10.98 |
| San Joaquin Valley, CA | Ozone (2008 8-hour) | Nonattainment, Extreme | 10 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| San Joaquin Valley, CA | PM2.5 (2006 24-hour) | Nonattainment, Serious | 100 | 0 | 2.69 | 8.79 | 7.59 | 10.98 |
| San Joaquin Valley, CA | PM2.5 (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 2.69 | 8.79 | 7.59 | 10.98 |
| San Luis Obispo (Eastern San Luis Obispo), CA | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| San Manuel, AZ | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| San Miguel County; Telluride, CO | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.01 | 0.01 | 0.01 |
| Sanders County (part); Thompson Falls and vicinity, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Santa Cruz County; Nogales planning area, AZ | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.01 | 0.03 | 0.03 | 0.04 |
| Seaford, DE | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Seattle-Tacoma Area, WA | CO (1971 8-hour) | Maintenance, Moderate > 12.7ppm | 100 | 0 | 0.48 | 1.99 | 1.85 | 2.66 |
| Seattle-Tacoma, WA | PM2.5 (2006 24-hour) | Maintenance, Moderate | 100 | 0 | 0.22 | 0.74 | 0.64 | 0.93 |
| Sheboygan County, WI | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |

Appendix A Air Quality Non-Attainment Area Results

Table A1-39

**Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Direct and Indirect Impacts
Diesel Particulate Matter (DPM) 2040**

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|---|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Sheridan County; City of Sheridan, WY | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.01 | 0.01 | 0.02 |
| Shoshone County (part); excluding Pinehurst, ID | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.02 | 0.02 | 0.03 |
| Shoshone County; City of Pinehurst, ID | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Silver Bow County; Butte, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.02 | 0.02 | 0.03 |
| Somerville Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.01 | 0.01 | 0.01 |
| Southwest Indiana, IN | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.01 | 0.01 | 0.01 |
| Spokane Area, WA | CO (1971 8-hour) | Maintenance, Serious | 100 | 0 | 0.03 | 0.15 | 0.15 | 0.21 |
| Spokane County; (part), WA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.03 | 0.16 | 0.15 | 0.22 |
| Springfield Area, MA | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.02 | 0.09 | 0.09 | 0.13 |
| St. Bernard Parish, LA | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 28.11 | 81.88 | 67.61 | 98.29 |
| St. Louis Area, MO | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.10 | 0.47 | 0.45 | 0.65 |
| St. Louis-St. Charles-Farmington, MO-IL | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Steubenville, OH-WV | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.01 | 0.04 | 0.03 | 0.05 |
| Steubenville-Weirton, OH-WV | PM2.5 (2006 24-hour) | Maintenance, -- | 100 | 0 | 0.07 | 0.24 | 0.20 | 0.30 |
| Stockton Area, CA | CO (1971 8-hour) | Maintenance, Moderate ≤ 12.7ppm | 100 | 0 | 0.09 | 0.34 | 0.30 | 0.44 |
| Sullivan County, TN | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.04 | 0.11 | 0.09 | 0.13 |
| Syracuse Area; Onondaga County, NY | CO (1971 8-hour) | Maintenance, Moderate ≤ 12.7ppm | 100 | 0 | 0.07 | 0.32 | 0.30 | 0.44 |
| Tazewell County; Groveland Twp, IL | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Terre Haute, IN | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.51 | 1.50 | 1.24 | 1.80 |

Table A1-39
Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Direct and Indirect Impacts
Diesel Particulate Matter (DPM) 2040

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|---|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Thurston County; Cities of Olympia, Tumwater, and Lacey, WA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.01 | 0.05 | 0.05 | 0.07 |
| Toms River Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Tooele County (part), UT | SO ₂ (1971 24-hour/Annual) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Trenton Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.01 | 0.05 | 0.05 | 0.07 |
| Trona, CA | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Tucson Area, AZ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.09 | 0.46 | 0.44 | 0.63 |
| Tuscan Buttes, CA | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Union County; LaGrande, OR | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.02 | 0.02 | 0.03 |
| Upper Green River Basin Area, WY | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Utah County, UT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.29 | 0.93 | 0.80 | 1.15 |
| Vancouver Area: Clark County (part), WA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.03 | 0.15 | 0.14 | 0.20 |
| Ventura County, CA | Ozone (2008 8-hour) | Nonattainment, Serious | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Vermillion County; Part of Clinton Township, IN | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.02 | 0.02 | 0.03 |
| Vigo County, IN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Walla Walla County; Wallula, WA | PM10 (1987 24-hour) | Maintenance, Serious | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Waltham Area, MA | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.01 | 0.03 | 0.03 | 0.04 |
| Warren County: Conewago Twp, PA | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Warren County: Warren Boro, Pleasant Twp, Glade Twp, PA | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Warren, PA | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 3.76 | 10.96 | 9.05 | 13.15 |
| Washington Area, DC-MD-VA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.07 | 0.36 | 0.34 | 0.49 |
| Washington, DC-MD-VA | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Washoe County; Reno planning area, NV | PM10 (1987 24-hour) | Nonattainment, Serious | 70 | 0 | 0.04 | 0.17 | 0.17 | 0.24 |

Appendix A Air Quality Non-Attainment Area Results

Table A1-39

**Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Direct and Indirect Impacts
Diesel Particulate Matter (DPM) 2040**

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|---|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Wayne County: Boston, Center, Franklin, Wayne & Webster Townships, IN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Wayne County; (part), MI | PM ₁₀ (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 2.75 | 8.02 | 6.63 | 9.64 |
| West Central Pinal County, AZ | PM _{2.5} (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.01 | 0.05 | 0.05 | 0.06 |
| West Silver Valley, ID | PM _{2.5} (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.01 | 0.01 | 0.02 |
| Winston-Salem Area, NC | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.04 | 0.20 | 0.19 | 0.28 |
| Worcester Area, MA | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.03 | 0.13 | 0.12 | 0.18 |
| Yakima Area, WA | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.02 | 0.02 | 0.03 |
| Yakima County; (part), WA | PM ₁₀ (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.01 | 0.06 | 0.06 | 0.09 |
| Yuba City-Marysville, CA | PM _{2.5} (2006 24-hour) | Maintenance, Moderate | 100 | 0 | 0.02 | 0.10 | 0.10 | 0.14 |
| Yuma County; Yuma planning area, AZ | PM ₁₀ (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.02 | 0.09 | 0.08 | 0.12 |

^a Reductions are shown as positive values. Negative values are emissions increases. Values of less than 0.005 tons per year are rounded to zero.

^b Nonattainment or maintenance status as of 5/13/2016. Source: U.S. EPA, The Green Book Nonattainment Areas for Criteria Pollutants; <http://www.epa.gov/airquality/greenbook/>. "--" indicates that no severity classification has been established for the NAAQS pollutant.

^c Emissions thresholds in tons per year. Where the threshold differs by precursor pollutant, the smallest of the precursor thresholds is shown. These thresholds are provided for information only; a general conformity determination is not required for the Proposed Action. Source: 40 CFR 93.853.

Notes: CO = carbon monoxide; NAAQS = National Ambient Air Quality Standards; NO₂ = nitrogen dioxide; PM = particulate matter; SO₂ = sulfur dioxide

Table A1-40
Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Direct and Indirect Impacts
Diesel Particulate Matter (DPM) 2050

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Ada County; Boise, ID | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.05 | 0.23 | 0.22 | 0.32 |
| Adams, Denver, and Boulder Counties; Denver Metropolitan area, CO | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.89 | 3.09 | 2.69 | 3.87 |
| Ajo, AZ | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Albuquerque Area, NM | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.10 | 0.48 | 0.47 | 0.67 |
| Allegheny County Air Basin: Hazelwood monitor, PA | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Allegheny County, PA | PM2.5 (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 0.17 | 0.74 | 0.70 | 1.00 |
| Allegheny County; The area including Liberty, Lincoln, Port Vue, and Glassport Boroughs and the City of Clairton, PA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.05 | 0.14 | 0.11 | 0.16 |
| Allegheny, PA | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.05 | 0.17 | 0.14 | 0.20 |
| Allentown, PA | PM2.5 (2006 24-hour) | Maintenance, Moderate | 100 | 0 | 0.08 | 0.41 | 0.41 | 0.57 |
| Allentown-Bethlehem-Easton, PA | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Anchorage Area, AK | CO (1971 8-hour) | Maintenance, Serious | 100 | 0 | 0.02 | 0.08 | 0.08 | 0.11 |
| Anchorage; Eagle River, AK | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.01 | 0.01 | 0.01 |
| AQCR 012: Portions of Grant County, NM | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| AQCR 109-Millinocket, ME | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| AQCR 131: Anoka, Carver, Dakota, Hennepin, Ramsey, Scott, and Washington counties (Minneapolis-St. Paul), MN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| AQCR 237: Brown County: Green Bay sub-city area, WI | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| AQCR 238: Marathon County: Rothschild Sub-city area, Rib Mountain, Weston, WI | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| AQCR 238: Oneida County: Rhinelander Sub-city area, WI | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| AQCR 239: Milwaukee County: Milwaukee sub-city area, WI | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |

Appendix A Air Quality Non-Attainment Area Results

Table A1-40

Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Direct and Indirect Impacts

Diesel Particulate Matter (DPM) 2050

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| AQCR 240: Dane County: Madison sub-city area, WI | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Archuleta County; Pagosa Springs, CO | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.02 | 0.02 | 0.02 |
| Armstrong County: Madison Twp, Mahoning Twp, Boggs Twp, Washington Twp, Pine Twp, PA | SO ₂ (1971 24-hour/Annual) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Aroostock County; City of Presque Isle, ME | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.01 | 0.01 | 0.02 |
| Atlanta, GA | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Atlantic City Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.01 | 0.04 | 0.04 | 0.05 |
| Bakersfield Area, CA | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 2.52 | 7.66 | 6.25 | 9.07 |
| Baltimore Area, MD | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.01 | 0.01 | 0.01 |
| Baltimore, MD | Ozone (2008 8-hour) | Nonattainment, Moderate | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Baton Rouge, LA | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Beaver, PA | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.01 | 0.01 | 0.02 |
| Benton County; (part) TVA Johnsonville, TN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Billings Area, MT | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 19.87 | 59.37 | 47.95 | 69.65 |
| Billings, MT | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 19.86 | 59.31 | 47.89 | 69.57 |
| Birmingham, AL | PM2.5 (2006 24-hour) | Maintenance, -- | 100 | 0 | 0.41 | 1.59 | 1.45 | 2.07 |
| Boise-Northern Ada County Area, ID | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.05 | 0.23 | 0.22 | 0.32 |
| Bonner County; The Sandpoint Area, ID | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.01 | 0.01 | 0.01 |
| Boston Area, MA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.71 | 2.35 | 2.00 | 2.88 |
| Boyd County (part), KY | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Brooke; Follansbee area, WV | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Burlington Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.01 |
| Calaveras County, CA | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Campbell-Clermont Counties, KY-OH | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.01 | 0.03 | 0.03 | 0.04 |

Table A1-40
Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Direct and Indirect Impacts
Diesel Particulate Matter (DPM) 2050

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|---|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Canton-Massillon, OH | PM2.5 (2006 24-hour) | Maintenance, -- | 100 | 0 | 10.57 | 31.69 | 25.63 | 37.23 |
| Central New Hampshire, NH | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.03 | 0.16 | 0.16 | 0.22 |
| Central Steptoe Valley, NV | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Charleston, WV | PM2.5 (2006 24-hour) | Maintenance, -- | 100 | 0 | 0.05 | 0.27 | 0.26 | 0.37 |
| Charlotte Area, NC | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.19 | 0.92 | 0.91 | 1.28 |
| Charlotte-Rock Hill, NC-SC | Ozone (2008 8-hour) | Maintenance, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Chicago-Naperville, IL-IN-WI | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Chico (Butte County), CA | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Chico Area, CA | CO (1971 8-hour) | Maintenance, Moderate ≤ 12.7ppm | 100 | 0 | 0.01 | 0.07 | 0.07 | 0.10 |
| Chico, CA | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.03 | 0.14 | 0.14 | 0.20 |
| Cincinnati, OH-KY-IN | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Clark County; Las Vegas planning area, NV | PM10 (1987 24-hour) | Maintenance, Serious | 100 | 0 | 0.49 | 1.92 | 1.76 | 2.50 |
| Cleveland Area, OH | CO (1971 8-hour) | Maintenance, Moderate ≤ 12.7ppm | 100 | 0 | 0.14 | 0.69 | 0.68 | 0.96 |
| Cleveland, OH | PM2.5 (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 0.18 | 0.89 | 0.88 | 1.25 |
| Cleveland-Akron-Lorain, OH | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Cleveland-Akron-Lorain, OH | PM2.5 (2006 24-hour) | Maintenance, -- | 100 | 0 | 0.40 | 1.96 | 1.94 | 2.73 |
| Cochise County; Paul Spur/Douglas planning area, AZ | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.01 | 0.03 | 0.03 | 0.04 |
| Colorado Springs Area, CO | CO (1971 8-hour) | Maintenance, Moderate ≤ 12.7ppm | 100 | 0 | 0.22 | 0.83 | 0.74 | 1.05 |
| Columbus, OH | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Cook County; Lyons Township, IL | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.01 | 0.06 | 0.06 | 0.08 |
| Cook County; Southeast Chicago, IL | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.01 | 0.06 | 0.06 | 0.08 |
| Coshocton County; Franklin Township, OH | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Coso Junction, CA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Cuyahoga County (part), OH | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Cuyahoga County, OH | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.14 | 0.68 | 0.67 | 0.95 |

Appendix A Air Quality Non-Attainment Area Results

Table A1-40

**Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Direct and Indirect Impacts
Diesel Particulate Matter (DPM) 2050**

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Dallas-Fort Worth, TX | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Delaware County, PA | PM2.5 (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 36.49 | 109.10 | 88.13 | 128.02 |
| Denver-Boulder Area, CO | CO (1971 8-hour) | Maintenance, Serious | 100 | 0 | 14.43 | 43.83 | 35.72 | 51.81 |
| Denver-Boulder-Greeley-Ft Collins-Loveland, CO | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Detroit Area, MI | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 3.40 | 10.54 | 8.68 | 12.57 |
| Detroit, MI | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 3.27 | 9.89 | 8.04 | 11.66 |
| Detroit-Ann Arbor, MI | PM2.5 (2006 24-hour) | Maintenance, -- | 100 | 0 | 3.97 | 13.28 | 11.37 | 16.37 |
| Dona Ana County; Anthony, NM | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.01 | 0.01 | 0.01 |
| Douglas, AZ | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Dukes County, MA | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Duluth Area, MN | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.02 | 0.10 | 0.10 | 0.14 |
| East Chicago Area, IN | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 14.37 | 42.91 | 34.65 | 50.33 |
| East Helena Area, MT | SO ₂ (1971 24-hour/Annual) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| East Kern County Area, CA | PM10 (1987 24-hour) | Nonattainment, Serious | 70 | 0 | 2.45 | 7.31 | 5.91 | 8.58 |
| El Paso County, TX | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 3.31 | 10.00 | 8.12 | 11.79 |
| El Paso, TX | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 3.25 | 9.70 | 7.84 | 11.38 |
| Eugene-Springfield Area, OR | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.03 | 0.17 | 0.17 | 0.24 |
| Fairbanks Area, AK | CO (1971 8-hour) | Maintenance, Serious | 100 | 0 | 0.40 | 1.20 | 0.97 | 1.41 |
| Fairbanks, AK | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.41 | 1.22 | 0.99 | 1.44 |

Table A1-40
Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Direct and Indirect Impacts
Diesel Particulate Matter (DPM) 2050

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|---|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Flathead County; Columbia Falls and vicinity, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Flathead County; Kalispell and vicinity, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.01 | 0.03 | 0.03 | 0.04 |
| Flathead County; Whitefish and vicinity, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Fort Collins Area, CO | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.02 | 0.08 | 0.08 | 0.12 |
| Freehold Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.02 | 0.02 | 0.03 |
| Fremont County; Canon City Area, CO | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.01 | 0.03 | 0.03 | 0.04 |
| Fresno Area, CA | CO (1971 8-hour) | Maintenance, Moderate > 12.7ppm | 100 | 0 | 0.11 | 0.49 | 0.46 | 0.66 |
| Grants Pass Area, OR | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.01 | 0.03 | 0.03 | 0.05 |
| Great Falls Area, MT | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 2.24 | 6.69 | 5.40 | 7.85 |
| Greater Connecticut, CT | Ozone (2008 8-hour) | Nonattainment, Moderate | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Greeley Area, CO | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.35 | 1.16 | 0.99 | 1.42 |
| Hancock and Brooke Counties (Part); The city of Weirton, WV | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.07 | 0.21 | 0.17 | 0.25 |
| Hancock County (Part) The city of Weirton, including Butler and Clay: Magisterial Districts, WV | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Harrisburg-Lebanon-Carlisle-York, PA | PM2.5 (2006 24-hour) | Maintenance, Moderate | 100 | 0 | 0.19 | 0.93 | 0.92 | 1.29 |
| Hartford-New Britain-Middletown Area, CT | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.17 | 0.82 | 0.81 | 1.14 |
| Hayden, AZ | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Hayden, AZ | SO ₂ (1971 24-hour/Annual) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Hayden, AZ | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Hillsborough County, FL | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.01 | 0.01 | 0.02 |
| Houston-Galveston-Brazoria, TX | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Humphreys County; (part) TVA Johnsonville, TN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Imperial Co, CA | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.03 | 0.15 | 0.15 | 0.21 |

Appendix A Air Quality Non-Attainment Area Results

Table A1-40

**Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Direct and Indirect Impacts
Diesel Particulate Matter (DPM) 2050**

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Imperial County, CA | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Imperial County, CA | PM2.5 (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 0.03 | 0.15 | 0.15 | 0.21 |
| Imperial County; Imperial Valley planning area, CA | PM10 (1987 24-hour) | Nonattainment, Serious | 70 | 0 | 0.04 | 0.19 | 0.18 | 0.26 |
| Indian Wells, CA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 2.45 | 7.31 | 5.91 | 8.58 |
| Indiana, PA | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.01 | 0.07 | 0.07 | 0.09 |
| Indianapolis Area, IN | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Indianapolis, IN | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.07 | 0.33 | 0.33 | 0.46 |
| Inyo County; Owens Valley planning area, CA | PM10 (1987 24-hour) | Nonattainment, Serious | 70 | 0 | 0.00 | 0.01 | 0.01 | 0.01 |
| Jackson County, MO | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.01 | 0.04 | 0.04 | 0.06 |
| Jackson County; Medford-Ashland (including White City), OR | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.03 | 0.14 | 0.14 | 0.20 |
| Jamestown, NY | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Jefferson County, KY | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.04 | 0.13 | 0.10 | 0.15 |
| Jefferson County, MO | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.01 | 0.04 | 0.04 | 0.05 |
| Jefferson County; (part) Steubenville & Mingo Junction, OH | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Jefferson County; (part), OH | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Johnstown, PA | PM2.5 (2006 24-hour) | Maintenance, Moderate | 100 | 0 | 0.02 | 0.09 | 0.09 | 0.12 |
| Josephine County; Grants Pass, OR | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.01 | 0.03 | 0.03 | 0.05 |
| Juneau; Mendenhall Valley area, AK | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.01 | 0.01 | 0.01 |
| Kern County (Eastern Kern), CA | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| King County; Kent, WA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.02 | 0.02 | 0.03 |
| King County; Seattle, WA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.01 | 0.01 | 0.01 |
| Klamath County; Klamath Falls, OR | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.01 | 0.07 | 0.06 | 0.09 |
| Klamath Falls Area, OR | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.01 | 0.07 | 0.06 | 0.09 |
| Klamath Falls, OR | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.01 | 0.07 | 0.07 | 0.10 |

Table A1-40
Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Direct and Indirect Impacts
Diesel Particulate Matter (DPM) 2050

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Knoxville, TN | Ozone (2008 8-hour) | Maintenance, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Knoxville-Sevierville-La Follette, TN | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.15 | 0.72 | 0.71 | 1.00 |
| La Porte County: (part), IN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lake County (part); Lakeview, OR | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.01 | 0.01 | 0.02 |
| Lake County, OH | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.04 | 0.20 | 0.19 | 0.27 |
| Lake County: (part), IN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lake County; (part) Eastlake, Timberlake, Lakeline, Willoughby, Mentor, OH | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lake County; Cities of East Chicago, Hammond, Whiting, and Gary, IN | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 14.38 | 43.00 | 34.74 | 50.46 |
| Lake County; Polson, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lake County; Ronan, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lake Tahoe Nevada Area, NV | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.01 | 0.01 | 0.01 |
| Lake Tahoe North Shore Area, CA | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.01 | 0.01 | 0.01 |
| Lake Tahoe South Shore Area, CA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.01 | 0.01 | 0.02 |
| Lancaster, PA | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lancaster, PA | PM2.5 (2006 24-hour) | Maintenance, Moderate | 100 | 0 | 0.08 | 0.38 | 0.37 | 0.53 |
| Lane County (part); Oakridge, OR | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lane County; Eugene/Springfield, OR | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.03 | 0.17 | 0.17 | 0.24 |
| Las Vegas Area, NV | CO (1971 8-hour) | Maintenance, Serious | 100 | 0 | 0.49 | 1.91 | 1.75 | 2.49 |
| LaSalle County; Oglesby, IL | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.01 | 0.03 | 0.03 | 0.04 |
| Laurel Area, MT | SO ₂ (1971 24-hour/Annual) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lebanon County, PA | PM2.5 (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 0.03 | 0.13 | 0.13 | 0.18 |
| Lemont, IL | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 21.51 | 64.28 | 51.92 | 75.42 |
| Liberty-Clairton, PA | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.05 | 0.14 | 0.11 | 0.16 |

Appendix A Air Quality Non-Attainment Area Results

Table A1-40

**Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Direct and Indirect Impacts
Diesel Particulate Matter (DPM) 2050**

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Lincoln County; Libby and vicinity, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Logan, UT-ID | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.01 | 0.07 | 0.07 | 0.09 |
| Longmont Area, CO | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.01 | 0.06 | 0.06 | 0.08 |
| Lorain County (part), OH | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Los Angeles, CA | PM2.5 (2006 24-hour) | Nonattainment, Serious | 100 | 0 | 69.52 | 211.99 | 173.14 | 251.05 |
| Los Angeles-San Bernardino Counties (West Mojave Desert), CA | Ozone (2008 8-hour) | Nonattainment, Severe 15 | 25 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Los Angeles-South Coast Air Basin Area, CA | CO (1971 8-hour) | Maintenance, Serious | 100 | 0 | 69.52 | 211.99 | 173.14 | 251.06 |
| Los Angeles-South Coast Air Basin Area, CA | NO ₂ (1971 Annual) | Maintenance, -- | 100 | 0 | 69.52 | 211.99 | 173.14 | 251.06 |
| Los Angeles-South Coast Air Basin, CA | Ozone (2008 8-hour) | Nonattainment, Extreme | 10 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Los Angeles-South Coast Air Basin, CA | PM2.5 (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 69.52 | 211.97 | 173.12 | 251.02 |
| Lowell Area, MA | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.02 | 0.08 | 0.08 | 0.11 |
| Lucas County (part), OH | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Madison County; Granite City Township and Nameoki Township, IL | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 18.28 | 54.61 | 44.10 | 64.06 |
| Manchester Area, NH | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.01 | 0.06 | 0.06 | 0.08 |
| Maricopa and Pinal Counties; Phoenix planning area, AZ | PM10 (1987 24-hour) | Nonattainment, Serious | 70 | 0 | 0.53 | 2.62 | 2.59 | 3.65 |
| Marion County; Lawrence, Washington, and Warrant Townships, IN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Mariposa County, CA | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Marshall, WV | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 12.52 | 37.40 | 30.20 | 43.86 |
| Medford Area, OR | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.02 | 0.08 | 0.07 | 0.11 |
| Memphis Area, TN | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 7.13 | 21.55 | 17.52 | 25.42 |

Table A1-40
Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Direct and Indirect Impacts
Diesel Particulate Matter (DPM) 2050

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|---|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Memphis, TN-MS-AR | Ozone (2008 8-hour) | Nonattainment TN & Maintenance MS/AR, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Miami, AZ | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.01 |
| Miami, AZ | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Miami, AZ | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.01 |
| Milwaukee-Racine, WI | PM2.5 (2006 24-hour) | Maintenance, -- | 100 | 0 | 0.35 | 1.38 | 1.27 | 1.81 |
| Minneapolis-St. Paul Area, MN | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 23.52 | 71.14 | 57.84 | 83.93 |
| Missoula Area, MT | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 2.14 | 6.41 | 5.18 | 7.53 |
| Missoula county; Missoula and vicinity, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 2.14 | 6.40 | 5.18 | 7.52 |
| Modesto Area, CA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.04 | 0.18 | 0.17 | 0.24 |
| Mohave County (part); Bullhead City, AZ | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.02 | 0.07 | 0.07 | 0.10 |
| Mono County; Mammoth Lake planning area, CA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.01 | 0.03 | 0.03 | 0.04 |
| Mono County; Mono Basin, CA | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Morenci, AZ | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Morgan County, IN | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.02 | 0.02 | 0.03 |
| Morongo Band of Mission Indians | Ozone (2008 8-hour) | Nonattainment, Serious | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Morristown Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.06 | 0.19 | 0.16 | 0.23 |
| Muscatine County; (part), IA | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Muscatine, IA | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.02 | 0.02 | 0.03 |
| Muskingum River, OH | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.01 | 0.01 | 0.01 |
| Nashua Area, NH | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.01 | 0.06 | 0.06 | 0.08 |
| Nassau County, FL | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Nevada County (Western part), CA | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| New Haven County, CT | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.01 | 0.01 | 0.02 |

Appendix A Air Quality Non-Attainment Area Results

Table A1-40

Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Direct and Indirect Impacts

Diesel Particulate Matter (DPM) 2050

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| New Haven-Meriden-Waterbury Area, CT | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.13 | 0.62 | 0.62 | 0.87 |
| New Manchester-Grant magisterial district in Hancock County, WV | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| New York County, NY | PM ₁₀ (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.08 | 0.41 | 0.41 | 0.57 |
| New York, NY-NJ-CT | PM _{2.5} (2006 24-hour) | Maintenance, -- | 100 | 0 | 13.32 | 44.33 | 37.87 | 54.52 |
| New York-N. New Jersey-Long Island Area, NY-NJ-CT | CO (1971 8-hour) | Maintenance, Moderate > 12.7ppm | 100 | 0 | 10.42 | 33.66 | 28.33 | 40.89 |
| New York-N. New Jersey-Long Island, NY-NJ-CT | Ozone (2008 8-hour) | Nonattainment, Moderate | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| NJ portion of the Northeast Pennsylvania-Upper Delaware Valley Interstate AQCR: (part), NJ | SO ₂ (1971 24-hour/Annual) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Nogales, AZ | PM _{2.5} (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.01 | 0.04 | 0.03 | 0.05 |
| Oakridge, OR | PM _{2.5} (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Ogden Area, UT | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.01 | 0.04 | 0.04 | 0.06 |
| Ogden Area, UT | PM ₁₀ (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.01 | 0.04 | 0.04 | 0.06 |
| Olmsted County; (part), MN | PM ₁₀ (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.02 | 0.02 | 0.02 |
| Olmsted; City of Rochester, MN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |

Table A1-40
Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Direct and Indirect Impacts
Diesel Particulate Matter (DPM) 2050

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Pechanga Band of Luiseno Mission Indians of the Pechanga Reservation | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Pekin, IL | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.01 | 0.03 | 0.03 | 0.04 |
| Penns Grove Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Peoria County: Hollis Twp, IL | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Peoria County: Peoria, IL | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Perth Amboy Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 1.81 | 5.46 | 4.42 | 6.42 |
| Philadelphia-Camden County Area, PA-NJ | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 18.97 | 56.91 | 46.07 | 66.90 |
| Philadelphia-Wilmington, PA-NJ-DE | PM _{2.5} (2006 24-hour) | Maintenance, Moderate for PA and DE Subject to Former Subpart 1 for NJ | 100 | 0 | 63.83 | 191.87 | 155.47 | 225.71 |
| Philadelphia-Wilmington-Atlantic City, PA-NJ-MD-DE | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Phoenix Area, AZ | CO (1971 8-hour) | Maintenance, Serious | 100 | 0 | 0.51 | 2.50 | 2.47 | 3.49 |
| Phoenix-Mesa, AZ | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Pierce County; Tacoma, WA | PM ₁₀ (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.20 | 0.60 | 0.49 | 0.70 |
| Pima County; Ajo planning area, AZ | PM ₁₀ (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Pima County; Rillito planning area, AZ | PM ₁₀ (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.01 | 0.05 | 0.05 | 0.07 |
| Pinal and Gila Counties; Payson, AZ | PM ₁₀ (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.01 | 0.03 | 0.03 | 0.04 |
| Pinal County (part); West Pinal, AZ | PM ₁₀ (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.06 | 0.30 | 0.30 | 0.42 |
| Pitkin County; Aspen, CO | PM ₁₀ (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.02 | 0.02 | 0.03 |
| Pittsburgh Area, PA | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.07 | 0.26 | 0.23 | 0.33 |
| Pittsburgh-Beaver Valley, PA | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Pittsburgh-Beaver Valley, PA | PM _{2.5} (2006 24-hour) | Maintenance, Moderate | 100 | 0 | 1.41 | 4.71 | 4.04 | 5.81 |
| Plumas County, CA | PM _{2.5} (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Polk County, TN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |

Appendix A Air Quality Non-Attainment Area Results

Table A1-40

**Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Direct and Indirect Impacts
Diesel Particulate Matter (DPM) 2050**

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|-------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Portland Area: Portland Metro Service District Boundary, OR | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.20 | 0.92 | 0.89 | 1.26 |
| Power-Bannock Counties; Fort Hall Indian Reservation, ID | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Power-Bannock Counties; Portneuf Valley Area, ID | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.01 | 0.07 | 0.07 | 0.10 |
| Provo Area, UT | CO (1971 8-hour) | Maintenance, Moderate > 12.7ppm | 100 | 0 | 0.30 | 0.91 | 0.74 | 1.07 |
| Provo, UT | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.34 | 1.14 | 0.97 | 1.40 |
| Prowers County; Lamar, CO | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Raleigh-Durham Area, NC | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.20 | 0.99 | 0.98 | 1.38 |
| Ramsey County; (part), MN | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Reading, PA | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Reno Area, NV | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.05 | 0.23 | 0.22 | 0.32 |
| Rhineland, WI | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.01 | 0.04 | 0.03 | 0.05 |
| Riverside County (Coachella Valley), CA | Ozone (2008 8-hour) | Nonattainment, Severe 15 | 25 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Riverside County; Coachella Valley planning area, CA | PM10 (1987 24-hour) | Nonattainment, Serious | 70 | 0 | 0.07 | 0.36 | 0.35 | 0.50 |
| Riverside, Los Angeles, Orange, and San Bernardino Counties; South Coast Air Basin, CA | PM10 (1987 24-hour) | Maintenance, Serious | 100 | 0 | 69.51 | 211.94 | 173.09 | 250.99 |
| Rosebud County; Lame Deer, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.02 | 0.02 | 0.03 |
| Routt County (part); Steamboat Springs, CO | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.33 | 1.01 | 0.82 | 1.18 |
| Sacramento Area, CA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.19 | 0.92 | 0.91 | 1.28 |
| Sacramento County, CA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.18 | 0.89 | 0.88 | 1.24 |
| Sacramento Metro, CA | Ozone (2008 8-hour) | Nonattainment, Severe 15 | 25 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Sacramento, CA | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 7.12 | 21.94 | 18.02 | 26.10 |
| Salem Area, OR | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.04 | 0.18 | 0.18 | 0.26 |
| Salt Lake City Area, UT | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 7.28 | 21.78 | 17.60 | 25.57 |
| Salt Lake City, UT | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 8.28 | 25.17 | 20.53 | 29.78 |

Table A1-40
Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Direct and Indirect Impacts
Diesel Particulate Matter (DPM) 2050

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|---|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Salt Lake County, UT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 7.39 | 22.35 | 18.17 | 26.36 |
| Salt Lake County, UT | SO ₂ (1971 24-hour/Annual) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| San Bernardino County (part); excluding Searles Valley Planning area and South Coast Air Basin, CA | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.08 | 0.38 | 0.38 | 0.53 |
| San Diego Area, CA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.49 | 2.40 | 2.38 | 3.35 |
| San Diego County, CA | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| San Francisco Bay Area, CA | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| San Francisco Bay Area, CA | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 79.62 | 239.69 | 194.38 | 282.17 |
| San Francisco-Oakland-San Jose Area, CA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 79.54 | 239.29 | 193.97 | 281.60 |
| San Joaquin Valley Air Basin; Fresno, Kern, Kings, Madera, Merced, San Joaquin, Stanislaus, Tulare Counties, CA | PM10 (1987 24-hour) | Maintenance, Serious | 100 | 0 | 3.22 | 10.87 | 9.35 | 13.45 |
| San Joaquin Valley, CA | Ozone (2008 8-hour) | Nonattainment, Extreme | 10 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| San Joaquin Valley, CA | PM2.5 (2006 24-hour) | Nonattainment, Serious | 100 | 0 | 3.22 | 10.87 | 9.35 | 13.45 |
| San Joaquin Valley, CA | PM2.5 (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 3.22 | 10.87 | 9.35 | 13.45 |
| San Luis Obispo (Eastern San Luis Obispo), CA | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| San Manuel, AZ | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| San Miguel County; Telluride, CO | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.01 | 0.01 | 0.01 |
| Sanders County (part); Thompson Falls and vicinity, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Santa Cruz County; Nogales planning area, AZ | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.01 | 0.04 | 0.03 | 0.05 |
| Seaford, DE | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Seattle-Tacoma Area, WA | CO (1971 8-hour) | Maintenance, Moderate > 12.7ppm | 100 | 0 | 0.60 | 2.57 | 2.43 | 3.45 |
| Seattle-Tacoma, WA | PM2.5 (2006 24-hour) | Maintenance, Moderate | 100 | 0 | 0.26 | 0.91 | 0.79 | 1.14 |
| Sheboygan County, WI | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |

Appendix A Air Quality Non-Attainment Area Results

Table A1-40

**Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Direct and Indirect Impacts
Diesel Particulate Matter (DPM) 2050**

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|---|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Sheridan County; City of Sheridan, WY | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.02 | 0.02 | 0.03 |
| Shoshone County (part); excluding Pinehurst, ID | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.01 | 0.03 | 0.03 | 0.04 |
| Shoshone County; City of Pinehurst, ID | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Silver Bow County; Butte, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.01 | 0.03 | 0.03 | 0.04 |
| Somerville Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.01 | 0.01 | 0.02 |
| Southwest Indiana, IN | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.01 | 0.01 | 0.01 |
| Spokane Area, WA | CO (1971 8-hour) | Maintenance, Serious | 100 | 0 | 0.04 | 0.20 | 0.20 | 0.28 |
| Spokane County; (part), WA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.04 | 0.21 | 0.21 | 0.29 |
| Springfield Area, MA | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.03 | 0.12 | 0.12 | 0.17 |
| St. Bernard Parish, LA | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 32.98 | 98.52 | 79.55 | 115.56 |
| St. Louis Area, MO | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.12 | 0.61 | 0.60 | 0.85 |
| St. Louis-St. Charles-Farmington, MO-IL | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Steubenville, OH-WV | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.01 | 0.05 | 0.05 | 0.07 |
| Steubenville-Weirton, OH-WV | PM2.5 (2006 24-hour) | Maintenance, -- | 100 | 0 | 0.09 | 0.29 | 0.25 | 0.36 |
| Stockton Area, CA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.11 | 0.42 | 0.39 | 0.55 |
| Sullivan County, TN | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.04 | 0.13 | 0.11 | 0.15 |
| Syracuse Area; Onondaga County, NY | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.09 | 0.42 | 0.41 | 0.58 |
| Tazewell County; Groveland Twp, IL | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Terre Haute, IN | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.60 | 1.80 | 1.45 | 2.11 |

Table A1-40
Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Direct and Indirect Impacts
Diesel Particulate Matter (DPM) 2050

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|---|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Thurston County; Cities of Olympia, Tumwater, and Lacey, WA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.01 | 0.07 | 0.07 | 0.10 |
| Toms River Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.01 |
| Tooele County (part), UT | SO ₂ (1971 24-hour/Annual) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Trenton Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.01 | 0.06 | 0.06 | 0.09 |
| Trona, CA | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Tucson Area, AZ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.12 | 0.61 | 0.60 | 0.85 |
| Tuscan Buttes, CA | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Union County; LaGrande, OR | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.01 | 0.03 | 0.03 | 0.04 |
| Upper Green River Basin Area, WY | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Utah County, UT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.34 | 1.14 | 0.97 | 1.40 |
| Vancouver Area: Clark County (part), WA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.04 | 0.19 | 0.19 | 0.27 |
| Ventura County, CA | Ozone (2008 8-hour) | Nonattainment, Serious | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Vermillion County; Part of Clinton Township, IN | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Vigo County, IN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Walla Walla County; Wallula, WA | PM10 (1987 24-hour) | Maintenance, Serious | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Waltham Area, MA | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.01 | 0.04 | 0.04 | 0.05 |
| Warren County: Conewago Twp, PA | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Warren County: Warren Boro, Pleasant Twp, Glade Twp, PA | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Warren, PA | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 4.41 | 13.18 | 10.64 | 15.46 |
| Washington Area, DC-MD-VA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.10 | 0.47 | 0.47 | 0.66 |
| Washington, DC-MD-VA | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Washoe County; Reno planning area, NV | PM10 (1987 24-hour) | Nonattainment, Serious | 70 | 0 | 0.05 | 0.23 | 0.22 | 0.31 |

Appendix A Air Quality Non-Attainment Area Results

Table A1-40

**Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Direct and Indirect Impacts
Diesel Particulate Matter (DPM) 2050**

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|---|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Wayne County: Boston, Center, Franklin, Wayne & Webster Townships, IN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Wayne County; (part), MI | PM ₁₀ (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 3.23 | 9.67 | 7.83 | 11.36 |
| West Central Pinal County, AZ | PM _{2.5} (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.01 | 0.06 | 0.06 | 0.09 |
| West Silver Valley, ID | PM _{2.5} (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.02 | 0.02 | 0.03 |
| Winston-Salem Area, NC | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.05 | 0.26 | 0.26 | 0.37 |
| Worcester Area, MA | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.04 | 0.17 | 0.17 | 0.24 |
| Yakima Area, WA | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.01 | 0.03 | 0.03 | 0.04 |
| Yakima County; (part), WA | PM ₁₀ (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.02 | 0.08 | 0.08 | 0.11 |
| Yuba City-Marysville, CA | PM _{2.5} (2006 24-hour) | Maintenance, Moderate | 100 | 0 | 0.03 | 0.14 | 0.14 | 0.19 |
| Yuma County; Yuma planning area, AZ | PM ₁₀ (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.02 | 0.12 | 0.11 | 0.16 |

^a Reductions are shown as positive values. Negative values are emissions increases. Values of less than 0.005 tons per year are rounded to zero.

^b Nonattainment or maintenance status as of 5/13/2016. Source: U.S. EPA, The Green Book Nonattainment Areas for Criteria Pollutants; <http://www.epa.gov/airquality/greenbook/>. "--" indicates that no severity classification has been established for the NAAQS pollutant.

^c Emissions thresholds in tons per year. Where the threshold differs by precursor pollutant, the smallest of the precursor thresholds is shown. These thresholds are provided for information only; a general conformity determination is not required for the Proposed Action. Source: 40 CFR 93.853.

Notes: CO = carbon monoxide; NAAQS = National Ambient Air Quality Standards; NO₂ = nitrogen dioxide; PM = particulate matter; SO₂ = sulfur dioxide

Table A1-41
Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Direct and Indirect Impacts
Formaldehyde 2018

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Ada County; Boise, ID | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Adams, Denver, and Boulder Counties; Denver Metropolitan area, CO | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Ajo, AZ | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Albuquerque Area, NM | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Allegheny County Air Basin: Hazelwood monitor, PA | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Allegheny County, PA | PM2.5 (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Allegheny County; The area including Liberty, Lincoln, Port Vue, and Glassport Boroughs and the City of Clairton, PA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Allegheny, PA | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Allentown, PA | PM2.5 (2006 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Allentown-Bethlehem-Easton, PA | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Anchorage Area, AK | CO (1971 8-hour) | Maintenance, Serious | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Anchorage; Eagle River, AK | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| AQCR 012: Portions of Grant County, NM | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| AQCR 109-Millinocket, ME | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| AQCR 131: Anoka, Carver, Dakota, Hennepin, Ramsey, Scott, and Washington counties (Minneapolis-St. Paul), MN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| AQCR 237: Brown County: Green Bay sub-city area, WI | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| AQCR 238: Marathon County: Rothschild Sub-city area, Rib Mountain, Weston, WI | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| AQCR 238: Oneida County: Rhinelander Sub-city area, WI | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| AQCR 239: Milwaukee County: Milwaukee sub-city area, WI | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |

Appendix A Air Quality Non-Attainment Area Results

Table A1-41

Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Direct and Indirect Impacts

Formaldehyde 2018

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| AQCR 240: Dane County: Madison sub-city area, WI | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Archuleta County; Pagosa Springs, CO | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Armstrong County: Madison Twp, Mahoning Twp, Boggs Twp, Washington Twp, Pine Twp, PA | SO ₂ (1971 24-hour/Annual) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Aroostock County; City of Presque Isle, ME | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Atlanta, GA | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Atlantic City Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Bakersfield Area, CA | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.01 | 0.01 | 0.01 | 0.01 |
| Baltimore Area, MD | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Baltimore, MD | Ozone (2008 8-hour) | Nonattainment, Moderate | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Baton Rouge, LA | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Beaver, PA | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Benton County; (part) TVA Johnsonville, TN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Billings Area, MT | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Billings, MT | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Birmingham, AL | PM2.5 (2006 24-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Boise-Northern Ada County Area, ID | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Bonner County; The Sandpoint Area, ID | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Boston Area, MA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Boyd County (part), KY | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Brooke; Follansbee area, WV | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Burlington Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Calaveras County, CA | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Campbell-Clermont Counties, KY-OH | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |

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Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Direct and Indirect Impacts
Formaldehyde 2018

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|---|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Canton-Massillon, OH | PM2.5 (2006 24-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Central New Hampshire, NH | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Central Steptoe Valley, NV | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Charleston, WV | PM2.5 (2006 24-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Charlotte Area, NC | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Charlotte-Rock Hill, NC-SC | Ozone (2008 8-hour) | Maintenance, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Chicago-Naperville, IL-IN-WI | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Chico (Butte County), CA | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Chico Area, CA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Chico, CA | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Cincinnati, OH-KY-IN | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Clark County; Las Vegas planning area, NV | PM10 (1987 24-hour) | Maintenance, Serious | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Cleveland Area, OH | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Cleveland, OH | PM2.5 (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Cleveland-Akron-Lorain, OH | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Cleveland-Akron-Lorain, OH | PM2.5 (2006 24-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | -0.01 | -0.01 |
| Cochise County; Paul Spur/Douglas planning area, AZ | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Colorado Springs Area, CO | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Columbus, OH | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Cook County; Lyons Township, IL | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Cook County; Southeast Chicago, IL | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Coshocton County; Franklin Township, OH | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Coso Junction, CA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Cuyahoga County (part), OH | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Cuyahoga County, OH | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |

Appendix A Air Quality Non-Attainment Area Results

Table A1-41

Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Direct and Indirect Impacts

Formaldehyde 2018

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Dallas-Fort Worth, TX | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Delaware County, PA | PM2.5 (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Denver-Boulder Area, CO | CO (1971 8-hour) | Maintenance, Serious | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Denver-Boulder-Greeley-Ft Collins-Loveland, CO | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Detroit Area, MI | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.03 | 0.04 | 0.05 | 0.06 |
| Detroit, MI | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.03 | 0.05 | 0.05 | 0.06 |
| Detroit-Ann Arbor, MI | PM2.5 (2006 24-hour) | Maintenance, -- | 100 | 0 | 0.02 | 0.04 | 0.04 | 0.05 |
| Dona Ana County; Anthony, NM | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Douglas, AZ | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Dukes County, MA | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Duluth Area, MN | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| East Chicago Area, IN | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| East Helena Area, MT | SO ₂ (1971 24-hour/Annual) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| East Kern County Area, CA | PM10 (1987 24-hour) | Nonattainment, Serious | 70 | 0 | 0.01 | 0.01 | 0.01 | 0.01 |
| El Paso County, TX | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| El Paso, TX | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Eugene-Springfield Area, OR | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Fairbanks Area, AK | CO (1971 8-hour) | Maintenance, Serious | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Fairbanks, AK | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |

Table A1-41
Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Direct and Indirect Impacts
Formaldehyde 2018

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|---|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Flathead County; Columbia Falls and vicinity, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Flathead County; Kalispell and vicinity, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Flathead County; Whitefish and vicinity, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Fort Collins Area, CO | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Freehold Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Fremont County; Canon City Area, CO | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Fresno Area, CA | CO (1971 8-hour) | Maintenance, Moderate > 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Grants Pass Area, OR | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Great Falls Area, MT | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Greater Connecticut, CT | Ozone (2008 8-hour) | Nonattainment, Moderate | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Greeley Area, CO | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Hancock and Brooke Counties (Part); The city of Weirton, WV | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Hancock County (Part) The city of Weirton, including Butler and Clay: Magisterial Districts, WV | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Harrisburg-Lebanon-Carlisle-York, PA | PM2.5 (2006 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Hartford-New Britain-Middletown Area, CT | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Hayden, AZ | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Hayden, AZ | SO ₂ (1971 24-hour/Annual) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Hayden, AZ | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Hillsborough County, FL | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Houston-Galveston-Brazoria, TX | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Humphreys County; (part) TVA Johnsonville, TN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Imperial Co, CA | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |

Appendix A Air Quality Non-Attainment Area Results

Table A1-41

Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Direct and Indirect Impacts

Formaldehyde 2018

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Imperial County, CA | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Imperial County, CA | PM2.5 (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Imperial County; Imperial Valley planning area, CA | PM10 (1987 24-hour) | Nonattainment, Serious | 70 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Indian Wells, CA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.01 | 0.01 | 0.01 | 0.01 |
| Indiana, PA | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Indianapolis Area, IN | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Indianapolis, IN | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Inyo County; Owens Valley planning area, CA | PM10 (1987 24-hour) | Nonattainment, Serious | 70 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Jackson County, MO | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Jackson County; Medford-Ashland (including White City), OR | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Jamestown, NY | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Jefferson County, KY | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Jefferson County, MO | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Jefferson County; (part) Steubenville & Mingo Junction, OH | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Jefferson County; (part), OH | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Johnstown, PA | PM2.5 (2006 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Josephine County; Grants Pass, OR | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Juneau; Mendenhall Valley area, AK | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Kern County (Eastern Kern), CA | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| King County; Kent, WA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| King County; Seattle, WA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Klamath County; Klamath Falls, OR | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Klamath Falls Area, OR | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Klamath Falls, OR | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |

Table A1-41
Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Direct and Indirect Impacts
Formaldehyde 2018

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Knoxville, TN | Ozone (2008 8-hour) | Maintenance, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Knoxville-Sevierville-La Follette, TN | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| La Porte County: (part), IN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lake County (part); Lakeview, OR | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lake County, OH | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lake County: (part), IN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lake County; (part) Eastlake, Timberlake, Lakeline, Willoughby, Mentor, OH | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lake County; Cities of East Chicago, Hammond, Whiting, and Gary, IN | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lake County; Polson, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lake County; Ronan, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lake Tahoe Nevada Area, NV | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lake Tahoe North Shore Area, CA | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lake Tahoe South Shore Area, CA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lancaster, PA | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lancaster, PA | PM2.5 (2006 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lane County (part); Oakridge, OR | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lane County; Eugene/Springfield, OR | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Las Vegas Area, NV | CO (1971 8-hour) | Maintenance, Serious | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| LaSalle County; Oglesby, IL | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Laurel Area, MT | SO ₂ (1971 24-hour/Annual) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lebanon County, PA | PM2.5 (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lemont, IL | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Liberty-Clairton, PA | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |

Appendix A Air Quality Non-Attainment Area Results

Table A1-41

Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Direct and Indirect Impacts

Formaldehyde 2018

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Lincoln County; Libby and vicinity, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Logan, UT-ID | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Longmont Area, CO | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lorain County (part), OH | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Los Angeles, CA | PM2.5 (2006 24-hour) | Nonattainment, Serious | 100 | 0 | 0.02 | 0.03 | 0.03 | 0.04 |
| Los Angeles-San Bernardino Counties (West Mojave Desert), CA | Ozone (2008 8-hour) | Nonattainment, Severe 15 | 25 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Los Angeles-South Coast Air Basin Area, CA | CO (1971 8-hour) | Maintenance, Serious | 100 | 0 | 0.02 | 0.03 | 0.03 | 0.04 |
| Los Angeles-South Coast Air Basin Area, CA | NO ₂ (1971 Annual) | Maintenance, -- | 100 | 0 | 0.02 | 0.03 | 0.03 | 0.04 |
| Los Angeles-South Coast Air Basin, CA | Ozone (2008 8-hour) | Nonattainment, Extreme | 10 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Los Angeles-South Coast Air Basin, CA | PM2.5 (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 0.02 | 0.03 | 0.03 | 0.04 |
| Lowell Area, MA | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lucas County (part), OH | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Madison County; Granite City Township and Nameoki Township, IL | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.04 | 0.07 | 0.08 | 0.09 |
| Manchester Area, NH | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Maricopa and Pinal Counties; Phoenix planning area, AZ | PM10 (1987 24-hour) | Nonattainment, Serious | 70 | 0 | 0.00 | -0.01 | -0.01 | -0.01 |
| Marion County; Lawrence, Washington, and Warrant Townships, IN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Mariposa County, CA | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Marshall, WV | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Medford Area, OR | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Memphis Area, TN | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |

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Formaldehyde 2018

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|---|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Memphis, TN-MS-AR | Ozone (2008 8-hour) | Nonattainment TN & Maintenance MS/AR, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Miami, AZ | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Miami, AZ | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Miami, AZ | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Milwaukee-Racine, WI | PM2.5 (2006 24-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Minneapolis-St. Paul Area, MN | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.01 | 0.01 | 0.01 | 0.01 |
| Missoula Area, MT | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Missoula county; Missoula and vicinity, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Modesto Area, CA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Mohave County (part); Bullhead City, AZ | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Mono County; Mammoth Lake planning area, CA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Mono County; Mono Basin, CA | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Morenci, AZ | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Morgan County, IN | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Morongo Band of Mission Indians | Ozone (2008 8-hour) | Nonattainment, Serious | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Morristown Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Muscatine County; (part), IA | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Muscatine, IA | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Muskingum River, OH | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Nashua Area, NH | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Nassau County, FL | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Nevada County (Western part), CA | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| New Haven County, CT | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |

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Formaldehyde 2018

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| New Haven-Meriden-Waterbury Area, CT | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| New Manchester-Grant magisterial district in Hancock County, WV | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| New York County, NY | PM ₁₀ (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| New York, NY-NJ-CT | PM _{2.5} (2006 24-hour) | Maintenance, -- | 100 | 0 | -0.02 | -0.03 | -0.03 | -0.03 |
| New York-N. New Jersey-Long Island Area, NY-NJ-CT | CO (1971 8-hour) | Maintenance, Moderate > 12.7ppm | 100 | 0 | -0.01 | -0.01 | -0.02 | -0.02 |
| New York-N. New Jersey-Long Island, NY-NJ-CT | Ozone (2008 8-hour) | Nonattainment, Moderate | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| NJ portion of the Northeast Pennsylvania-Upper Delaware Valley Interstate AQCR: (part), NJ | SO ₂ (1971 24-hour/Annual) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Nogales, AZ | PM _{2.5} (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Oakridge, OR | PM _{2.5} (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Ogden Area, UT | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Ogden Area, UT | PM ₁₀ (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Olmsted County; (part), MN | PM ₁₀ (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Olmsted; City of Rochester, MN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |

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Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Direct and Indirect Impacts
 Formaldehyde 2018

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Pechanga Band of Luiseno Mission Indians of the Pechanga Reservation | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Pekin, IL | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Penns Grove Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Peoria County: Hollis Twp, IL | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Peoria County: Peoria, IL | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Perth Amboy Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Philadelphia-Camden County Area, PA-NJ | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Philadelphia-Wilmington, PA-NJ-DE | PM _{2.5} (2006 24-hour) | Maintenance, Moderate for PA and DE Subject to Former Subpart 1 for NJ | 100 | 0 | 0.00 | 0.00 | -0.01 | -0.01 |
| Philadelphia-Wilmington-Atlantic City, PA-NJ-MD-DE | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Phoenix Area, AZ | CO (1971 8-hour) | Maintenance, Serious | 100 | 0 | 0.00 | -0.01 | -0.01 | -0.01 |
| Phoenix-Mesa, AZ | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Pierce County; Tacoma, WA | PM ₁₀ (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Pima County; Ajo planning area, AZ | PM ₁₀ (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Pima County; Rillito planning area, AZ | PM ₁₀ (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Pinal and Gila Counties; Payson, AZ | PM ₁₀ (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Pinal County (part); West Pinal, AZ | PM ₁₀ (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Pitkin County; Aspen, CO | PM ₁₀ (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Pittsburgh Area, PA | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Pittsburgh-Beaver Valley, PA | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Pittsburgh-Beaver Valley, PA | PM _{2.5} (2006 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Plumas County, CA | PM _{2.5} (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Polk County, TN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |

Appendix A Air Quality Non-Attainment Area Results

Table A1-41

Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Direct and Indirect Impacts

Formaldehyde 2018

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|-------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Portland Area: Portland Metro Service District Boundary, OR | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Power-Bannock Counties; Fort Hall Indian Reservation, ID | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Power-Bannock Counties; Portneuf Valley Area, ID | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Provo Area, UT | CO (1971 8-hour) | Maintenance, Moderate > 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Provo, UT | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Prowers County; Lamar, CO | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Raleigh-Durham Area, NC | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Ramsey County; (part), MN | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Reading, PA | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Reno Area, NV | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Rhineland, WI | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Riverside County (Coachella Valley), CA | Ozone (2008 8-hour) | Nonattainment, Severe 15 | 25 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Riverside County; Coachella Valley planning area, CA | PM10 (1987 24-hour) | Nonattainment, Serious | 70 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Riverside, Los Angeles, Orange, and San Bernardino Counties; South Coast Air Basin, CA | PM10 (1987 24-hour) | Maintenance, Serious | 100 | 0 | 0.02 | 0.03 | 0.03 | 0.04 |
| Rosebud County; Lame Deer, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Routt County (part); Steamboat Springs, CO | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Sacramento Area, CA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Sacramento County, CA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Sacramento Metro, CA | Ozone (2008 8-hour) | Nonattainment, Severe 15 | 25 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Sacramento, CA | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Salem Area, OR | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Salt Lake City Area, UT | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Salt Lake City, UT | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |

Table A1-41
Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Direct and Indirect Impacts
Formaldehyde 2018

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|---|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Salt Lake County, UT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Salt Lake County, UT | SO ₂ (1971 24-hour/Annual) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| San Bernardino County (part); excluding Searles Valley Planning area and South Coast Air Basin, CA | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| San Diego Area, CA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | -0.01 | -0.01 | -0.01 |
| San Diego County, CA | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| San Francisco Bay Area, CA | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| San Francisco Bay Area, CA | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | -0.01 | -0.01 | -0.01 | -0.01 |
| San Francisco-Oakland-San Jose Area, CA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | -0.01 | -0.01 | -0.01 | -0.01 |
| San Joaquin Valley Air Basin; Fresno, Kern, Kings, Madera, Merced, San Joaquin, Stanislaus, Tulare Counties, CA | PM10 (1987 24-hour) | Maintenance, Serious | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.01 |
| San Joaquin Valley, CA | Ozone (2008 8-hour) | Nonattainment, Extreme | 10 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| San Joaquin Valley, CA | PM2.5 (2006 24-hour) | Nonattainment, Serious | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.01 |
| San Joaquin Valley, CA | PM2.5 (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.01 |
| San Luis Obispo (Eastern San Luis Obispo), CA | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| San Manuel, AZ | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| San Miguel County; Telluride, CO | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Sanders County (part); Thompson Falls and vicinity, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Santa Cruz County; Nogales planning area, AZ | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Seaford, DE | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Seattle-Tacoma Area, WA | CO (1971 8-hour) | Maintenance, Moderate > 12.7ppm | 100 | 0 | 0.00 | 0.00 | -0.01 | -0.01 |
| Seattle-Tacoma, WA | PM2.5 (2006 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Sheboygan County, WI | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |

Appendix A Air Quality Non-Attainment Area Results

Table A1-41

Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Direct and Indirect Impacts

Formaldehyde 2018

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|---|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Sheridan County; City of Sheridan, WY | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Shoshone County (part); excluding Pinehurst, ID | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Shoshone County; City of Pinehurst, ID | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Silver Bow County; Butte, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Somerville Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Southwest Indiana, IN | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Spokane Area, WA | CO (1971 8-hour) | Maintenance, Serious | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Spokane County; (part), WA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Springfield Area, MA | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| St. Bernard Parish, LA | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| St. Louis Area, MO | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| St. Louis-St. Charles-Farmington, MO-IL | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Steubenville, OH-WV | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Steubenville-Weirton, OH-WV | PM2.5 (2006 24-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Stockton Area, CA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Sullivan County, TN | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Syracuse Area; Onondaga County, NY | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Tazewell County; Groveland Twp, IL | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Terre Haute, IN | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |

Table A1-41
Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Direct and Indirect Impacts
Formaldehyde 2018

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|---|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Thurston County; Cities of Olympia, Tumwater, and Lacey, WA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Toms River Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Tooele County (part), UT | SO ₂ (1971 24-hour/Annual) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Trenton Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Trona, CA | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Tucson Area, AZ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Tuscan Buttes, CA | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Union County; LaGrande, OR | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Upper Green River Basin Area, WY | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Utah County, UT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Vancouver Area: Clark County (part), WA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Ventura County, CA | Ozone (2008 8-hour) | Nonattainment, Serious | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Vermillion County; Part of Clinton Township, IN | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Vigo County, IN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Walla Walla County; Wallula, WA | PM10 (1987 24-hour) | Maintenance, Serious | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Waltham Area, MA | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Warren County: Conewago Twp, PA | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Warren County: Warren Boro, Pleasant Twp, Glade Twp, PA | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Warren, PA | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Washington Area, DC-MD-VA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Washington, DC-MD-VA | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Washoe County; Reno planning area, NV | PM10 (1987 24-hour) | Nonattainment, Serious | 70 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |

Appendix A Air Quality Non-Attainment Area Results

Table A1-41

**Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Direct and Indirect Impacts
Formaldehyde 2018**

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|---|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Wayne County: Boston, Center, Franklin, Wayne & Webster Townships, IN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Wayne County; (part), MI | PM ₁₀ (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.03 | 0.05 | 0.05 | 0.06 |
| West Central Pinal County, AZ | PM _{2.5} (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| West Silver Valley, ID | PM _{2.5} (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Winston-Salem Area, NC | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Worcester Area, MA | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Yakima Area, WA | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Yakima County; (part), WA | PM ₁₀ (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Yuba City-Marysville, CA | PM _{2.5} (2006 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Yuma County; Yuma planning area, AZ | PM ₁₀ (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |

^a Reductions are shown as positive values. Negative values are emissions increases. Values of less than 0.005 tons per year are rounded to zero.

^b Nonattainment or maintenance status as of 5/13/2016. Source: U.S. EPA, The Green Book Nonattainment Areas for Criteria Pollutants; <http://www.epa.gov/airquality/greenbook/>. "--" indicates that no severity classification has been established for the NAAQS pollutant.

^c Emissions thresholds in tons per year. Where the threshold differs by precursor pollutant, the smallest of the precursor thresholds is shown. These thresholds are provided for information only; a general conformity determination is not required for the Proposed Action. Source: 40 CFR 93.853.

Notes: CO = carbon monoxide; NAAQS = National Ambient Air Quality Standards; NO₂ = nitrogen dioxide; PM = particulate matter; SO₂ = sulfur dioxide

Table A1-42

Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Direct and Indirect Impacts

Formaldehyde 2025

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Ada County; Boise, ID | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.01 | 0.02 | 0.04 | 0.05 |
| Adams, Denver, and Boulder Counties; Denver Metropolitan area, CO | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.06 | 0.11 | 0.18 | 0.22 |
| Ajo, AZ | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Albuquerque Area, NM | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.02 | 0.04 | 0.07 | 0.09 |
| Allegheny County Air Basin: Hazelwood monitor, PA | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Allegheny County, PA | PM2.5 (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 0.03 | 0.06 | 0.10 | 0.12 |
| Allegheny County; The area including Liberty, Lincoln, Port Vue, and Glassport Boroughs and the City of Clairton, PA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Allegheny, PA | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.01 | 0.01 |
| Allentown, PA | PM2.5 (2006 24-hour) | Maintenance, Moderate | 100 | 0 | 0.02 | 0.04 | 0.07 | 0.08 |
| Allentown-Bethlehem-Easton, PA | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Anchorage Area, AK | CO (1971 8-hour) | Maintenance, Serious | 100 | 0 | 0.00 | 0.01 | 0.01 | 0.02 |
| Anchorage; Eagle River, AK | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| AQCR 012: Portions of Grant County, NM | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| AQCR 109-Millinocket, ME | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| AQCR 131: Anoka, Carver, Dakota, Hennepin, Ramsey, Scott, and Washington counties (Minneapolis-St. Paul), MN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| AQCR 237: Brown County: Green Bay sub-city area, WI | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| AQCR 238: Marathon County: Rothschild Sub-city area, Rib Mountain, Weston, WI | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| AQCR 238: Oneida County: Rhinelander Sub-city area, WI | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| AQCR 239: Milwaukee County: Milwaukee sub-city area, WI | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |

Appendix A Air Quality Non-Attainment Area Results

Table A1-42

Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Direct and Indirect Impacts

Formaldehyde 2025

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| AQCR 240: Dane County: Madison sub-city area, WI | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Archuleta County; Pagosa Springs, CO | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Armstrong County: Madison Twp, Mahoning Twp, Boggs Twp, Washington Twp, Pine Twp, PA | SO ₂ (1971 24-hour/Annual) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Aroostock County; City of Presque Isle, ME | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Atlanta, GA | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Atlantic City Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.01 | 0.01 |
| Bakersfield Area, CA | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.17 | 0.38 | 0.43 | 0.63 |
| Baltimore Area, MD | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Baltimore, MD | Ozone (2008 8-hour) | Nonattainment, Moderate | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Baton Rouge, LA | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Beaver, PA | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Benton County; (part) TVA Johnsonville, TN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Billings Area, MT | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.01 | 0.01 | 0.01 |
| Billings, MT | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Birmingham, AL | PM2.5 (2006 24-hour) | Maintenance, -- | 100 | 0 | 0.05 | 0.09 | 0.15 | 0.19 |
| Boise-Northern Ada County Area, ID | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.01 | 0.02 | 0.04 | 0.05 |
| Bonner County; The Sandpoint Area, ID | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Boston Area, MA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.03 | 0.05 | 0.09 | 0.11 |
| Boyd County (part), KY | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Brooke; Follansbee area, WV | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Burlington Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Calaveras County, CA | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Campbell-Clermont Counties, KY-OH | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.01 |

Table A1-42
Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Direct and Indirect Impacts
Formaldehyde 2025

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|---|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Canton-Massillon, OH | PM2.5 (2006 24-hour) | Maintenance, -- | 100 | 0 | 0.02 | 0.04 | 0.06 | 0.07 |
| Central New Hampshire, NH | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.01 | 0.02 | 0.03 | 0.03 |
| Central Steptoe Valley, NV | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Charleston, WV | PM2.5 (2006 24-hour) | Maintenance, -- | 100 | 0 | 0.01 | 0.03 | 0.04 | 0.05 |
| Charlotte Area, NC | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.05 | 0.09 | 0.15 | 0.19 |
| Charlotte-Rock Hill, NC-SC | Ozone (2008 8-hour) | Maintenance, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Chicago-Naperville, IL-IN-WI | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Chico (Butte County), CA | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Chico Area, CA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.01 | 0.01 | 0.01 |
| Chico, CA | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.01 | 0.01 | 0.02 | 0.03 |
| Cincinnati, OH-KY-IN | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Clark County; Las Vegas planning area, NV | PM10 (1987 24-hour) | Maintenance, Serious | 100 | 0 | 0.06 | 0.11 | 0.19 | 0.23 |
| Cleveland Area, OH | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.03 | 0.07 | 0.11 | 0.14 |
| Cleveland, OH | PM2.5 (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 0.05 | 0.09 | 0.15 | 0.18 |
| Cleveland-Akron-Lorain, OH | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Cleveland-Akron-Lorain, OH | PM2.5 (2006 24-hour) | Maintenance, -- | 100 | 0 | 0.10 | 0.19 | 0.32 | 0.40 |
| Cochise County; Paul Spur/Douglas planning area, AZ | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.01 |
| Colorado Springs Area, CO | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.02 | 0.04 | 0.06 | 0.08 |
| Columbus, OH | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Cook County; Lyons Township, IL | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.01 | 0.01 |
| Cook County; Southeast Chicago, IL | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.01 | 0.01 | 0.01 |
| Coshocton County; Franklin Township, OH | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Coso Junction, CA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Cuyahoga County (part), OH | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Cuyahoga County, OH | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.03 | 0.07 | 0.11 | 0.14 |

Appendix A Air Quality Non-Attainment Area Results

Table A1-42

Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Direct and Indirect Impacts

Formaldehyde 2025

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Dallas-Fort Worth, TX | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Delaware County, PA | PM2.5 (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 0.01 | 0.02 | 0.04 | 0.05 |
| Denver-Boulder Area, CO | CO (1971 8-hour) | Maintenance, Serious | 100 | 0 | 0.15 | 0.31 | 0.44 | 0.58 |
| Denver-Boulder-Greeley-Ft Collins-Loveland, CO | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Detroit Area, MI | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.69 | 1.53 | 1.75 | 2.58 |
| Detroit, MI | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.64 | 1.44 | 1.59 | 2.38 |
| Detroit-Ann Arbor, MI | PM2.5 (2006 24-hour) | Maintenance, -- | 100 | 0 | 0.82 | 1.77 | 2.15 | 3.07 |
| Dona Ana County; Anthony, NM | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Douglas, AZ | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Dukes County, MA | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Duluth Area, MN | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.01 | 0.01 | 0.02 |
| East Chicago Area, IN | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| East Helena Area, MT | SO ₂ (1971 24-hour/Annual) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| East Kern County Area, CA | PM10 (1987 24-hour) | Nonattainment, Serious | 70 | 0 | 0.15 | 0.34 | 0.38 | 0.57 |
| El Paso County, TX | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.03 | 0.05 | 0.08 | 0.10 |
| El Paso, TX | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.01 | 0.03 | 0.03 | 0.04 |
| Eugene-Springfield Area, OR | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.01 | 0.02 | 0.03 | 0.03 |
| Fairbanks Area, AK | CO (1971 8-hour) | Maintenance, Serious | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Fairbanks, AK | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.01 |

Table A1-42
Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Direct and Indirect Impacts
Formaldehyde 2025

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|---|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Flathead County; Columbia Falls and vicinity, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Flathead County; Kalispell and vicinity, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.01 |
| Flathead County; Whitefish and vicinity, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Fort Collins Area, CO | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.01 | 0.01 | 0.02 |
| Freehold Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Fremont County; Canon City Area, CO | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.01 |
| Fresno Area, CA | CO (1971 8-hour) | Maintenance, Moderate > 12.7ppm | 100 | 0 | 0.02 | 0.04 | 0.07 | 0.08 |
| Grants Pass Area, OR | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.01 | 0.01 |
| Great Falls Area, MT | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Greater Connecticut, CT | Ozone (2008 8-hour) | Nonattainment, Moderate | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Greeley Area, CO | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.01 | 0.03 | 0.05 | 0.06 |
| Hancock and Brooke Counties (Part); The city of Weirton, WV | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Hancock County (Part) The city of Weirton, including Butler and Clay: Magisterial Districts, WV | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Harrisburg-Lebanon-Carlisle-York, PA | PM2.5 (2006 24-hour) | Maintenance, Moderate | 100 | 0 | 0.05 | 0.09 | 0.15 | 0.19 |
| Hartford-New Britain-Middletown Area, CT | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.04 | 0.08 | 0.13 | 0.16 |
| Hayden, AZ | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Hayden, AZ | SO ₂ (1971 24-hour/Annual) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Hayden, AZ | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Hillsborough County, FL | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Houston-Galveston-Brazoria, TX | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Humphreys County; (part) TVA Johnsonville, TN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Imperial Co, CA | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.01 | 0.01 | 0.02 | 0.03 |

Appendix A Air Quality Non-Attainment Area Results

Table A1-42

Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Direct and Indirect Impacts

Formaldehyde 2025

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Imperial County, CA | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Imperial County, CA | PM2.5 (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 0.01 | 0.01 | 0.02 | 0.03 |
| Imperial County; Imperial Valley planning area, CA | PM10 (1987 24-hour) | Nonattainment, Serious | 70 | 0 | 0.01 | 0.02 | 0.03 | 0.04 |
| Indian Wells, CA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.15 | 0.34 | 0.38 | 0.56 |
| Indiana, PA | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.01 | 0.01 | 0.01 |
| Indianapolis Area, IN | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Indianapolis, IN | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.02 | 0.03 | 0.06 | 0.07 |
| Inyo County; Owens Valley planning area, CA | PM10 (1987 24-hour) | Nonattainment, Serious | 70 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Jackson County, MO | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.01 | 0.01 |
| Jackson County; Medford-Ashland (including White City), OR | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.01 | 0.01 | 0.02 | 0.03 |
| Jamestown, NY | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Jefferson County, KY | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Jefferson County, MO | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.01 | 0.01 |
| Jefferson County; (part) Steubenville & Mingo Junction, OH | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Jefferson County; (part), OH | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Johnstown, PA | PM2.5 (2006 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.01 | 0.01 | 0.02 |
| Josephine County; Grants Pass, OR | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.01 | 0.01 |
| Juneau; Mendenhall Valley area, AK | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Kern County (Eastern Kern), CA | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| King County; Kent, WA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| King County; Seattle, WA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Klamath County; Klamath Falls, OR | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.01 | 0.01 |
| Klamath Falls Area, OR | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.01 | 0.01 |
| Klamath Falls, OR | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.01 | 0.01 | 0.01 |

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 Formaldehyde 2025

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Knoxville, TN | Ozone (2008 8-hour) | Maintenance, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Knoxville-Sevierville-La Follette, TN | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.04 | 0.07 | 0.12 | 0.15 |
| La Porte County: (part), IN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lake County (part); Lakeview, OR | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lake County, OH | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.01 | 0.02 | 0.03 | 0.04 |
| Lake County: (part), IN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lake County; (part) Eastlake, Timberlake, Lakeline, Willoughby, Mentor, OH | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lake County; Cities of East Chicago, Hammond, Whiting, and Gary, IN | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.01 | 0.01 | 0.02 | 0.03 |
| Lake County; Polson, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lake County; Ronan, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lake Tahoe Nevada Area, NV | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lake Tahoe North Shore Area, CA | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lake Tahoe South Shore Area, CA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lancaster, PA | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lancaster, PA | PM2.5 (2006 24-hour) | Maintenance, Moderate | 100 | 0 | 0.02 | 0.04 | 0.06 | 0.08 |
| Lane County (part); Oakridge, OR | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lane County; Eugene/Springfield, OR | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.01 | 0.02 | 0.03 | 0.03 |
| Las Vegas Area, NV | CO (1971 8-hour) | Maintenance, Serious | 100 | 0 | 0.06 | 0.11 | 0.19 | 0.23 |
| LaSalle County; Oglesby, IL | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.01 |
| Laurel Area, MT | SO ₂ (1971 24-hour/Annual) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lebanon County, PA | PM2.5 (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 0.01 | 0.01 | 0.02 | 0.03 |
| Lemont, IL | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.02 | 0.05 | 0.06 | 0.09 |
| Liberty-Clairton, PA | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |

Appendix A Air Quality Non-Attainment Area Results

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Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Direct and Indirect Impacts

Formaldehyde 2025

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Lincoln County; Libby and vicinity, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Logan, UT-ID | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.01 | 0.01 | 0.01 |
| Longmont Area, CO | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.01 | 0.01 | 0.01 |
| Lorain County (part), OH | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Los Angeles, CA | PM2.5 (2006 24-hour) | Nonattainment, Serious | 100 | 0 | 1.34 | 2.81 | 3.72 | 5.09 |
| Los Angeles-San Bernardino Counties (West Mojave Desert), CA | Ozone (2008 8-hour) | Nonattainment, Severe 15 | 25 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Los Angeles-South Coast Air Basin Area, CA | CO (1971 8-hour) | Maintenance, Serious | 100 | 0 | 1.34 | 2.81 | 3.72 | 5.10 |
| Los Angeles-South Coast Air Basin Area, CA | NO ₂ (1971 Annual) | Maintenance, -- | 100 | 0 | 1.34 | 2.81 | 3.72 | 5.10 |
| Los Angeles-South Coast Air Basin, CA | Ozone (2008 8-hour) | Nonattainment, Extreme | 10 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Los Angeles-South Coast Air Basin, CA | PM2.5 (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 1.34 | 2.80 | 3.72 | 5.09 |
| Lowell Area, MA | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.01 | 0.01 | 0.01 |
| Lucas County (part), OH | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Madison County; Granite City Township and Nameoki Township, IL | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.92 | 2.06 | 2.25 | 3.39 |
| Manchester Area, NH | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.01 | 0.01 | 0.01 |
| Maricopa and Pinal Counties; Phoenix planning area, AZ | PM10 (1987 24-hour) | Nonattainment, Serious | 70 | 0 | 0.13 | 0.25 | 0.43 | 0.53 |
| Marion County; Lawrence, Washington, and Warrant Townships, IN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Mariposa County, CA | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Marshall, WV | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Medford Area, OR | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.01 | 0.01 | 0.01 |
| Memphis Area, TN | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.04 | 0.09 | 0.13 | 0.17 |

Table A1-42
Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Direct and Indirect Impacts
Formaldehyde 2025

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|---|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Memphis, TN-MS-AR | Ozone (2008 8-hour) | Nonattainment TN & Maintenance MS/AR, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Miami, AZ | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Miami, AZ | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Miami, AZ | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Milwaukee-Racine, WI | PM2.5 (2006 24-hour) | Maintenance, -- | 100 | 0 | 0.04 | 0.08 | 0.14 | 0.17 |
| Minneapolis-St. Paul Area, MN | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.32 | 0.68 | 0.88 | 1.22 |
| Missoula Area, MT | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.01 | 0.01 | 0.01 |
| Missoula county; Missoula and vicinity, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.01 | 0.01 | 0.01 |
| Modesto Area, CA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.01 | 0.01 | 0.02 | 0.03 |
| Mohave County (part); Bullhead City, AZ | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.01 | 0.01 | 0.01 |
| Mono County; Mammoth Lake planning area, CA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Mono County; Mono Basin, CA | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Morenci, AZ | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Morgan County, IN | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.01 |
| Morongo Band of Mission Indians | Ozone (2008 8-hour) | Nonattainment, Serious | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Morristown Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.01 |
| Muscatine County; (part), IA | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Muscatine, IA | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Muskingum River, OH | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Nashua Area, NH | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.01 | 0.01 | 0.01 |
| Nassau County, FL | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Nevada County (Western part), CA | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| New Haven County, CT | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |

Appendix A Air Quality Non-Attainment Area Results

Table A1-42

Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Direct and Indirect Impacts

Formaldehyde 2025

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| New Haven-Meriden-Waterbury Area, CT | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.03 | 0.06 | 0.10 | 0.13 |
| New Manchester-Grant magisterial district in Hancock County, WV | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| New York County, NY | PM ₁₀ (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.02 | 0.04 | 0.07 | 0.08 |
| New York, NY-NJ-CT | PM _{2.5} (2006 24-hour) | Maintenance, -- | 100 | 0 | 0.58 | 1.10 | 1.89 | 2.31 |
| New York-N. New Jersey-Long Island Area, NY-NJ-CT | CO (1971 8-hour) | Maintenance, Moderate > 12.7ppm | 100 | 0 | 0.32 | 0.61 | 1.05 | 1.29 |
| New York-N. New Jersey-Long Island, NY-NJ-CT | Ozone (2008 8-hour) | Nonattainment, Moderate | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| NJ portion of the Northeast Pennsylvania-Upper Delaware Valley Interstate AQCR: (part), NJ | SO ₂ (1971 24-hour/Annual) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Nogales, AZ | PM _{2.5} (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.01 | 0.01 |
| Oakridge, OR | PM _{2.5} (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Ogden Area, UT | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.01 | 0.01 |
| Ogden Area, UT | PM ₁₀ (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.01 | 0.01 |
| Olmsted County; (part), MN | PM ₁₀ (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Olmsted; City of Rochester, MN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |

Table A1-42
Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Direct and Indirect Impacts
Formaldehyde 2025

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Pechanga Band of Luiseno Mission Indians of the Pechanga Reservation | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Pekin, IL | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.01 |
| Penns Grove Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Peoria County: Hollis Twp, IL | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Peoria County: Peoria, IL | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Perth Amboy Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.01 | 0.01 | 0.01 |
| Philadelphia-Camden County Area, PA-NJ | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.06 | 0.13 | 0.18 | 0.24 |
| Philadelphia-Wilmington, PA-NJ-DE | PM _{2.5} (2006 24-hour) | Maintenance, Moderate for PA and DE Subject to Former Subpart 1 for NJ | 100 | 0 | 0.18 | 0.36 | 0.57 | 0.72 |
| Philadelphia-Wilmington-Atlantic City, PA-NJ-MD-DE | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Phoenix Area, AZ | CO (1971 8-hour) | Maintenance, Serious | 100 | 0 | 0.13 | 0.24 | 0.41 | 0.51 |
| Phoenix-Mesa, AZ | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Pierce County; Tacoma, WA | PM ₁₀ (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Pima County; Ajo planning area, AZ | PM ₁₀ (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Pima County; Rillito planning area, AZ | PM ₁₀ (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.01 | 0.01 |
| Pinal and Gila Counties; Payson, AZ | PM ₁₀ (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Pinal County (part); West Pinal, AZ | PM ₁₀ (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.01 | 0.03 | 0.05 | 0.06 |
| Pitkin County; Aspen, CO | PM ₁₀ (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Pittsburgh Area, PA | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.01 | 0.01 | 0.02 | 0.03 |
| Pittsburgh-Beaver Valley, PA | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Pittsburgh-Beaver Valley, PA | PM _{2.5} (2006 24-hour) | Maintenance, Moderate | 100 | 0 | 0.07 | 0.12 | 0.21 | 0.26 |
| Plumas County, CA | PM _{2.5} (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Polk County, TN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |

Appendix A Air Quality Non-Attainment Area Results

Table A1-42

Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Direct and Indirect Impacts

Formaldehyde 2025

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|-------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Portland Area: Portland Metro Service District Boundary, OR | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.04 | 0.08 | 0.14 | 0.17 |
| Power-Bannock Counties; Fort Hall Indian Reservation, ID | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Power-Bannock Counties; Portneuf Valley Area, ID | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.01 | 0.01 | 0.01 |
| Provo Area, UT | CO (1971 8-hour) | Maintenance, Moderate > 12.7ppm | 100 | 0 | 0.00 | 0.01 | 0.01 | 0.01 |
| Provo, UT | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.01 | 0.03 | 0.05 | 0.06 |
| Prowers County; Lamar, CO | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Raleigh-Durham Area, NC | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.05 | 0.10 | 0.16 | 0.20 |
| Ramsey County; (part), MN | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Reading, PA | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Reno Area, NV | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.01 | 0.02 | 0.04 | 0.05 |
| Rhinelander, WI | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.01 |
| Riverside County (Coachella Valley), CA | Ozone (2008 8-hour) | Nonattainment, Severe 15 | 25 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Riverside County; Coachella Valley planning area, CA | PM10 (1987 24-hour) | Nonattainment, Serious | 70 | 0 | 0.02 | 0.04 | 0.06 | 0.08 |
| Riverside, Los Angeles, Orange, and San Bernardino Counties; South Coast Air Basin, CA | PM10 (1987 24-hour) | Maintenance, Serious | 100 | 0 | 1.33 | 2.80 | 3.71 | 5.08 |
| Rosebud County; Lame Deer, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Routt County (part); Steamboat Springs, CO | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Sacramento Area, CA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.05 | 0.09 | 0.16 | 0.20 |
| Sacramento County, CA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.05 | 0.09 | 0.15 | 0.18 |
| Sacramento Metro, CA | Ozone (2008 8-hour) | Nonattainment, Severe 15 | 25 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Sacramento, CA | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.09 | 0.17 | 0.28 | 0.35 |
| Salem Area, OR | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.01 | 0.02 | 0.03 | 0.04 |
| Salt Lake City Area, UT | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.01 | 0.01 | 0.02 | 0.02 |
| Salt Lake City, UT | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.06 | 0.11 | 0.19 | 0.23 |

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Formaldehyde 2025

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|---|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Salt Lake County, UT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.03 | 0.06 | 0.11 | 0.14 |
| Salt Lake County, UT | SO ₂ (1971 24-hour/Annual) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| San Bernardino County (part); excluding Searles Valley Planning area and South Coast Air Basin, CA | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.02 | 0.05 | 0.08 | 0.09 |
| San Diego Area, CA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.12 | 0.23 | 0.40 | 0.48 |
| San Diego County, CA | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| San Francisco Bay Area, CA | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| San Francisco Bay Area, CA | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.26 | 0.50 | 0.83 | 1.03 |
| San Francisco-Oakland-San Jose Area, CA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.24 | 0.46 | 0.76 | 0.95 |
| San Joaquin Valley Air Basin; Fresno, Kern, Kings, Madera, Merced, San Joaquin, Stanislaus, Tulare Counties, CA | PM10 (1987 24-hour) | Maintenance, Serious | 100 | 0 | 0.31 | 0.64 | 0.89 | 1.20 |
| San Joaquin Valley, CA | Ozone (2008 8-hour) | Nonattainment, Extreme | 10 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| San Joaquin Valley, CA | PM2.5 (2006 24-hour) | Nonattainment, Serious | 100 | 0 | 0.31 | 0.64 | 0.89 | 1.20 |
| San Joaquin Valley, CA | PM2.5 (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 0.31 | 0.64 | 0.89 | 1.20 |
| San Luis Obispo (Eastern San Luis Obispo), CA | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| San Manuel, AZ | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| San Miguel County; Telluride, CO | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Sanders County (part); Thompson Falls and vicinity, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Santa Cruz County; Nogales planning area, AZ | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.01 | 0.01 |
| Seaford, DE | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Seattle-Tacoma Area, WA | CO (1971 8-hour) | Maintenance, Moderate > 12.7ppm | 100 | 0 | 0.10 | 0.19 | 0.33 | 0.40 |
| Seattle-Tacoma, WA | PM2.5 (2006 24-hour) | Maintenance, Moderate | 100 | 0 | 0.02 | 0.03 | 0.05 | 0.06 |
| Sheboygan County, WI | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |

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Formaldehyde 2025

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|---|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Sheridan County; City of Sheridan, WY | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Shoshone County (part); excluding Pinehurst, ID | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.01 | 0.01 |
| Shoshone County; City of Pinehurst, ID | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Silver Bow County; Butte, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.01 |
| Somerville Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Southwest Indiana, IN | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Spokane Area, WA | CO (1971 8-hour) | Maintenance, Serious | 100 | 0 | 0.01 | 0.02 | 0.03 | 0.04 |
| Spokane County; (part), WA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.01 | 0.02 | 0.04 | 0.04 |
| Springfield Area, MA | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.01 | 0.01 | 0.02 | 0.02 |
| St. Bernard Parish, LA | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.05 | 0.10 | 0.11 | 0.17 |
| St. Louis Area, MO | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.03 | 0.06 | 0.10 | 0.13 |
| St. Louis-St. Charles-Farmington, MO-IL | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Steubenville, OH-WV | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.01 | 0.01 |
| Steubenville-Weirton, OH-WV | PM2.5 (2006 24-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.01 | 0.01 | 0.02 |
| Stockton Area, CA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.01 | 0.03 | 0.04 | 0.05 |
| Sullivan County, TN | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Syracuse Area; Onondaga County, NY | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.02 | 0.04 | 0.06 | 0.08 |
| Tazewell County; Groveland Twp, IL | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Terre Haute, IN | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.01 | 0.01 |

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Formaldehyde 2025

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|---|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Thurston County; Cities of Olympia, Tumwater, and Lacey, WA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.01 | 0.01 | 0.01 |
| Toms River Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Tooele County (part), UT | SO ₂ (1971 24-hour/Annual) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Trenton Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.01 | 0.01 | 0.01 |
| Trona, CA | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.01 |
| Tucson Area, AZ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.03 | 0.06 | 0.10 | 0.12 |
| Tuscan Buttes, CA | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Union County; LaGrande, OR | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Upper Green River Basin Area, WY | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Utah County, UT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.01 | 0.03 | 0.05 | 0.06 |
| Vancouver Area: Clark County (part), WA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.01 | 0.02 | 0.03 | 0.04 |
| Ventura County, CA | Ozone (2008 8-hour) | Nonattainment, Serious | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Vermillion County; Part of Clinton Township, IN | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Vigo County, IN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Walla Walla County; Wallula, WA | PM10 (1987 24-hour) | Maintenance, Serious | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Waltham Area, MA | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.01 | 0.01 |
| Warren County: Conewago Twp, PA | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Warren County: Warren Boro, Pleasant Twp, Glade Twp, PA | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Warren, PA | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Washington Area, DC-MD-VA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.02 | 0.05 | 0.08 | 0.10 |
| Washington, DC-MD-VA | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Washoe County; Reno planning area, NV | PM10 (1987 24-hour) | Nonattainment, Serious | 70 | 0 | 0.01 | 0.02 | 0.04 | 0.05 |

Appendix A Air Quality Non-Attainment Area Results

Table A1-42

**Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Direct and Indirect Impacts
Formaldehyde 2025**

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|---|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Wayne County: Boston, Center, Franklin, Wayne & Webster Townships, IN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Wayne County; (part), MI | PM ₁₀ (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.64 | 1.43 | 1.56 | 2.35 |
| West Central Pinal County, AZ | PM _{2.5} (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.01 | 0.01 | 0.01 |
| West Silver Valley, ID | PM _{2.5} (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Winston-Salem Area, NC | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.01 | 0.03 | 0.04 | 0.05 |
| Worcester Area, MA | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.01 | 0.02 | 0.03 | 0.03 |
| Yakima Area, WA | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.01 |
| Yakima County; (part), WA | PM ₁₀ (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.01 | 0.01 | 0.02 |
| Yuba City-Marysville, CA | PM _{2.5} (2006 24-hour) | Maintenance, Moderate | 100 | 0 | 0.01 | 0.01 | 0.02 | 0.03 |
| Yuma County; Yuma planning area, AZ | PM ₁₀ (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.01 | 0.01 | 0.02 | 0.02 |

^a Reductions are shown as positive values. Negative values are emissions increases. Values of less than 0.005 tons per year are rounded to zero.

^b Nonattainment or maintenance status as of 5/13/2016. Source: U.S. EPA, The Green Book Nonattainment Areas for Criteria Pollutants; <http://www.epa.gov/airquality/greenbook/>. "--" indicates that no severity classification has been established for the NAAQS pollutant.

^c Emissions thresholds in tons per year. Where the threshold differs by precursor pollutant, the smallest of the precursor thresholds is shown. These thresholds are provided for information only; a general conformity determination is not required for the Proposed Action. Source: 40 CFR 93.853.

Notes: CO = carbon monoxide; NAAQS = National Ambient Air Quality Standards; NO₂ = nitrogen dioxide; PM = particulate matter; SO₂ = sulfur dioxide

Table A1-43
Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Direct and Indirect Impacts
Formaldehyde 2040

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Ada County; Boise, ID | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.04 | 0.09 | 0.11 | 0.13 |
| Adams, Denver, and Boulder Counties; Denver Metropolitan area, CO | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.20 | 0.42 | 0.55 | 0.63 |
| Ajo, AZ | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Albuquerque Area, NM | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.08 | 0.17 | 0.23 | 0.26 |
| Allegheny County Air Basin: Hazelwood monitor, PA | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Allegheny County, PA | PM2.5 (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 0.11 | 0.23 | 0.30 | 0.34 |
| Allegheny County; The area including Liberty, Lincoln, Port Vue, and Glassport Boroughs and the City of Clairton, PA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Allegheny, PA | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.01 | 0.01 | 0.02 | 0.02 |
| Allentown, PA | PM2.5 (2006 24-hour) | Maintenance, Moderate | 100 | 0 | 0.07 | 0.15 | 0.20 | 0.23 |
| Allentown-Bethlehem-Easton, PA | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Anchorage Area, AK | CO (1971 8-hour) | Maintenance, Serious | 100 | 0 | 0.01 | 0.03 | 0.04 | 0.04 |
| Anchorage; Eagle River, AK | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| AQCR 012: Portions of Grant County, NM | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| AQCR 109-Millinocket, ME | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| AQCR 131: Anoka, Carver, Dakota, Hennepin, Ramsey, Scott, and Washington counties (Minneapolis-St. Paul), MN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| AQCR 237: Brown County: Green Bay sub-city area, WI | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| AQCR 238: Marathon County: Rothschild Sub-city area, Rib Mountain, Weston, WI | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| AQCR 238: Oneida County: Rhinelander Sub-city area, WI | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| AQCR 239: Milwaukee County: Milwaukee sub-city area, WI | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |

Appendix A Air Quality Non-Attainment Area Results

Table A1-43

Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Direct and Indirect Impacts

Formaldehyde 2040

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| AQCR 240: Dane County: Madison sub-city area, WI | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Archuleta County; Pagosa Springs, CO | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.01 | 0.01 | 0.01 |
| Armstrong County: Madison Twp, Mahoning Twp, Boggs Twp, Washington Twp, Pine Twp, PA | SO ₂ (1971 24-hour/Annual) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Aroostock County; City of Presque Isle, ME | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.01 | 0.01 |
| Atlanta, GA | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Atlantic City Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.01 | 0.01 | 0.02 | 0.02 |
| Bakersfield Area, CA | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.54 | 1.50 | 1.31 | 1.85 |
| Baltimore Area, MD | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.01 |
| Baltimore, MD | Ozone (2008 8-hour) | Nonattainment, Moderate | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Baton Rouge, LA | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Beaver, PA | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.01 | 0.01 |
| Benton County; (part) TVA Johnsonville, TN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Billings Area, MT | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.01 | 0.02 | 0.03 | 0.03 |
| Billings, MT | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Birmingham, AL | PM2.5 (2006 24-hour) | Maintenance, -- | 100 | 0 | 0.17 | 0.35 | 0.46 | 0.53 |
| Boise-Northern Ada County Area, ID | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.04 | 0.09 | 0.11 | 0.13 |
| Bonner County; The Sandpoint Area, ID | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Boston Area, MA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.10 | 0.21 | 0.27 | 0.31 |
| Boyd County (part), KY | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Brooke; Follansbee area, WV | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Burlington Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Calaveras County, CA | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Campbell-Clermont Counties, KY-OH | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.01 | 0.01 | 0.02 |

Table A1-43

Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Direct and Indirect Impacts

Formaldehyde 2040

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|---|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Canton-Massillon, OH | PM2.5 (2006 24-hour) | Maintenance, -- | 100 | 0 | 0.06 | 0.14 | 0.17 | 0.20 |
| Central New Hampshire, NH | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.03 | 0.06 | 0.08 | 0.09 |
| Central Steptoe Valley, NV | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Charleston, WV | PM2.5 (2006 24-hour) | Maintenance, -- | 100 | 0 | 0.05 | 0.10 | 0.13 | 0.15 |
| Charlotte Area, NC | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.17 | 0.35 | 0.46 | 0.53 |
| Charlotte-Rock Hill, NC-SC | Ozone (2008 8-hour) | Maintenance, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Chicago-Naperville, IL-IN-WI | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Chico (Butte County), CA | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Chico Area, CA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.01 | 0.03 | 0.03 | 0.04 |
| Chico, CA | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.03 | 0.05 | 0.07 | 0.08 |
| Cincinnati, OH-KY-IN | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Clark County; Las Vegas planning area, NV | PM10 (1987 24-hour) | Maintenance, Serious | 100 | 0 | 0.21 | 0.44 | 0.58 | 0.66 |
| Cleveland Area, OH | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.12 | 0.26 | 0.35 | 0.40 |
| Cleveland, OH | PM2.5 (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 0.16 | 0.34 | 0.45 | 0.52 |
| Cleveland-Akron-Lorain, OH | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Cleveland-Akron-Lorain, OH | PM2.5 (2006 24-hour) | Maintenance, -- | 100 | 0 | 0.35 | 0.75 | 0.99 | 1.13 |
| Cochise County; Paul Spur/Douglas planning area, AZ | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.01 | 0.01 | 0.01 | 0.02 |
| Colorado Springs Area, CO | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.07 | 0.15 | 0.20 | 0.23 |
| Columbus, OH | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Cook County; Lyons Township, IL | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.01 | 0.02 | 0.03 | 0.03 |
| Cook County; Southeast Chicago, IL | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.01 | 0.02 | 0.03 | 0.03 |
| Coshocton County; Franklin Township, OH | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Coso Junction, CA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Cuyahoga County (part), OH | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Cuyahoga County, OH | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.12 | 0.26 | 0.34 | 0.39 |

Appendix A Air Quality Non-Attainment Area Results

Table A1-43

Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Direct and Indirect Impacts

Formaldehyde 2040

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Dallas-Fort Worth, TX | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Delaware County, PA | PM2.5 (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 0.04 | 0.09 | 0.12 | 0.14 |
| Denver-Boulder Area, CO | CO (1971 8-hour) | Maintenance, Serious | 100 | 0 | 0.51 | 1.22 | 1.36 | 1.68 |
| Denver-Boulder-Greeley-Ft Collins-Loveland, CO | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Detroit Area, MI | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 2.17 | 6.10 | 5.25 | 7.43 |
| Detroit, MI | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 2.03 | 5.79 | 4.84 | 6.96 |
| Detroit-Ann Arbor, MI | PM2.5 (2006 24-hour) | Maintenance, -- | 100 | 0 | 2.63 | 7.07 | 6.53 | 8.90 |
| Dona Ana County; Anthony, NM | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Douglas, AZ | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Dukes County, MA | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Duluth Area, MN | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.02 | 0.03 | 0.04 | 0.05 |
| East Chicago Area, IN | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.01 | 0.01 |
| East Helena Area, MT | SO ₂ (1971 24-hour/Annual) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| East Kern County Area, CA | PM10 (1987 24-hour) | Nonattainment, Serious | 70 | 0 | 0.48 | 1.37 | 1.14 | 1.64 |
| El Paso County, TX | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.09 | 0.21 | 0.23 | 0.29 |
| El Paso, TX | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.04 | 0.10 | 0.09 | 0.12 |
| Eugene-Springfield Area, OR | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.03 | 0.06 | 0.09 | 0.10 |
| Fairbanks Area, AK | CO (1971 8-hour) | Maintenance, Serious | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.01 |
| Fairbanks, AK | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.01 | 0.01 | 0.02 |

Table A1-43
Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Direct and Indirect Impacts
Formaldehyde 2040

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|---|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Flathead County; Columbia Falls and vicinity, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Flathead County; Kalispell and vicinity, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.01 | 0.01 | 0.02 |
| Flathead County; Whitefish and vicinity, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Fort Collins Area, CO | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.02 | 0.03 | 0.04 | 0.05 |
| Freehold Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.01 | 0.01 | 0.01 |
| Fremont County; Canon City Area, CO | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.01 | 0.01 | 0.01 | 0.02 |
| Fresno Area, CA | CO (1971 8-hour) | Maintenance, Moderate > 12.7ppm | 100 | 0 | 0.07 | 0.15 | 0.20 | 0.23 |
| Grants Pass Area, OR | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.01 | 0.01 | 0.02 | 0.02 |
| Great Falls Area, MT | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Greater Connecticut, CT | Ozone (2008 8-hour) | Nonattainment, Moderate | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Greeley Area, CO | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.05 | 0.11 | 0.14 | 0.16 |
| Hancock and Brooke Counties (Part); The city of Weirton, WV | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Hancock County (Part) The city of Weirton, including Butler and Clay: Magisterial Districts, WV | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Harrisburg-Lebanon-Carlisle-York, PA | PM2.5 (2006 24-hour) | Maintenance, Moderate | 100 | 0 | 0.17 | 0.35 | 0.47 | 0.53 |
| Hartford-New Britain-Middletown Area, CT | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.15 | 0.31 | 0.41 | 0.47 |
| Hayden, AZ | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Hayden, AZ | SO ₂ (1971 24-hour/Annual) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Hayden, AZ | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Hillsborough County, FL | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.01 | 0.01 |
| Houston-Galveston-Brazoria, TX | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Humphreys County; (part) TVA Johnsonville, TN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Imperial Co, CA | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.03 | 0.06 | 0.08 | 0.09 |

Appendix A Air Quality Non-Attainment Area Results

Table A1-43

Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Direct and Indirect Impacts

Formaldehyde 2040

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Imperial County, CA | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Imperial County, CA | PM2.5 (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 0.03 | 0.06 | 0.08 | 0.09 |
| Imperial County; Imperial Valley planning area, CA | PM10 (1987 24-hour) | Nonattainment, Serious | 70 | 0 | 0.03 | 0.07 | 0.09 | 0.11 |
| Indian Wells, CA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.48 | 1.37 | 1.14 | 1.64 |
| Indiana, PA | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.01 | 0.03 | 0.03 | 0.04 |
| Indianapolis Area, IN | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Indianapolis, IN | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.06 | 0.13 | 0.17 | 0.20 |
| Inyo County; Owens Valley planning area, CA | PM10 (1987 24-hour) | Nonattainment, Serious | 70 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Jackson County, MO | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.01 | 0.01 | 0.02 | 0.02 |
| Jackson County; Medford-Ashland (including White City), OR | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.03 | 0.05 | 0.07 | 0.08 |
| Jamestown, NY | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Jefferson County, KY | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Jefferson County, MO | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.01 | 0.01 | 0.02 | 0.02 |
| Jefferson County; (part) Steubenville & Mingo Junction, OH | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Jefferson County; (part), OH | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Johnstown, PA | PM2.5 (2006 24-hour) | Maintenance, Moderate | 100 | 0 | 0.02 | 0.03 | 0.05 | 0.05 |
| Josephine County; Grants Pass, OR | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.01 | 0.01 | 0.02 | 0.02 |
| Juneau; Mendenhall Valley area, AK | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Kern County (Eastern Kern), CA | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| King County; Kent, WA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.01 | 0.01 | 0.01 |
| King County; Seattle, WA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Klamath County; Klamath Falls, OR | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.01 | 0.02 | 0.03 | 0.03 |
| Klamath Falls Area, OR | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.01 | 0.02 | 0.03 | 0.03 |
| Klamath Falls, OR | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.01 | 0.02 | 0.03 | 0.04 |

Table A1-43

Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Direct and Indirect Impacts

Formaldehyde 2040

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Knoxville, TN | Ozone (2008 8-hour) | Maintenance, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Knoxville-Sevierville-La Follette, TN | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.13 | 0.27 | 0.36 | 0.42 |
| La Porte County: (part), IN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lake County (part); Lakeview, OR | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lake County, OH | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.04 | 0.07 | 0.10 | 0.11 |
| Lake County: (part), IN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lake County; (part) Eastlake, Timberlake, Lakeline, Willoughby, Mentor, OH | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lake County; Cities of East Chicago, Hammond, Whiting, and Gary, IN | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.02 | 0.04 | 0.06 | 0.07 |
| Lake County; Polson, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lake County; Ronan, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lake Tahoe Nevada Area, NV | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.01 | 0.01 |
| Lake Tahoe North Shore Area, CA | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.01 | 0.01 | 0.01 |
| Lake Tahoe South Shore Area, CA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.01 | 0.01 | 0.01 |
| Lancaster, PA | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lancaster, PA | PM2.5 (2006 24-hour) | Maintenance, Moderate | 100 | 0 | 0.07 | 0.14 | 0.19 | 0.22 |
| Lane County (part); Oakridge, OR | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lane County; Eugene/Springfield, OR | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.03 | 0.06 | 0.09 | 0.10 |
| Las Vegas Area, NV | CO (1971 8-hour) | Maintenance, Serious | 100 | 0 | 0.21 | 0.43 | 0.58 | 0.66 |
| LaSalle County; Oglesby, IL | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.01 | 0.01 | 0.02 |
| Laurel Area, MT | SO ₂ (1971 24-hour/Annual) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lebanon County, PA | PM2.5 (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 0.02 | 0.05 | 0.07 | 0.08 |
| Lemont, IL | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.08 | 0.21 | 0.19 | 0.26 |
| Liberty-Clairton, PA | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |

Appendix A Air Quality Non-Attainment Area Results

Table A1-43

Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Direct and Indirect Impacts

Formaldehyde 2040

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Lincoln County; Libby and vicinity, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Logan, UT-ID | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.01 | 0.03 | 0.03 | 0.04 |
| Longmont Area, CO | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.01 | 0.02 | 0.03 | 0.03 |
| Lorain County (part), OH | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Los Angeles, CA | PM2.5 (2006 24-hour) | Nonattainment, Serious | 100 | 0 | 4.43 | 11.21 | 11.34 | 14.75 |
| Los Angeles-San Bernardino Counties (West Mojave Desert), CA | Ozone (2008 8-hour) | Nonattainment, Severe 15 | 25 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Los Angeles-South Coast Air Basin Area, CA | CO (1971 8-hour) | Maintenance, Serious | 100 | 0 | 4.43 | 11.21 | 11.34 | 14.75 |
| Los Angeles-South Coast Air Basin Area, CA | NO ₂ (1971 Annual) | Maintenance, -- | 100 | 0 | 4.43 | 11.21 | 11.34 | 14.75 |
| Los Angeles-South Coast Air Basin, CA | Ozone (2008 8-hour) | Nonattainment, Extreme | 10 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Los Angeles-South Coast Air Basin, CA | PM2.5 (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 4.43 | 11.20 | 11.33 | 14.74 |
| Lowell Area, MA | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.01 | 0.03 | 0.04 | 0.04 |
| Lucas County (part), OH | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Madison County; Granite City Township and Nameoki Township, IL | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 2.87 | 8.25 | 6.84 | 9.89 |
| Manchester Area, NH | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.01 | 0.02 | 0.03 | 0.04 |
| Maricopa and Pinal Counties; Phoenix planning area, AZ | PM10 (1987 24-hour) | Nonattainment, Serious | 70 | 0 | 0.47 | 1.00 | 1.32 | 1.51 |
| Marion County; Lawrence, Washington, and Warrant Townships, IN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Mariposa County, CA | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Marshall, WV | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.01 |
| Medford Area, OR | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.01 | 0.03 | 0.04 | 0.04 |
| Memphis Area, TN | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.15 | 0.35 | 0.41 | 0.50 |

Table A1-43
Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Direct and Indirect Impacts
Formaldehyde 2040

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|---|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Memphis, TN-MS-AR | Ozone (2008 8-hour) | Nonattainment TN & Maintenance MS/AR, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Miami, AZ | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Miami, AZ | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Miami, AZ | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Milwaukee-Racine, WI | PM2.5 (2006 24-hour) | Maintenance, -- | 100 | 0 | 0.16 | 0.33 | 0.44 | 0.50 |
| Minneapolis-St. Paul Area, MN | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 1.05 | 2.72 | 2.67 | 3.52 |
| Missoula Area, MT | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.01 | 0.03 | 0.03 | 0.04 |
| Missoula county; Missoula and vicinity, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.01 | 0.03 | 0.03 | 0.04 |
| Modesto Area, CA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.02 | 0.05 | 0.07 | 0.08 |
| Mohave County (part); Bullhead City, AZ | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.01 | 0.03 | 0.04 | 0.04 |
| Mono County; Mammoth Lake planning area, CA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.01 | 0.01 | 0.01 |
| Mono County; Mono Basin, CA | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Morenci, AZ | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Morgan County, IN | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.01 | 0.01 | 0.01 |
| Morongo Band of Mission Indians | Ozone (2008 8-hour) | Nonattainment, Serious | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Morristown Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.01 | 0.01 | 0.02 | 0.02 |
| Muscatine County; (part), IA | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Muscatine, IA | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.01 | 0.01 | 0.01 |
| Muskingum River, OH | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Nashua Area, NH | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.01 | 0.02 | 0.03 | 0.03 |
| Nassau County, FL | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Nevada County (Western part), CA | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| New Haven County, CT | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.01 | 0.01 | 0.01 |

Appendix A Air Quality Non-Attainment Area Results

Table A1-43

Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Direct and Indirect Impacts

Formaldehyde 2040

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| New Haven-Meriden-Waterbury Area, CT | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.11 | 0.24 | 0.31 | 0.36 |
| New Manchester-Grant magisterial district in Hancock County, WV | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| New York County, NY | PM ₁₀ (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.07 | 0.16 | 0.21 | 0.24 |
| New York, NY-NJ-CT | PM _{2.5} (2006 24-hour) | Maintenance, -- | 100 | 0 | 2.08 | 4.37 | 5.78 | 6.61 |
| New York-N. New Jersey-Long Island Area, NY-NJ-CT | CO (1971 8-hour) | Maintenance, Moderate > 12.7ppm | 100 | 0 | 1.15 | 2.43 | 3.21 | 3.68 |
| New York-N. New Jersey-Long Island, NY-NJ-CT | Ozone (2008 8-hour) | Nonattainment, Moderate | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| NJ portion of the Northeast Pennsylvania-Upper Delaware Valley Interstate AQCR: (part), NJ | SO ₂ (1971 24-hour/Annual) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Nogales, AZ | PM _{2.5} (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.01 | 0.01 | 0.02 | 0.02 |
| Oakridge, OR | PM _{2.5} (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Ogden Area, UT | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.01 | 0.02 | 0.02 | 0.02 |
| Ogden Area, UT | PM ₁₀ (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.01 | 0.02 | 0.02 | 0.02 |
| Olmsted County; (part), MN | PM ₁₀ (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.01 | 0.01 | 0.01 |
| Olmsted; City of Rochester, MN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |

Table A1-43
Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Direct and Indirect Impacts
Formaldehyde 2040

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Pechanga Band of Luiseno Mission Indians of the Pechanga Reservation | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Pekin, IL | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.01 | 0.01 | 0.01 | 0.02 |
| Penns Grove Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Peoria County: Hollis Twp, IL | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Peoria County: Peoria, IL | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Perth Amboy Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.02 | 0.03 | 0.04 | 0.05 |
| Philadelphia-Camden County Area, PA-NJ | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.21 | 0.50 | 0.54 | 0.68 |
| Philadelphia-Wilmington, PA-NJ-DE | PM _{2.5} (2006 24-hour) | Maintenance, Moderate for PA and DE Subject to Former Subpart 1 for NJ | 100 | 0 | 0.64 | 1.41 | 1.75 | 2.06 |
| Philadelphia-Wilmington-Atlantic City, PA-NJ-MD-DE | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Phoenix Area, AZ | CO (1971 8-hour) | Maintenance, Serious | 100 | 0 | 0.45 | 0.95 | 1.26 | 1.45 |
| Phoenix-Mesa, AZ | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Pierce County; Tacoma, WA | PM ₁₀ (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Pima County; Ajo planning area, AZ | PM ₁₀ (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Pima County; Rillito planning area, AZ | PM ₁₀ (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.01 | 0.02 | 0.02 | 0.03 |
| Pinal and Gila Counties; Payson, AZ | PM ₁₀ (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.01 | 0.01 | 0.01 |
| Pinal County (part); West Pinal, AZ | PM ₁₀ (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.05 | 0.11 | 0.15 | 0.17 |
| Pitkin County; Aspen, CO | PM ₁₀ (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.01 | 0.01 | 0.01 |
| Pittsburgh Area, PA | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.02 | 0.05 | 0.06 | 0.07 |
| Pittsburgh-Beaver Valley, PA | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Pittsburgh-Beaver Valley, PA | PM _{2.5} (2006 24-hour) | Maintenance, Moderate | 100 | 0 | 0.23 | 0.49 | 0.65 | 0.74 |
| Plumas County, CA | PM _{2.5} (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Polk County, TN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |

Appendix A Air Quality Non-Attainment Area Results

Table A1-43

Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Direct and Indirect Impacts

Formaldehyde 2040

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|-------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Portland Area: Portland Metro Service District Boundary, OR | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.15 | 0.32 | 0.42 | 0.48 |
| Power-Bannock Counties; Fort Hall Indian Reservation, ID | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Power-Bannock Counties; Portneuf Valley Area, ID | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.01 | 0.03 | 0.03 | 0.04 |
| Provo Area, UT | CO (1971 8-hour) | Maintenance, Moderate > 12.7ppm | 100 | 0 | 0.01 | 0.02 | 0.03 | 0.03 |
| Provo, UT | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.05 | 0.11 | 0.14 | 0.16 |
| Prowers County; Lamar, CO | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Raleigh-Durham Area, NC | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.18 | 0.38 | 0.50 | 0.57 |
| Ramsey County; (part), MN | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Reading, PA | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Reno Area, NV | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.04 | 0.09 | 0.12 | 0.13 |
| Rhinelander, WI | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.01 | 0.01 | 0.02 | 0.02 |
| Riverside County (Coachella Valley), CA | Ozone (2008 8-hour) | Nonattainment, Severe 15 | 25 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Riverside County; Coachella Valley planning area, CA | PM10 (1987 24-hour) | Nonattainment, Serious | 70 | 0 | 0.07 | 0.14 | 0.18 | 0.21 |
| Riverside, Los Angeles, Orange, and San Bernardino Counties; South Coast Air Basin, CA | PM10 (1987 24-hour) | Maintenance, Serious | 100 | 0 | 4.42 | 11.19 | 11.32 | 14.72 |
| Rosebud County; Lame Deer, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.01 | 0.01 | 0.01 |
| Routt County (part); Steamboat Springs, CO | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.01 | 0.01 | 0.01 |
| Sacramento Area, CA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.17 | 0.36 | 0.48 | 0.55 |
| Sacramento County, CA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.16 | 0.34 | 0.45 | 0.51 |
| Sacramento Metro, CA | Ozone (2008 8-hour) | Nonattainment, Severe 15 | 25 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Sacramento, CA | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.31 | 0.67 | 0.87 | 1.00 |
| Salem Area, OR | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.03 | 0.07 | 0.09 | 0.10 |
| Salt Lake City Area, UT | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.02 | 0.04 | 0.05 | 0.06 |
| Salt Lake City, UT | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.21 | 0.43 | 0.57 | 0.66 |

Table A1-43
Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Direct and Indirect Impacts
Formaldehyde 2040

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|---|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Salt Lake County, UT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.12 | 0.26 | 0.34 | 0.39 |
| Salt Lake County, UT | SO ₂ (1971 24-hour/Annual) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| San Bernardino County (part); excluding Searles Valley Planning area and South Coast Air Basin, CA | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.08 | 0.17 | 0.21 | 0.25 |
| San Diego Area, CA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.44 | 0.92 | 1.21 | 1.39 |
| San Diego County, CA | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| San Francisco Bay Area, CA | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| San Francisco Bay Area, CA | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.92 | 1.98 | 2.53 | 2.94 |
| San Francisco-Oakland-San Jose Area, CA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.84 | 1.83 | 2.32 | 2.71 |
| San Joaquin Valley Air Basin; Fresno, Kern, Kings, Madera, Merced, San Joaquin, Stanislaus, Tulare Counties, CA | PM10 (1987 24-hour) | Maintenance, Serious | 100 | 0 | 1.05 | 2.58 | 2.73 | 3.47 |
| San Joaquin Valley, CA | Ozone (2008 8-hour) | Nonattainment, Extreme | 10 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| San Joaquin Valley, CA | PM2.5 (2006 24-hour) | Nonattainment, Serious | 100 | 0 | 1.05 | 2.58 | 2.73 | 3.47 |
| San Joaquin Valley, CA | PM2.5 (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 1.05 | 2.58 | 2.73 | 3.47 |
| San Luis Obispo (Eastern San Luis Obispo), CA | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| San Manuel, AZ | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| San Miguel County; Telluride, CO | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Sanders County (part); Thompson Falls and vicinity, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Santa Cruz County; Nogales planning area, AZ | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.01 | 0.01 | 0.02 | 0.02 |
| Seaford, DE | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Seattle-Tacoma Area, WA | CO (1971 8-hour) | Maintenance, Moderate > 12.7ppm | 100 | 0 | 0.36 | 0.75 | 0.99 | 1.14 |
| Seattle-Tacoma, WA | PM2.5 (2006 24-hour) | Maintenance, Moderate | 100 | 0 | 0.06 | 0.12 | 0.16 | 0.18 |
| Sheboygan County, WI | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |

Appendix A Air Quality Non-Attainment Area Results

Table A1-43

Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Direct and Indirect Impacts

Formaldehyde 2040

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|---|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Sheridan County; City of Sheridan, WY | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.01 | 0.01 | 0.01 |
| Shoshone County (part); excluding Pinehurst, ID | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.01 | 0.01 | 0.02 | 0.02 |
| Shoshone County; City of Pinehurst, ID | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Silver Bow County; Butte, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.01 | 0.01 | 0.02 | 0.02 |
| Somerville Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.01 | 0.01 |
| Southwest Indiana, IN | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Spokane Area, WA | CO (1971 8-hour) | Maintenance, Serious | 100 | 0 | 0.04 | 0.08 | 0.10 | 0.12 |
| Spokane County; (part), WA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.04 | 0.08 | 0.11 | 0.12 |
| Springfield Area, MA | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.02 | 0.05 | 0.06 | 0.07 |
| St. Bernard Parish, LA | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.15 | 0.42 | 0.35 | 0.50 |
| St. Louis Area, MO | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.11 | 0.24 | 0.31 | 0.36 |
| St. Louis-St. Charles-Farmington, MO-IL | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Steubenville, OH-WV | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.01 | 0.02 | 0.02 | 0.03 |
| Steubenville-Weirton, OH-WV | PM2.5 (2006 24-hour) | Maintenance, -- | 100 | 0 | 0.02 | 0.03 | 0.04 | 0.05 |
| Stockton Area, CA | CO (1971 8-hour) | Maintenance, Moderate ≤ 12.7ppm | 100 | 0 | 0.05 | 0.10 | 0.13 | 0.15 |
| Sullivan County, TN | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.01 | 0.01 |
| Syracuse Area; Onondaga County, NY | CO (1971 8-hour) | Maintenance, Moderate ≤ 12.7ppm | 100 | 0 | 0.07 | 0.15 | 0.20 | 0.22 |
| Tazewell County; Groveland Twp, IL | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Terre Haute, IN | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.01 | 0.01 | 0.02 | 0.02 |

Table A1-43
Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Direct and Indirect Impacts
Formaldehyde 2040

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|---|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Thurston County; Cities of Olympia, Tumwater, and Lacey, WA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.01 | 0.03 | 0.04 | 0.04 |
| Toms River Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Tooele County (part), UT | SO ₂ (1971 24-hour/Annual) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Trenton Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.01 | 0.02 | 0.03 | 0.04 |
| Trona, CA | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.01 | 0.01 | 0.02 |
| Tucson Area, AZ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.11 | 0.23 | 0.31 | 0.35 |
| Tuscan Buttes, CA | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Union County; LaGrande, OR | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.01 | 0.01 | 0.01 |
| Upper Green River Basin Area, WY | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Utah County, UT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.05 | 0.11 | 0.14 | 0.16 |
| Vancouver Area: Clark County (part), WA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.03 | 0.07 | 0.10 | 0.11 |
| Ventura County, CA | Ozone (2008 8-hour) | Nonattainment, Serious | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Vermillion County; Part of Clinton Township, IN | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.01 | 0.01 | 0.01 | 0.02 |
| Vigo County, IN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Walla Walla County; Wallula, WA | PM10 (1987 24-hour) | Maintenance, Serious | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Waltham Area, MA | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.01 | 0.02 | 0.02 | 0.02 |
| Warren County: Conewago Twp, PA | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Warren County: Warren Boro, Pleasant Twp, Glade Twp, PA | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Warren, PA | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.01 | 0.01 | 0.01 |
| Washington Area, DC-MD-VA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.09 | 0.18 | 0.24 | 0.27 |
| Washington, DC-MD-VA | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Washoe County; Reno planning area, NV | PM10 (1987 24-hour) | Nonattainment, Serious | 70 | 0 | 0.04 | 0.09 | 0.12 | 0.13 |

Appendix A Air Quality Non-Attainment Area Results

Table A1-43

Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Direct and Indirect Impacts

Formaldehyde 2040

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|---|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Wayne County: Boston, Center, Franklin, Wayne & Webster Townships, IN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Wayne County; (part), MI | PM ₁₀ (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 1.99 | 5.72 | 4.75 | 6.86 |
| West Central Pinal County, AZ | PM _{2.5} (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.01 | 0.02 | 0.03 | 0.04 |
| West Silver Valley, ID | PM _{2.5} (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.01 | 0.01 | 0.01 |
| Winston-Salem Area, NC | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.05 | 0.10 | 0.13 | 0.15 |
| Worcester Area, MA | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.03 | 0.06 | 0.08 | 0.10 |
| Yakima Area, WA | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.01 | 0.01 | 0.02 | 0.02 |
| Yakima County; (part), WA | PM ₁₀ (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.01 | 0.03 | 0.04 | 0.05 |
| Yuba City-Marysville, CA | PM _{2.5} (2006 24-hour) | Maintenance, Moderate | 100 | 0 | 0.02 | 0.05 | 0.07 | 0.08 |
| Yuma County; Yuma planning area, AZ | PM ₁₀ (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.02 | 0.04 | 0.06 | 0.07 |

^a Reductions are shown as positive values. Negative values are emissions increases. Values of less than 0.005 tons per year are rounded to zero.

^b Nonattainment or maintenance status as of 5/13/2016. Source: U.S. EPA, The Green Book Nonattainment Areas for Criteria Pollutants; <http://www.epa.gov/airquality/greenbook/>. "--" indicates that no severity classification has been established for the NAAQS pollutant.

^c Emissions thresholds in tons per year. Where the threshold differs by precursor pollutant, the smallest of the precursor thresholds is shown. These thresholds are provided for information only; a general conformity determination is not required for the Proposed Action. Source: 40 CFR 93.853.

Notes: CO = carbon monoxide; NAAQS = National Ambient Air Quality Standards; NO₂ = nitrogen dioxide; PM = particulate matter; SO₂ = sulfur dioxide

Table A1-44
Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Direct and Indirect Impacts
Formaldehyde 2050

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Ada County; Boise, ID | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.05 | 0.11 | 0.14 | 0.15 |
| Adams, Denver, and Boulder Counties; Denver Metropolitan area, CO | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.24 | 0.51 | 0.66 | 0.75 |
| Ajo, AZ | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Albuquerque Area, NM | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.10 | 0.21 | 0.27 | 0.31 |
| Allegheny County Air Basin: Hazelwood monitor, PA | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Allegheny County, PA | PM2.5 (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 0.13 | 0.28 | 0.36 | 0.41 |
| Allegheny County; The area including Liberty, Lincoln, Port Vue, and Glassport Boroughs and the City of Clairton, PA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Allegheny, PA | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.01 | 0.01 | 0.02 | 0.02 |
| Allentown, PA | PM2.5 (2006 24-hour) | Maintenance, Moderate | 100 | 0 | 0.09 | 0.19 | 0.24 | 0.27 |
| Allentown-Bethlehem-Easton, PA | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Anchorage Area, AK | CO (1971 8-hour) | Maintenance, Serious | 100 | 0 | 0.02 | 0.03 | 0.04 | 0.05 |
| Anchorage; Eagle River, AK | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| AQCR 012: Portions of Grant County, NM | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| AQCR 109-Millinocket, ME | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| AQCR 131: Anoka, Carver, Dakota, Hennepin, Ramsey, Scott, and Washington counties (Minneapolis-St. Paul), MN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| AQCR 237: Brown County: Green Bay sub-city area, WI | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| AQCR 238: Marathon County: Rothschild Sub-city area, Rib Mountain, Weston, WI | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| AQCR 238: Oneida County: Rhinelander Sub-city area, WI | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| AQCR 239: Milwaukee County: Milwaukee sub-city area, WI | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |

Appendix A Air Quality Non-Attainment Area Results

Table A1-44

Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Direct and Indirect Impacts

Formaldehyde 2050

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| AQCR 240: Dane County: Madison sub-city area, WI | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Archuleta County; Pagosa Springs, CO | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.01 | 0.01 | 0.01 |
| Armstrong County: Madison Twp, Mahoning Twp, Boggs Twp, Washington Twp, Pine Twp, PA | SO ₂ (1971 24-hour/Annual) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Aroostock County; City of Presque Isle, ME | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.01 | 0.01 | 0.01 |
| Atlanta, GA | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Atlantic City Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.01 | 0.02 | 0.02 | 0.03 |
| Bakersfield Area, CA | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.64 | 1.81 | 1.55 | 2.17 |
| Baltimore Area, MD | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.01 | 0.01 |
| Baltimore, MD | Ozone (2008 8-hour) | Nonattainment, Moderate | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Baton Rouge, LA | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Beaver, PA | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.01 | 0.01 | 0.01 |
| Benton County; (part) TVA Johnsonville, TN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Billings Area, MT | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.01 | 0.03 | 0.04 | 0.04 |
| Billings, MT | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Birmingham, AL | PM2.5 (2006 24-hour) | Maintenance, -- | 100 | 0 | 0.20 | 0.43 | 0.55 | 0.63 |
| Boise-Northern Ada County Area, ID | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.05 | 0.11 | 0.14 | 0.15 |
| Bonner County; The Sandpoint Area, ID | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.01 | 0.01 |
| Boston Area, MA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.12 | 0.25 | 0.33 | 0.37 |
| Boyd County (part), KY | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Brooke; Follansbee area, WV | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Burlington Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Calaveras County, CA | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Campbell-Clermont Counties, KY-OH | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.01 | 0.01 | 0.02 | 0.02 |

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Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Direct and Indirect Impacts
Formaldehyde 2050

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|---|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Canton-Massillon, OH | PM2.5 (2006 24-hour) | Maintenance, -- | 100 | 0 | 0.08 | 0.17 | 0.20 | 0.24 |
| Central New Hampshire, NH | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.03 | 0.07 | 0.09 | 0.11 |
| Central Steptoe Valley, NV | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Charleston, WV | PM2.5 (2006 24-hour) | Maintenance, -- | 100 | 0 | 0.06 | 0.12 | 0.16 | 0.18 |
| Charlotte Area, NC | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.20 | 0.43 | 0.55 | 0.63 |
| Charlotte-Rock Hill, NC-SC | Ozone (2008 8-hour) | Maintenance, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Chicago-Naperville, IL-IN-WI | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Chico (Butte County), CA | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Chico Area, CA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.02 | 0.03 | 0.04 | 0.05 |
| Chico, CA | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.03 | 0.07 | 0.09 | 0.10 |
| Cincinnati, OH-KY-IN | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Clark County; Las Vegas planning area, NV | PM10 (1987 24-hour) | Maintenance, Serious | 100 | 0 | 0.25 | 0.54 | 0.69 | 0.78 |
| Cleveland Area, OH | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.15 | 0.32 | 0.41 | 0.47 |
| Cleveland, OH | PM2.5 (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 0.19 | 0.42 | 0.54 | 0.61 |
| Cleveland-Akron-Lorain, OH | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Cleveland-Akron-Lorain, OH | PM2.5 (2006 24-hour) | Maintenance, -- | 100 | 0 | 0.43 | 0.91 | 1.18 | 1.33 |
| Cochise County; Paul Spur/Douglas planning area, AZ | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.01 | 0.01 | 0.02 | 0.02 |
| Colorado Springs Area, CO | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.09 | 0.18 | 0.24 | 0.27 |
| Columbus, OH | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Cook County; Lyons Township, IL | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.01 | 0.02 | 0.03 | 0.04 |
| Cook County; Southeast Chicago, IL | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.01 | 0.02 | 0.03 | 0.03 |
| Coshocton County; Franklin Township, OH | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Coso Junction, CA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Cuyahoga County (part), OH | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Cuyahoga County, OH | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.15 | 0.32 | 0.41 | 0.47 |

Appendix A Air Quality Non-Attainment Area Results

Table A1-44

Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Direct and Indirect Impacts

Formaldehyde 2050

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Dallas-Fort Worth, TX | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Delaware County, PA | PM2.5 (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 0.05 | 0.12 | 0.15 | 0.17 |
| Denver-Boulder Area, CO | CO (1971 8-hour) | Maintenance, Serious | 100 | 0 | 0.61 | 1.48 | 1.61 | 1.98 |
| Denver-Boulder-Greeley-Ft Collins-Loveland, CO | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Detroit Area, MI | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 2.52 | 7.27 | 6.10 | 8.64 |
| Detroit, MI | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 2.38 | 6.97 | 5.71 | 8.20 |
| Detroit-Ann Arbor, MI | PM2.5 (2006 24-hour) | Maintenance, -- | 100 | 0 | 3.10 | 8.52 | 7.70 | 10.46 |
| Dona Ana County; Anthony, NM | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.01 |
| Douglas, AZ | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Dukes County, MA | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Duluth Area, MN | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.02 | 0.04 | 0.06 | 0.06 |
| East Chicago Area, IN | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.01 | 0.01 | 0.01 |
| East Helena Area, MT | SO ₂ (1971 24-hour/Annual) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| East Kern County Area, CA | PM10 (1987 24-hour) | Nonattainment, Serious | 70 | 0 | 0.56 | 1.64 | 1.33 | 1.93 |
| El Paso County, TX | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.10 | 0.25 | 0.27 | 0.34 |
| El Paso, TX | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.04 | 0.12 | 0.10 | 0.14 |
| Eugene-Springfield Area, OR | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.04 | 0.08 | 0.10 | 0.12 |
| Fairbanks Area, AK | CO (1971 8-hour) | Maintenance, Serious | 100 | 0 | 0.00 | 0.00 | 0.01 | 0.01 |
| Fairbanks, AK | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.01 | 0.01 | 0.02 | 0.02 |

Table A1-44
Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Direct and Indirect Impacts
Formaldehyde 2050

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|---|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Flathead County; Columbia Falls and vicinity, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Flathead County; Kalispell and vicinity, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.01 | 0.01 | 0.02 | 0.02 |
| Flathead County; Whitefish and vicinity, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Fort Collins Area, CO | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.02 | 0.04 | 0.05 | 0.06 |
| Freehold Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.01 | 0.01 | 0.01 |
| Fremont County; Canon City Area, CO | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.01 | 0.01 | 0.02 | 0.02 |
| Fresno Area, CA | CO (1971 8-hour) | Maintenance, Moderate > 12.7ppm | 100 | 0 | 0.09 | 0.18 | 0.24 | 0.27 |
| Grants Pass Area, OR | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.01 | 0.02 | 0.02 | 0.02 |
| Great Falls Area, MT | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Greater Connecticut, CT | Ozone (2008 8-hour) | Nonattainment, Moderate | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Greeley Area, CO | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.06 | 0.13 | 0.17 | 0.19 |
| Hancock and Brooke Counties (Part); The city of Weirton, WV | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Hancock County (Part) The city of Weirton, including Butler and Clay: Magisterial Districts, WV | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Harrisburg-Lebanon-Carlisle-York, PA | PM2.5 (2006 24-hour) | Maintenance, Moderate | 100 | 0 | 0.20 | 0.43 | 0.56 | 0.63 |
| Hartford-New Britain-Middletown Area, CT | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.18 | 0.38 | 0.49 | 0.56 |
| Hayden, AZ | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Hayden, AZ | SO ₂ (1971 24-hour/Annual) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Hayden, AZ | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Hillsborough County, FL | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.01 | 0.01 | 0.01 |
| Houston-Galveston-Brazoria, TX | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Humphreys County; (part) TVA Johnsonville, TN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Imperial Co, CA | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.03 | 0.07 | 0.09 | 0.10 |

Appendix A Air Quality Non-Attainment Area Results

Table A1-44

Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Direct and Indirect Impacts

Formaldehyde 2050

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Imperial County, CA | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Imperial County, CA | PM2.5 (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 0.03 | 0.07 | 0.09 | 0.10 |
| Imperial County; Imperial Valley planning area, CA | PM10 (1987 24-hour) | Nonattainment, Serious | 70 | 0 | 0.04 | 0.09 | 0.11 | 0.13 |
| Indian Wells, CA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.56 | 1.64 | 1.33 | 1.93 |
| Indiana, PA | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.01 | 0.03 | 0.04 | 0.05 |
| Indianapolis Area, IN | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Indianapolis, IN | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.07 | 0.16 | 0.20 | 0.23 |
| Inyo County; Owens Valley planning area, CA | PM10 (1987 24-hour) | Nonattainment, Serious | 70 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Jackson County, MO | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.01 | 0.02 | 0.02 | 0.03 |
| Jackson County; Medford-Ashland (including White City), OR | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.03 | 0.07 | 0.09 | 0.10 |
| Jamestown, NY | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Jefferson County, KY | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Jefferson County, MO | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.01 | 0.02 | 0.02 | 0.03 |
| Jefferson County; (part) Steubenville & Mingo Junction, OH | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Jefferson County; (part), OH | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Johnstown, PA | PM2.5 (2006 24-hour) | Maintenance, Moderate | 100 | 0 | 0.02 | 0.04 | 0.05 | 0.06 |
| Josephine County; Grants Pass, OR | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.01 | 0.02 | 0.02 | 0.02 |
| Juneau; Mendenhall Valley area, AK | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Kern County (Eastern Kern), CA | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| King County; Kent, WA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.01 | 0.01 | 0.01 |
| King County; Seattle, WA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Klamath County; Klamath Falls, OR | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.01 | 0.03 | 0.04 | 0.04 |
| Klamath Falls Area, OR | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.01 | 0.03 | 0.04 | 0.04 |
| Klamath Falls, OR | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.02 | 0.03 | 0.04 | 0.05 |

Table A1-44
Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Direct and Indirect Impacts
Formaldehyde 2050

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Knoxville, TN | Ozone (2008 8-hour) | Maintenance, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Knoxville-Sevierville-La Follette, TN | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.16 | 0.34 | 0.43 | 0.49 |
| La Porte County: (part), IN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lake County (part); Lakeview, OR | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.01 | 0.01 | 0.01 |
| Lake County, OH | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.04 | 0.09 | 0.12 | 0.13 |
| Lake County: (part), IN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lake County; (part) Eastlake, Timberlake, Lakeline, Willoughby, Mentor, OH | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lake County; Cities of East Chicago, Hammond, Whiting, and Gary, IN | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.02 | 0.05 | 0.06 | 0.07 |
| Lake County; Polson, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lake County; Ronan, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lake Tahoe Nevada Area, NV | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.01 | 0.01 |
| Lake Tahoe North Shore Area, CA | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.01 | 0.01 | 0.01 |
| Lake Tahoe South Shore Area, CA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.01 | 0.01 | 0.01 |
| Lancaster, PA | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lancaster, PA | PM2.5 (2006 24-hour) | Maintenance, Moderate | 100 | 0 | 0.08 | 0.18 | 0.23 | 0.26 |
| Lane County (part); Oakridge, OR | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lane County; Eugene/Springfield, OR | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.04 | 0.08 | 0.10 | 0.12 |
| Las Vegas Area, NV | CO (1971 8-hour) | Maintenance, Serious | 100 | 0 | 0.25 | 0.53 | 0.69 | 0.78 |
| LaSalle County; Oglesby, IL | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.01 | 0.01 | 0.02 | 0.02 |
| Laurel Area, MT | SO ₂ (1971 24-hour/Annual) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lebanon County, PA | PM2.5 (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 0.03 | 0.06 | 0.08 | 0.09 |
| Lemont, IL | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.09 | 0.25 | 0.23 | 0.31 |
| Liberty-Clairton, PA | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |

Appendix A Air Quality Non-Attainment Area Results

Table A1-44

Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Direct and Indirect Impacts

Formaldehyde 2050

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Lincoln County; Libby and vicinity, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Logan, UT-ID | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.01 | 0.03 | 0.04 | 0.05 |
| Longmont Area, CO | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.01 | 0.03 | 0.03 | 0.04 |
| Lorain County (part), OH | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Los Angeles, CA | PM2.5 (2006 24-hour) | Nonattainment, Serious | 100 | 0 | 5.25 | 13.57 | 13.44 | 17.37 |
| Los Angeles-San Bernardino Counties (West Mojave Desert), CA | Ozone (2008 8-hour) | Nonattainment, Severe 15 | 25 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Los Angeles-South Coast Air Basin Area, CA | CO (1971 8-hour) | Maintenance, Serious | 100 | 0 | 5.25 | 13.58 | 13.44 | 17.37 |
| Los Angeles-South Coast Air Basin Area, CA | NO ₂ (1971 Annual) | Maintenance, -- | 100 | 0 | 5.25 | 13.58 | 13.44 | 17.37 |
| Los Angeles-South Coast Air Basin, CA | Ozone (2008 8-hour) | Nonattainment, Extreme | 10 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Los Angeles-South Coast Air Basin, CA | PM2.5 (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 5.25 | 13.56 | 13.43 | 17.35 |
| Lowell Area, MA | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.02 | 0.04 | 0.05 | 0.05 |
| Lucas County (part), OH | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Madison County; Granite City Township and Nameoki Township, IL | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 3.36 | 9.91 | 8.03 | 11.60 |
| Manchester Area, NH | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.01 | 0.03 | 0.04 | 0.04 |
| Maricopa and Pinal Counties; Phoenix planning area, AZ | PM10 (1987 24-hour) | Nonattainment, Serious | 70 | 0 | 0.57 | 1.22 | 1.58 | 1.79 |
| Marion County; Lawrence, Washington, and Warrant Townships, IN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Mariposa County, CA | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Marshall, WV | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.01 | 0.01 |
| Medford Area, OR | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.02 | 0.04 | 0.05 | 0.05 |
| Memphis Area, TN | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.18 | 0.43 | 0.49 | 0.59 |

Table A1-44
Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Direct and Indirect Impacts
Formaldehyde 2050

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|---|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Memphis, TN-MS-AR | Ozone (2008 8-hour) | Nonattainment TN & Maintenance MS/AR, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Miami, AZ | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Miami, AZ | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Miami, AZ | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Milwaukee-Racine, WI | PM2.5 (2006 24-hour) | Maintenance, -- | 100 | 0 | 0.19 | 0.40 | 0.52 | 0.59 |
| Minneapolis-St. Paul Area, MN | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 1.25 | 3.28 | 3.16 | 4.14 |
| Missoula Area, MT | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.02 | 0.03 | 0.04 | 0.05 |
| Missoula county; Missoula and vicinity, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.01 | 0.03 | 0.04 | 0.05 |
| Modesto Area, CA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.03 | 0.06 | 0.08 | 0.09 |
| Mohave County (part); Bullhead City, AZ | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.02 | 0.03 | 0.04 | 0.05 |
| Mono County; Mammoth Lake planning area, CA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.01 | 0.01 | 0.02 | 0.02 |
| Mono County; Mono Basin, CA | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Morenci, AZ | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Morgan County, IN | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.01 | 0.01 | 0.01 | 0.02 |
| Morongo Band of Mission Indians | Ozone (2008 8-hour) | Nonattainment, Serious | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Morristown Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.01 | 0.01 | 0.02 | 0.02 |
| Muscatine County; (part), IA | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Muscatine, IA | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.01 | 0.01 | 0.01 |
| Muskingum River, OH | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Nashua Area, NH | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.01 | 0.03 | 0.03 | 0.04 |
| Nassau County, FL | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Nevada County (Western part), CA | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| New Haven County, CT | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.01 | 0.01 | 0.01 |

Appendix A Air Quality Non-Attainment Area Results

Table A1-44

Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Direct and Indirect Impacts

Formaldehyde 2050

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| New Haven-Meriden-Waterbury Area, CT | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.14 | 0.29 | 0.37 | 0.42 |
| New Manchester-Grant magisterial district in Hancock County, WV | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| New York County, NY | PM ₁₀ (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.09 | 0.19 | 0.25 | 0.28 |
| New York, NY-NJ-CT | PM _{2.5} (2006 24-hour) | Maintenance, -- | 100 | 0 | 2.50 | 5.36 | 6.90 | 7.82 |
| New York-N. New Jersey-Long Island Area, NY-NJ-CT | CO (1971 8-hour) | Maintenance, Moderate > 12.7ppm | 100 | 0 | 1.39 | 2.98 | 3.84 | 4.35 |
| New York-N. New Jersey-Long Island, NY-NJ-CT | Ozone (2008 8-hour) | Nonattainment, Moderate | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| NJ portion of the Northeast Pennsylvania-Upper Delaware Valley Interstate AQCR: (part), NJ | SO ₂ (1971 24-hour/Annual) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Nogales, AZ | PM _{2.5} (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.01 | 0.02 | 0.02 | 0.02 |
| Oakridge, OR | PM _{2.5} (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Ogden Area, UT | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.01 | 0.02 | 0.02 | 0.03 |
| Ogden Area, UT | PM ₁₀ (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.01 | 0.02 | 0.02 | 0.03 |
| Olmsted County; (part), MN | PM ₁₀ (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.01 | 0.01 | 0.01 |
| Olmsted; City of Rochester, MN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |

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Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Direct and Indirect Impacts
Formaldehyde 2050

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Pechanga Band of Luiseno Mission Indians of the Pechanga Reservation | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Pekin, IL | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.01 | 0.01 | 0.02 | 0.02 |
| Penns Grove Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Peoria County: Hollis Twp, IL | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Peoria County: Peoria, IL | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Perth Amboy Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.02 | 0.04 | 0.05 | 0.06 |
| Philadelphia-Camden County Area, PA-NJ | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.25 | 0.61 | 0.64 | 0.80 |
| Philadelphia-Wilmington, PA-NJ-DE | PM _{2.5} (2006 24-hour) | Maintenance, Moderate for PA and DE Subject to Former Subpart 1 for NJ | 100 | 0 | 0.77 | 1.73 | 2.08 | 2.43 |
| Philadelphia-Wilmington-Atlantic City, PA-NJ-MD-DE | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Phoenix Area, AZ | CO (1971 8-hour) | Maintenance, Serious | 100 | 0 | 0.55 | 1.17 | 1.51 | 1.71 |
| Phoenix-Mesa, AZ | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Pierce County; Tacoma, WA | PM ₁₀ (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Pima County; Ajo planning area, AZ | PM ₁₀ (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Pima County; Rillito planning area, AZ | PM ₁₀ (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.01 | 0.02 | 0.03 | 0.03 |
| Pinal and Gila Counties; Payson, AZ | PM ₁₀ (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.01 | 0.01 | 0.02 | 0.02 |
| Pinal County (part); West Pinal, AZ | PM ₁₀ (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.07 | 0.14 | 0.18 | 0.21 |
| Pitkin County; Aspen, CO | PM ₁₀ (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.01 | 0.01 | 0.01 |
| Pittsburgh Area, PA | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.03 | 0.06 | 0.07 | 0.08 |
| Pittsburgh-Beaver Valley, PA | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Pittsburgh-Beaver Valley, PA | PM _{2.5} (2006 24-hour) | Maintenance, Moderate | 100 | 0 | 0.28 | 0.60 | 0.77 | 0.87 |
| Plumas County, CA | PM _{2.5} (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Polk County, TN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |

Appendix A Air Quality Non-Attainment Area Results

Table A1-44

Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Direct and Indirect Impacts

Formaldehyde 2050

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|-------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Portland Area: Portland Metro Service District Boundary, OR | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.18 | 0.39 | 0.51 | 0.57 |
| Power-Bannock Counties; Fort Hall Indian Reservation, ID | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Power-Bannock Counties; Portneuf Valley Area, ID | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.02 | 0.03 | 0.04 | 0.05 |
| Provo Area, UT | CO (1971 8-hour) | Maintenance, Moderate > 12.7ppm | 100 | 0 | 0.01 | 0.02 | 0.03 | 0.03 |
| Provo, UT | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.06 | 0.13 | 0.17 | 0.19 |
| Prowers County; Lamar, CO | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Raleigh-Durham Area, NC | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.22 | 0.46 | 0.60 | 0.68 |
| Ramsey County; (part), MN | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Reading, PA | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Reno Area, NV | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.05 | 0.11 | 0.14 | 0.16 |
| Rhinelander, WI | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.01 | 0.02 | 0.02 | 0.02 |
| Riverside County (Coachella Valley), CA | Ozone (2008 8-hour) | Nonattainment, Severe 15 | 25 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Riverside County; Coachella Valley planning area, CA | PM10 (1987 24-hour) | Nonattainment, Serious | 70 | 0 | 0.08 | 0.17 | 0.22 | 0.24 |
| Riverside, Los Angeles, Orange, and San Bernardino Counties; South Coast Air Basin, CA | PM10 (1987 24-hour) | Maintenance, Serious | 100 | 0 | 5.24 | 13.55 | 13.41 | 17.33 |
| Rosebud County; Lame Deer, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.01 | 0.01 | 0.01 | 0.02 |
| Routt County (part); Steamboat Springs, CO | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.01 | 0.01 | 0.01 |
| Sacramento Area, CA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.20 | 0.43 | 0.56 | 0.63 |
| Sacramento County, CA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.19 | 0.41 | 0.53 | 0.60 |
| Sacramento Metro, CA | Ozone (2008 8-hour) | Nonattainment, Severe 15 | 25 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Sacramento, CA | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.38 | 0.82 | 1.04 | 1.19 |
| Salem Area, OR | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.04 | 0.09 | 0.11 | 0.13 |
| Salt Lake City Area, UT | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.02 | 0.05 | 0.06 | 0.07 |
| Salt Lake City, UT | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.25 | 0.53 | 0.69 | 0.78 |

Table A1-44
Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Direct and Indirect Impacts
Formaldehyde 2050

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|---|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Salt Lake County, UT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.15 | 0.31 | 0.40 | 0.46 |
| Salt Lake County, UT | SO ₂ (1971 24-hour/Annual) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| San Bernardino County (part); excluding Searles Valley Planning area and South Coast Air Basin, CA | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.09 | 0.19 | 0.24 | 0.28 |
| San Diego Area, CA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.52 | 1.12 | 1.45 | 1.64 |
| San Diego County, CA | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| San Francisco Bay Area, CA | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| San Francisco Bay Area, CA | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 1.10 | 2.43 | 3.02 | 3.48 |
| San Francisco-Oakland-San Jose Area, CA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 1.01 | 2.24 | 2.77 | 3.20 |
| San Joaquin Valley Air Basin; Fresno, Kern, Kings, Madera, Merced, San Joaquin, Stanislaus, Tulare Counties, CA | PM10 (1987 24-hour) | Maintenance, Serious | 100 | 0 | 1.25 | 3.13 | 3.24 | 4.09 |
| San Joaquin Valley, CA | Ozone (2008 8-hour) | Nonattainment, Extreme | 10 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| San Joaquin Valley, CA | PM2.5 (2006 24-hour) | Nonattainment, Serious | 100 | 0 | 1.25 | 3.13 | 3.24 | 4.09 |
| San Joaquin Valley, CA | PM2.5 (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 1.25 | 3.13 | 3.24 | 4.09 |
| San Luis Obispo (Eastern San Luis Obispo), CA | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| San Manuel, AZ | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| San Miguel County; Telluride, CO | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Sanders County (part); Thompson Falls and vicinity, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Santa Cruz County; Nogales planning area, AZ | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.01 | 0.02 | 0.02 | 0.02 |
| Seaford, DE | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Seattle-Tacoma Area, WA | CO (1971 8-hour) | Maintenance, Moderate > 12.7ppm | 100 | 0 | 0.43 | 0.92 | 1.19 | 1.34 |
| Seattle-Tacoma, WA | PM2.5 (2006 24-hour) | Maintenance, Moderate | 100 | 0 | 0.07 | 0.15 | 0.19 | 0.21 |
| Sheboygan County, WI | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |

Appendix A Air Quality Non-Attainment Area Results

Table A1-44

Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Direct and Indirect Impacts

Formaldehyde 2050

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|---|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Sheridan County; City of Sheridan, WY | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.01 | 0.01 | 0.01 |
| Shoshone County (part); excluding Pinehurst, ID | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.01 | 0.01 | 0.02 | 0.02 |
| Shoshone County; City of Pinehurst, ID | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Silver Bow County; Butte, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.01 | 0.01 | 0.02 | 0.02 |
| Somerville Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.01 | 0.01 | 0.01 |
| Southwest Indiana, IN | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.01 | 0.01 |
| Spokane Area, WA | CO (1971 8-hour) | Maintenance, Serious | 100 | 0 | 0.04 | 0.09 | 0.12 | 0.14 |
| Spokane County; (part), WA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.05 | 0.10 | 0.13 | 0.14 |
| Springfield Area, MA | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.03 | 0.06 | 0.07 | 0.08 |
| St. Bernard Parish, LA | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.17 | 0.50 | 0.41 | 0.59 |
| St. Louis Area, MO | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.13 | 0.28 | 0.37 | 0.42 |
| St. Louis-St. Charles-Farmington, MO-IL | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Steubenville, OH-WV | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.01 | 0.02 | 0.03 | 0.03 |
| Steubenville-Weirton, OH-WV | PM2.5 (2006 24-hour) | Maintenance, -- | 100 | 0 | 0.02 | 0.04 | 0.05 | 0.06 |
| Stockton Area, CA | CO (1971 8-hour) | Maintenance, Moderate ≤ 12.7ppm | 100 | 0 | 0.06 | 0.12 | 0.15 | 0.18 |
| Sullivan County, TN | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.01 | 0.01 | 0.01 |
| Syracuse Area; Onondaga County, NY | CO (1971 8-hour) | Maintenance, Moderate ≤ 12.7ppm | 100 | 0 | 0.08 | 0.18 | 0.23 | 0.27 |
| Tazewell County; Groveland Twp, IL | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Terre Haute, IN | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.01 | 0.01 | 0.01 | 0.02 |

Table A1-44
Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Direct and Indirect Impacts
Formaldehyde 2050

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|---|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Thurston County; Cities of Olympia, Tumwater, and Lacey, WA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.02 | 0.03 | 0.04 | 0.05 |
| Toms River Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Tooele County (part), UT | SO ₂ (1971 24-hour/Annual) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Trenton Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.01 | 0.03 | 0.04 | 0.04 |
| Trona, CA | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.01 | 0.02 | 0.01 | 0.02 |
| Tucson Area, AZ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.13 | 0.28 | 0.37 | 0.41 |
| Tuscan Buttes, CA | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Union County; LaGrande, OR | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.01 | 0.01 | 0.02 | 0.02 |
| Upper Green River Basin Area, WY | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Utah County, UT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.06 | 0.13 | 0.17 | 0.19 |
| Vancouver Area: Clark County (part), WA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.04 | 0.09 | 0.12 | 0.13 |
| Ventura County, CA | Ozone (2008 8-hour) | Nonattainment, Serious | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Vermillion County; Part of Clinton Township, IN | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Vigo County, IN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Walla Walla County; Wallula, WA | PM10 (1987 24-hour) | Maintenance, Serious | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Waltham Area, MA | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.01 | 0.02 | 0.02 | 0.03 |
| Warren County: Conewago Twp, PA | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Warren County: Warren Boro, Pleasant Twp, Glade Twp, PA | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Warren, PA | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.01 | 0.01 | 0.01 |
| Washington Area, DC-MD-VA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.10 | 0.22 | 0.28 | 0.32 |
| Washington, DC-MD-VA | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Washoe County; Reno planning area, NV | PM10 (1987 24-hour) | Nonattainment, Serious | 70 | 0 | 0.05 | 0.11 | 0.14 | 0.15 |

Appendix A Air Quality Non-Attainment Area Results

Table A1-44

**Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Direct and Indirect Impacts
Formaldehyde 2050**

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|---|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Wayne County: Boston, Center, Franklin, Wayne & Webster Townships, IN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Wayne County; (part), MI | PM ₁₀ (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 2.33 | 6.87 | 5.58 | 8.05 |
| West Central Pinal County, AZ | PM _{2.5} (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.01 | 0.03 | 0.04 | 0.04 |
| West Silver Valley, ID | PM _{2.5} (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.01 | 0.01 | 0.01 |
| Winston-Salem Area, NC | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.06 | 0.12 | 0.16 | 0.18 |
| Worcester Area, MA | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.04 | 0.08 | 0.10 | 0.12 |
| Yakima Area, WA | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.01 | 0.01 | 0.02 | 0.02 |
| Yakima County; (part), WA | PM ₁₀ (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.02 | 0.04 | 0.05 | 0.06 |
| Yuba City-Marysville, CA | PM _{2.5} (2006 24-hour) | Maintenance, Moderate | 100 | 0 | 0.03 | 0.06 | 0.08 | 0.09 |
| Yuma County; Yuma planning area, AZ | PM ₁₀ (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.03 | 0.05 | 0.07 | 0.08 |

^a Reductions are shown as positive values. Negative values are emissions increases. Values of less than 0.005 tons per year are rounded to zero.

^b Nonattainment or maintenance status as of 5/13/2016. Source: U.S. EPA, The Green Book Nonattainment Areas for Criteria Pollutants; <http://www.epa.gov/airquality/greenbook/>. "--" indicates that no severity classification has been established for the NAAQS pollutant.

^c Emissions thresholds in tons per year. Where the threshold differs by precursor pollutant, the smallest of the precursor thresholds is shown. These thresholds are provided for information only; a general conformity determination is not required for the Proposed Action. Source: 40 CFR 93.853.

Notes: CO = carbon monoxide; NAAQS = National Ambient Air Quality Standards; NO₂ = nitrogen dioxide; PM = particulate matter; SO₂ = sulfur dioxide

Table A1-45
Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Cumulative Impacts
Particulate Matter (PM2.5) 2018

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Ada County; Boise, ID | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.01 | 0.01 | 0.01 | 0.01 |
| Adams, Denver, and Boulder Counties; Denver Metropolitan area, CO | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.05 | 0.05 | 0.05 | 0.06 |
| Ajo, AZ | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Albuquerque Area, NM | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.02 | 0.02 | 0.02 | 0.02 |
| Allegheny County Air Basin: Hazelwood monitor, PA | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Allegheny County, PA | PM2.5 (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 0.02 | 0.02 | 0.02 | 0.03 |
| Allegheny County; The area including Liberty, Lincoln, Port Vue, and Glassport Boroughs and the City of Clairton, PA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Allegheny, PA | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Allentown, PA | PM2.5 (2006 24-hour) | Maintenance, Moderate | 100 | 0 | 0.02 | 0.02 | 0.02 | 0.02 |
| Allentown-Bethlehem-Easton, PA | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Anchorage Area, AK | CO (1971 8-hour) | Maintenance, Serious | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Anchorage; Eagle River, AK | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| AQCR 012: Portions of Grant County, NM | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| AQCR 109-Millinocket, ME | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| AQCR 131: Anoka, Carver, Dakota, Hennepin, Ramsey, Scott, and Washington counties (Minneapolis-St. Paul), MN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| AQCR 237: Brown County: Green Bay sub-city area, WI | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| AQCR 238: Marathon County: Rothschild Sub-city area, Rib Mountain, Weston, WI | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| AQCR 238: Oneida County: Rhinelander Sub-city area, WI | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| AQCR 239: Milwaukee County: Milwaukee sub-city area, WI | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |

Appendix A Air Quality Non-Attainment Area Results

Table A1-45

Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Cumulative Impacts

Particulate Matter (PM2.5) 2018

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| AQCR 240: Dane County: Madison sub-city area, WI | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Archuleta County; Pagosa Springs, CO | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Armstrong County: Madison Twp, Mahoning Twp, Boggs Twp, Washington Twp, Pine Twp, PA | SO ₂ (1971 24-hour/Annual) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Aroostock County; City of Presque Isle, ME | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Atlanta, GA | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Atlantic City Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Bakersfield Area, CA | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.04 | 0.05 | 0.06 | 0.07 |
| Baltimore Area, MD | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Baltimore, MD | Ozone (2008 8-hour) | Nonattainment, Moderate | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Baton Rouge, LA | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Beaver, PA | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Benton County; (part) TVA Johnsonville, TN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Billings Area, MT | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.18 | 0.29 | 0.33 | 0.39 |
| Billings, MT | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.18 | 0.28 | 0.32 | 0.39 |
| Birmingham, AL | PM2.5 (2006 24-hour) | Maintenance, -- | 100 | 0 | 0.04 | 0.04 | 0.04 | 0.04 |
| Boise-Northern Ada County Area, ID | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.01 | 0.01 | 0.01 | 0.01 |
| Bonner County; The Sandpoint Area, ID | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Boston Area, MA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.03 | 0.03 | 0.03 | 0.03 |
| Boyd County (part), KY | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Brooke; Follansbee area, WV | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Burlington Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Calaveras County, CA | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Campbell-Clermont Counties, KY-OH | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |

Table A1-45

Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Cumulative Impacts

Particulate Matter (PM2.5) 2018

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|---|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Canton-Massillon, OH | PM2.5 (2006 24-hour) | Maintenance, -- | 100 | 0 | 0.12 | 0.17 | 0.20 | 0.24 |
| Central New Hampshire, NH | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.01 | 0.01 | 0.01 | 0.01 |
| Central Steptoe Valley, NV | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Charleston, WV | PM2.5 (2006 24-hour) | Maintenance, -- | 100 | 0 | 0.01 | 0.01 | 0.01 | 0.01 |
| Charlotte Area, NC | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.04 | 0.03 | 0.03 | 0.04 |
| Charlotte-Rock Hill, NC-SC | Ozone (2008 8-hour) | Maintenance, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Chicago-Naperville, IL-IN-WI | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Chico (Butte County), CA | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Chico Area, CA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Chico, CA | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.01 | 0.01 | 0.01 | 0.01 |
| Cincinnati, OH-KY-IN | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Clark County; Las Vegas planning area, NV | PM10 (1987 24-hour) | Maintenance, Serious | 100 | 0 | 0.05 | 0.05 | 0.05 | 0.05 |
| Cleveland Area, OH | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.03 | 0.03 | 0.03 | 0.03 |
| Cleveland, OH | PM2.5 (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 0.03 | 0.03 | 0.03 | 0.04 |
| Cleveland-Akron-Lorain, OH | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Cleveland-Akron-Lorain, OH | PM2.5 (2006 24-hour) | Maintenance, -- | 100 | 0 | 0.08 | 0.07 | 0.07 | 0.08 |
| Cochise County; Paul Spur/Douglas planning area, AZ | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Colorado Springs Area, CO | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.02 | 0.02 | 0.02 | 0.02 |
| Columbus, OH | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Cook County; Lyons Township, IL | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Cook County; Southeast Chicago, IL | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Coshocton County; Franklin Township, OH | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Coso Junction, CA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Cuyahoga County (part), OH | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Cuyahoga County, OH | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.03 | 0.03 | 0.03 | 0.03 |

Appendix A Air Quality Non-Attainment Area Results

Table A1-45

**Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Cumulative Impacts
Particulate Matter (PM2.5) 2018**

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Dallas-Fort Worth, TX | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Delaware County, PA | PM2.5 (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 0.38 | 0.59 | 0.67 | 0.80 |
| Denver-Boulder Area, CO | CO (1971 8-hour) | Maintenance, Serious | 100 | 0 | 0.21 | 0.29 | 0.32 | 0.38 |
| Denver-Boulder-Greeley-Ft Collins-Loveland, CO | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Detroit Area, MI | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.08 | 0.09 | 0.10 | 0.11 |
| Detroit, MI | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.04 | 0.05 | 0.06 | 0.07 |
| Detroit-Ann Arbor, MI | PM2.5 (2006 24-hour) | Maintenance, -- | 100 | 0 | 0.17 | 0.18 | 0.18 | 0.21 |
| Dona Ana County; Anthony, NM | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Douglas, AZ | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Dukes County, MA | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Duluth Area, MN | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| East Chicago Area, IN | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.15 | 0.23 | 0.26 | 0.31 |
| East Helena Area, MT | SO ₂ (1971 24-hour/Annual) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| East Kern County Area, CA | PM10 (1987 24-hour) | Nonattainment, Serious | 70 | 0 | 0.02 | 0.04 | 0.04 | 0.05 |
| El Paso County, TX | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.04 | 0.06 | 0.07 | 0.08 |
| El Paso, TX | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.03 | 0.05 | 0.06 | 0.07 |
| Eugene-Springfield Area, OR | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.01 | 0.01 | 0.01 | 0.01 |
| Fairbanks Area, AK | CO (1971 8-hour) | Maintenance, Serious | 100 | 0 | 0.00 | 0.01 | 0.01 | 0.01 |
| Fairbanks, AK | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.01 | 0.01 | 0.01 | 0.01 |

Table A1-45
Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Cumulative Impacts
Particulate Matter (PM2.5) 2018

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|---|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Flathead County; Columbia Falls and vicinity, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Flathead County; Kalispell and vicinity, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Flathead County; Whitefish and vicinity, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Fort Collins Area, CO | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Freehold Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Fremont County; Canon City Area, CO | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Fresno Area, CA | CO (1971 8-hour) | Maintenance, Moderate > 12.7ppm | 100 | 0 | 0.02 | 0.02 | 0.02 | 0.02 |
| Grants Pass Area, OR | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Great Falls Area, MT | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.02 | 0.03 | 0.03 | 0.04 |
| Greater Connecticut, CT | Ozone (2008 8-hour) | Nonattainment, Moderate | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Greeley Area, CO | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.01 | 0.02 | 0.02 | 0.02 |
| Hancock and Brooke Counties (Part); The city of Weirton, WV | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Hancock County (Part) The city of Weirton, including Butler and Clay: Magisterial Districts, WV | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Harrisburg-Lebanon-Carlisle-York, PA | PM2.5 (2006 24-hour) | Maintenance, Moderate | 100 | 0 | 0.04 | 0.04 | 0.03 | 0.04 |
| Hartford-New Britain-Middletown Area, CT | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.03 | 0.03 | 0.03 | 0.03 |
| Hayden, AZ | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Hayden, AZ | SO ₂ (1971 24-hour/Annual) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Hayden, AZ | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Hillsborough County, FL | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Houston-Galveston-Brazoria, TX | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Humphreys County; (part) TVA Johnsonville, TN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Imperial Co, CA | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.01 | 0.01 | 0.01 | 0.01 |

Appendix A Air Quality Non-Attainment Area Results

Table A1-45

Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Cumulative Impacts

Particulate Matter (PM2.5) 2018

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Imperial County, CA | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Imperial County, CA | PM2.5 (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 0.01 | 0.01 | 0.01 | 0.01 |
| Imperial County; Imperial Valley planning area, CA | PM10 (1987 24-hour) | Nonattainment, Serious | 70 | 0 | 0.01 | 0.01 | 0.01 | 0.01 |
| Indian Wells, CA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.02 | 0.04 | 0.04 | 0.05 |
| Indiana, PA | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Indianapolis Area, IN | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Indianapolis, IN | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.01 | 0.01 | 0.01 | 0.01 |
| Inyo County; Owens Valley planning area, CA | PM10 (1987 24-hour) | Nonattainment, Serious | 70 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Jackson County, MO | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Jackson County; Medford-Ashland (including White City), OR | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.01 | 0.01 | 0.00 | 0.01 |
| Jamestown, NY | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Jefferson County, KY | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Jefferson County, MO | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Jefferson County; (part) Steubenville & Mingo Junction, OH | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Jefferson County; (part), OH | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Johnstown, PA | PM2.5 (2006 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Josephine County; Grants Pass, OR | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Juneau; Mendenhall Valley area, AK | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Kern County (Eastern Kern), CA | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| King County; Kent, WA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| King County; Seattle, WA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Klamath County; Klamath Falls, OR | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Klamath Falls Area, OR | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Klamath Falls, OR | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |

Table A1-45
Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Cumulative Impacts
Particulate Matter (PM2.5) 2018

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Knoxville, TN | Ozone (2008 8-hour) | Maintenance, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Knoxville-Sevierville-La Follette, TN | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.03 | 0.03 | 0.03 | 0.03 |
| La Porte County: (part), IN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lake County (part); Lakeview, OR | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lake County, OH | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.01 | 0.01 | 0.01 | 0.01 |
| Lake County: (part), IN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lake County; (part) Eastlake, Timberlake, Lakeline, Willoughby, Mentor, OH | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lake County; Cities of East Chicago, Hammond, Whiting, and Gary, IN | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.15 | 0.23 | 0.27 | 0.32 |
| Lake County; Polson, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lake County; Ronan, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lake Tahoe Nevada Area, NV | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lake Tahoe North Shore Area, CA | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lake Tahoe South Shore Area, CA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lancaster, PA | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lancaster, PA | PM2.5 (2006 24-hour) | Maintenance, Moderate | 100 | 0 | 0.01 | 0.01 | 0.01 | 0.02 |
| Lane County (part); Oakridge, OR | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lane County; Eugene/Springfield, OR | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.01 | 0.01 | 0.01 | 0.01 |
| Las Vegas Area, NV | CO (1971 8-hour) | Maintenance, Serious | 100 | 0 | 0.05 | 0.05 | 0.05 | 0.05 |
| LaSalle County; Oglesby, IL | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Laurel Area, MT | SO ₂ (1971 24-hour/Annual) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lebanon County, PA | PM2.5 (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 0.01 | 0.00 | 0.00 | 0.01 |
| Lemont, IL | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.20 | 0.31 | 0.36 | 0.43 |
| Liberty-Clairton, PA | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |

Appendix A Air Quality Non-Attainment Area Results

Table A1-45

Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Cumulative Impacts

Particulate Matter (PM2.5) 2018

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Lincoln County; Libby and vicinity, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Logan, UT-ID | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Longmont Area, CO | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lorain County (part), OH | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Los Angeles, CA | PM2.5 (2006 24-hour) | Nonattainment, Serious | 100 | 0 | 1.05 | 1.40 | 1.53 | 1.79 |
| Los Angeles-San Bernardino Counties (West Mojave Desert), CA | Ozone (2008 8-hour) | Nonattainment, Severe 15 | 25 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Los Angeles-South Coast Air Basin Area, CA | CO (1971 8-hour) | Maintenance, Serious | 100 | 0 | 1.05 | 1.40 | 1.53 | 1.79 |
| Los Angeles-South Coast Air Basin Area, CA | NO ₂ (1971 Annual) | Maintenance, -- | 100 | 0 | 1.05 | 1.40 | 1.53 | 1.79 |
| Los Angeles-South Coast Air Basin, CA | Ozone (2008 8-hour) | Nonattainment, Extreme | 10 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Los Angeles-South Coast Air Basin, CA | PM2.5 (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 1.05 | 1.40 | 1.53 | 1.79 |
| Lowell Area, MA | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lucas County (part), OH | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Madison County; Granite City Township and Nameoki Township, IL | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.10 | 0.16 | 0.18 | 0.21 |
| Manchester Area, NH | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Maricopa and Pinal Counties; Phoenix planning area, AZ | PM10 (1987 24-hour) | Nonattainment, Serious | 70 | 0 | 0.10 | 0.10 | 0.10 | 0.11 |
| Marion County; Lawrence, Washington, and Warrant Townships, IN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Mariposa County, CA | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Marshall, WV | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.07 | 0.11 | 0.13 | 0.16 |
| Medford Area, OR | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Memphis Area, TN | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.10 | 0.14 | 0.15 | 0.18 |

Table A1-45
Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Cumulative Impacts
Particulate Matter (PM2.5) 2018

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|---|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Memphis, TN-MS-AR | Ozone (2008 8-hour) | Nonattainment TN & Maintenance MS/AR, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Miami, AZ | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Miami, AZ | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Miami, AZ | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Milwaukee-Racine, WI | PM2.5 (2006 24-hour) | Maintenance, -- | 100 | 0 | 0.03 | 0.04 | 0.03 | 0.04 |
| Minneapolis-St. Paul Area, MN | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.26 | 0.35 | 0.39 | 0.46 |
| Missoula Area, MT | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.02 | 0.04 | 0.04 | 0.05 |
| Missoula county; Missoula and vicinity, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.02 | 0.04 | 0.04 | 0.05 |
| Modesto Area, CA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.01 | 0.01 | 0.01 | 0.01 |
| Mohave County (part); Bullhead City, AZ | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Mono County; Mammoth Lake planning area, CA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Mono County; Mono Basin, CA | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Morenci, AZ | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Morgan County, IN | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Morongo Band of Mission Indians | Ozone (2008 8-hour) | Nonattainment, Serious | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Morristown Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Muscatine County; (part), IA | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Muscatine, IA | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Muskingum River, OH | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Nashua Area, NH | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Nassau County, FL | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Nevada County (Western part), CA | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| New Haven County, CT | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |

Appendix A Air Quality Non-Attainment Area Results

Table A1-45

Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Cumulative Impacts

Particulate Matter (PM_{2.5}) 2018

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| New Haven-Meriden-Waterbury Area, CT | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.02 | 0.02 | 0.02 | 0.03 |
| New Manchester-Grant magisterial district in Hancock County, WV | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| New York County, NY | PM ₁₀ (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.02 | 0.02 | 0.02 | 0.02 |
| New York, NY-NJ-CT | PM _{2.5} (2006 24-hour) | Maintenance, -- | 100 | 0 | 0.54 | 0.58 | 0.59 | 0.66 |
| New York-N. New Jersey-Long Island Area, NY-NJ-CT | CO (1971 8-hour) | Maintenance, Moderate > 12.7ppm | 100 | 0 | 0.32 | 0.36 | 0.37 | 0.41 |
| New York-N. New Jersey-Long Island, NY-NJ-CT | Ozone (2008 8-hour) | Nonattainment, Moderate | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| NJ portion of the Northeast Pennsylvania-Upper Delaware Valley Interstate AQCR: (part), NJ | SO ₂ (1971 24-hour/Annual) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Nogales, AZ | PM _{2.5} (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Oakridge, OR | PM _{2.5} (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Ogden Area, UT | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Ogden Area, UT | PM ₁₀ (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Olmsted County; (part), MN | PM ₁₀ (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Olmsted; City of Rochester, MN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |

Table A1-45

Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Cumulative Impacts

Particulate Matter (PM2.5) 2018

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Pechanga Band of Luiseno Mission Indians of the Pechanga Reservation | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Pekin, IL | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Penns Grove Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Peoria County: Hollis Twp, IL | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Peoria County: Peoria, IL | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Perth Amboy Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.02 | 0.03 | 0.04 | 0.04 |
| Philadelphia-Camden County Area, PA-NJ | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.20 | 0.29 | 0.33 | 0.40 |
| Philadelphia-Wilmington, PA-NJ-DE | PM2.5 (2006 24-hour) | Maintenance, Moderate for PA and DE Subject to Former Subpart 1 for NJ | 100 | 0 | 0.74 | 1.09 | 1.22 | 1.46 |
| Philadelphia-Wilmington-Atlantic City, PA-NJ-MD-DE | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Phoenix Area, AZ | CO (1971 8-hour) | Maintenance, Serious | 100 | 0 | 0.10 | 0.10 | 0.09 | 0.10 |
| Phoenix-Mesa, AZ | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Pierce County; Tacoma, WA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Pima County; Ajo planning area, AZ | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Pima County; Rillito planning area, AZ | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Pinal and Gila Counties; Payson, AZ | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Pinal County (part); West Pinal, AZ | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.01 | 0.01 | 0.01 | 0.01 |
| Pitkin County; Aspen, CO | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Pittsburgh Area, PA | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.01 | 0.01 | 0.01 | 0.01 |
| Pittsburgh-Beaver Valley, PA | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Pittsburgh-Beaver Valley, PA | PM2.5 (2006 24-hour) | Maintenance, Moderate | 100 | 0 | 0.06 | 0.07 | 0.07 | 0.07 |
| Plumas County, CA | PM2.5 (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Polk County, TN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |

Appendix A Air Quality Non-Attainment Area Results

Table A1-45

Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Cumulative Impacts

Particulate Matter (PM2.5) 2018

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|-------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Portland Area: Portland Metro Service District Boundary, OR | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.03 | 0.03 | 0.03 | 0.03 |
| Power-Bannock Counties; Fort Hall Indian Reservation, ID | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Power-Bannock Counties; Portneuf Valley Area, ID | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Provo Area, UT | CO (1971 8-hour) | Maintenance, Moderate > 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Provo, UT | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.01 | 0.01 | 0.01 | 0.01 |
| Prowers County; Lamar, CO | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Raleigh-Durham Area, NC | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.04 | 0.04 | 0.04 | 0.04 |
| Ramsey County; (part), MN | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Reading, PA | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Reno Area, NV | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.01 | 0.01 | 0.01 | 0.01 |
| Rhinelander, WI | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Riverside County (Coachella Valley), CA | Ozone (2008 8-hour) | Nonattainment, Severe 15 | 25 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Riverside County; Coachella Valley planning area, CA | PM10 (1987 24-hour) | Nonattainment, Serious | 70 | 0 | 0.02 | 0.01 | 0.01 | 0.02 |
| Riverside, Los Angeles, Orange, and San Bernardino Counties; South Coast Air Basin, CA | PM10 (1987 24-hour) | Maintenance, Serious | 100 | 0 | 1.05 | 1.40 | 1.53 | 1.79 |
| Rosebud County; Lame Deer, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Routt County (part); Steamboat Springs, CO | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.01 | 0.01 | 0.01 |
| Sacramento Area, CA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.04 | 0.04 | 0.04 | 0.04 |
| Sacramento County, CA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.03 | 0.03 | 0.03 | 0.04 |
| Sacramento Metro, CA | Ozone (2008 8-hour) | Nonattainment, Severe 15 | 25 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Sacramento, CA | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.12 | 0.14 | 0.15 | 0.18 |
| Salem Area, OR | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.01 | 0.01 | 0.01 | 0.01 |
| Salt Lake City Area, UT | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.04 | 0.06 | 0.07 | 0.08 |
| Salt Lake City, UT | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.09 | 0.11 | 0.12 | 0.14 |

Table A1-45

Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Cumulative Impacts

Particulate Matter (PM2.5) 2018

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|---|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Salt Lake County, UT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.06 | 0.08 | 0.09 | 0.10 |
| Salt Lake County, UT | SO ₂ (1971 24-hour/Annual) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| San Bernardino County (part); excluding Searles Valley Planning area and South Coast Air Basin, CA | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.02 | 0.02 | 0.02 | 0.02 |
| San Diego Area, CA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.09 | 0.09 | 0.09 | 0.10 |
| San Diego County, CA | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| San Francisco Bay Area, CA | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| San Francisco Bay Area, CA | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.95 | 1.38 | 1.54 | 1.83 |
| San Francisco-Oakland-San Jose Area, CA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.93 | 1.36 | 1.53 | 1.82 |
| San Joaquin Valley Air Basin; Fresno, Kern, Kings, Madera, Merced, San Joaquin, Stanislaus, Tulare Counties, CA | PM10 (1987 24-hour) | Maintenance, Serious | 100 | 0 | 0.15 | 0.16 | 0.16 | 0.18 |
| San Joaquin Valley, CA | Ozone (2008 8-hour) | Nonattainment, Extreme | 10 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| San Joaquin Valley, CA | PM2.5 (2006 24-hour) | Nonattainment, Serious | 100 | 0 | 0.15 | 0.16 | 0.16 | 0.18 |
| San Joaquin Valley, CA | PM2.5 (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 0.15 | 0.16 | 0.16 | 0.18 |
| San Luis Obispo (Eastern San Luis Obispo), CA | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| San Manuel, AZ | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| San Miguel County; Telluride, CO | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Sanders County (part); Thompson Falls and vicinity, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Santa Cruz County; Nogales planning area, AZ | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Seaford, DE | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Seattle-Tacoma Area, WA | CO (1971 8-hour) | Maintenance, Moderate > 12.7ppm | 100 | 0 | 0.08 | 0.08 | 0.08 | 0.08 |
| Seattle-Tacoma, WA | PM2.5 (2006 24-hour) | Maintenance, Moderate | 100 | 0 | 0.01 | 0.01 | 0.01 | 0.02 |
| Sheboygan County, WI | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |

Appendix A Air Quality Non-Attainment Area Results

Table A1-45

Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Cumulative Impacts

Particulate Matter (PM_{2.5}) 2018

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|---|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Sheridan County; City of Sheridan, WY | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Shoshone County (part); excluding Pinehurst, ID | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Shoshone County; City of Pinehurst, ID | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Silver Bow County; Butte, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Somerville Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Southwest Indiana, IN | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Spokane Area, WA | CO (1971 8-hour) | Maintenance, Serious | 100 | 0 | 0.01 | 0.01 | 0.01 | 0.01 |
| Spokane County; (part), WA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.01 | 0.01 | 0.01 | 0.01 |
| Springfield Area, MA | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| St. Bernard Parish, LA | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.34 | 0.52 | 0.60 | 0.72 |
| St. Louis Area, MO | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.02 | 0.02 | 0.02 | 0.03 |
| St. Louis-St. Charles-Farmington, MO-IL | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Steubenville, OH-WV | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Steubenville-Weirton, OH-WV | PM _{2.5} (2006 24-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.01 |
| Stockton Area, CA | CO (1971 8-hour) | Maintenance, Moderate ≤ 12.7ppm | 100 | 0 | 0.01 | 0.01 | 0.01 | 0.01 |
| Sullivan County, TN | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Syracuse Area; Onondaga County, NY | CO (1971 8-hour) | Maintenance, Moderate ≤ 12.7ppm | 100 | 0 | 0.02 | 0.01 | 0.01 | 0.02 |
| Tazewell County; Groveland Twp, IL | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Terre Haute, IN | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.01 | 0.01 | 0.01 | 0.01 |

Table A1-45
Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Cumulative Impacts
Particulate Matter (PM2.5) 2018

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|---|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Thurston County; Cities of Olympia, Tumwater, and Lacey, WA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Toms River Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Tooele County (part), UT | SO ₂ (1971 24-hour/Annual) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Trenton Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Trona, CA | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Tucson Area, AZ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.02 | 0.02 | 0.02 | 0.02 |
| Tuscan Buttes, CA | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Union County; LaGrande, OR | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Upper Green River Basin Area, WY | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Utah County, UT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.01 | 0.01 | 0.01 | 0.01 |
| Vancouver Area: Clark County (part), WA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.01 | 0.01 | 0.01 | 0.01 |
| Ventura County, CA | Ozone (2008 8-hour) | Nonattainment, Serious | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Vermillion County; Part of Clinton Township, IN | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Vigo County, IN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Walla Walla County; Wallula, WA | PM10 (1987 24-hour) | Maintenance, Serious | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Waltham Area, MA | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Warren County: Conewago Twp, PA | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Warren County: Warren Boro, Pleasant Twp, Glade Twp, PA | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Warren, PA | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.05 | 0.07 | 0.08 | 0.10 |
| Washington Area, DC-MD-VA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.02 | 0.02 | 0.02 | 0.02 |
| Washington, DC-MD-VA | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Washoe County; Reno planning area, NV | PM10 (1987 24-hour) | Nonattainment, Serious | 70 | 0 | 0.01 | 0.01 | 0.01 | 0.01 |

Appendix A Air Quality Non-Attainment Area Results

Table A1-45

**Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Cumulative Impacts
Particulate Matter (PM2.5) 2018**

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|---|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Wayne County: Boston, Center, Franklin, Wayne & Webster Townships, IN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Wayne County; (part), MI | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.03 | 0.05 | 0.05 | 0.06 |
| West Central Pinal County, AZ | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| West Silver Valley, ID | PM2.5 (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Winston-Salem Area, NC | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.01 | 0.01 | 0.01 | 0.01 |
| Worcester Area, MA | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.01 | 0.01 | 0.01 | 0.01 |
| Yakima Area, WA | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Yakima County; (part), WA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Yuba City-Marysville, CA | PM2.5 (2006 24-hour) | Maintenance, Moderate | 100 | 0 | 0.01 | 0.01 | 0.01 | 0.01 |
| Yuma County; Yuma planning area, AZ | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |

^a Reductions are shown as positive values. Negative values are emissions increases. Values of less than 0.005 tons per year are rounded to zero.

^b Nonattainment or maintenance status as of 5/13/2016. Source: U.S. EPA, The Green Book Nonattainment Areas for Criteria Pollutants; <http://www.epa.gov/airquality/greenbook/>. "--" indicates that no severity classification has been established for the NAAQS pollutant.

^c Emissions thresholds in tons per year. Where the threshold differs by precursor pollutant, the smallest of the precursor thresholds is shown. These thresholds are provided for information only; a general conformity determination is not required for the Proposed Action. Source: 40 CFR 93.853.

Notes: CO = carbon monoxide; NAAQS = National Ambient Air Quality Standards; NO₂ = nitrogen dioxide; PM = particulate matter; SO₂ = sulfur dioxide

Table A1-46
Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Cumulative Impacts
Particulate Matter (PM2.5) 2025

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Ada County; Boise, ID | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.04 | 0.07 | 0.02 | 0.03 |
| Adams, Denver, and Boulder Counties; Denver Metropolitan area, CO | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.38 | 0.66 | 0.47 | 0.67 |
| Ajo, AZ | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Albuquerque Area, NM | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.09 | 0.14 | 0.05 | 0.06 |
| Allegheny County Air Basin: Hazelwood monitor, PA | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Allegheny County, PA | PM2.5 (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 0.13 | 0.20 | 0.08 | 0.11 |
| Allegheny County; The area including Liberty, Lincoln, Port Vue, and Glassport Boroughs and the City of Clairton, PA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.01 | 0.03 | 0.03 | 0.04 |
| Allegheny, PA | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.02 | 0.04 | 0.03 | 0.05 |
| Allentown, PA | PM2.5 (2006 24-hour) | Maintenance, Moderate | 100 | 0 | 0.08 | 0.12 | 0.04 | 0.05 |
| Allentown-Bethlehem-Easton, PA | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Anchorage Area, AK | CO (1971 8-hour) | Maintenance, Serious | 100 | 0 | 0.02 | 0.02 | 0.01 | 0.01 |
| Anchorage; Eagle River, AK | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| AQCR 012: Portions of Grant County, NM | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| AQCR 109-Millinocket, ME | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| AQCR 131: Anoka, Carver, Dakota, Hennepin, Ramsey, Scott, and Washington counties (Minneapolis-St. Paul), MN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| AQCR 237: Brown County: Green Bay sub-city area, WI | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| AQCR 238: Marathon County: Rothschild Sub-city area, Rib Mountain, Weston, WI | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| AQCR 238: Oneida County: Rhinelander Sub-city area, WI | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| AQCR 239: Milwaukee County: Milwaukee sub-city area, WI | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |

Appendix A Air Quality Non-Attainment Area Results

Table A1-46

Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Cumulative Impacts

Particulate Matter (PM2.5) 2025

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| AQCR 240: Dane County: Madison sub-city area, WI | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Archuleta County; Pagosa Springs, CO | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.01 | 0.00 | 0.00 |
| Armstrong County: Madison Twp, Mahoning Twp, Boggs Twp, Washington Twp, Pine Twp, PA | SO ₂ (1971 24-hour/Annual) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Aroostock County; City of Presque Isle, ME | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Atlanta, GA | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Atlantic City Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.01 | 0.01 | 0.00 | 0.00 |
| Bakersfield Area, CA | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.70 | 1.38 | 1.41 | 2.06 |
| Baltimore Area, MD | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Baltimore, MD | Ozone (2008 8-hour) | Nonattainment, Moderate | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Baton Rouge, LA | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Beaver, PA | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Benton County; (part) TVA Johnsonville, TN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Billings Area, MT | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 4.82 | 9.77 | 10.61 | 15.50 |
| Billings, MT | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 4.80 | 9.76 | 10.60 | 15.49 |
| Birmingham, AL | PM2.5 (2006 24-hour) | Maintenance, -- | 100 | 0 | 0.24 | 0.39 | 0.21 | 0.30 |
| Boise-Northern Ada County Area, ID | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.04 | 0.07 | 0.02 | 0.03 |
| Bonner County; The Sandpoint Area, ID | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Boston Area, MA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.27 | 0.49 | 0.41 | 0.59 |
| Boyd County (part), KY | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Brooke; Follansbee area, WV | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Burlington Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Calaveras County, CA | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Campbell-Clermont Counties, KY-OH | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.01 | 0.01 | 0.00 | 0.00 |

Table A1-46

Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Cumulative Impacts

Particulate Matter (PM2.5) 2025

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|---|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Canton-Massillon, OH | PM2.5 (2006 24-hour) | Maintenance, -- | 100 | 0 | 2.83 | 5.72 | 6.15 | 8.99 |
| Central New Hampshire, NH | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.03 | 0.05 | 0.02 | 0.02 |
| Central Steptoe Valley, NV | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Charleston, WV | PM2.5 (2006 24-hour) | Maintenance, -- | 100 | 0 | 0.05 | 0.08 | 0.03 | 0.03 |
| Charlotte Area, NC | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.18 | 0.27 | 0.09 | 0.11 |
| Charlotte-Rock Hill, NC-SC | Ozone (2008 8-hour) | Maintenance, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Chicago-Naperville, IL-IN-WI | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Chico (Butte County), CA | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Chico Area, CA | CO (1971 8-hour) | Maintenance, Moderate ≤ 12.7ppm | 100 | 0 | 0.01 | 0.02 | 0.01 | 0.01 |
| Chico, CA | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.03 | 0.04 | 0.01 | 0.02 |
| Cincinnati, OH-KY-IN | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Clark County; Las Vegas planning area, NV | PM10 (1987 24-hour) | Maintenance, Serious | 100 | 0 | 0.28 | 0.46 | 0.24 | 0.33 |
| Cleveland Area, OH | CO (1971 8-hour) | Maintenance, Moderate ≤ 12.7ppm | 100 | 0 | 0.14 | 0.20 | 0.07 | 0.08 |
| Cleveland, OH | PM2.5 (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 0.18 | 0.27 | 0.08 | 0.11 |
| Cleveland-Akron-Lorain, OH | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Cleveland-Akron-Lorain, OH | PM2.5 (2006 24-hour) | Maintenance, -- | 100 | 0 | 0.39 | 0.58 | 0.19 | 0.24 |
| Cochise County; Paul Spur/Douglas planning area, AZ | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.01 | 0.01 | 0.00 | 0.00 |
| Colorado Springs Area, CO | CO (1971 8-hour) | Maintenance, Moderate ≤ 12.7ppm | 100 | 0 | 0.11 | 0.19 | 0.11 | 0.16 |
| Columbus, OH | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Cook County; Lyons Township, IL | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.01 | 0.02 | 0.01 | 0.01 |
| Cook County; Southeast Chicago, IL | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.01 | 0.02 | 0.01 | 0.01 |
| Coshocton County; Franklin Township, OH | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Coso Junction, CA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Cuyahoga County (part), OH | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Cuyahoga County, OH | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.14 | 0.20 | 0.06 | 0.08 |

Appendix A Air Quality Non-Attainment Area Results

Table A1-46

Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Cumulative Impacts

Particulate Matter (PM_{2.5}) 2025

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Dallas-Fort Worth, TX | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Delaware County, PA | PM _{2.5} (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 9.83 | 19.94 | 21.61 | 31.58 |
| Denver-Boulder Area, CO | CO (1971 8-hour) | Maintenance, Serious | 100 | 0 | 4.11 | 8.15 | 8.44 | 12.31 |
| Denver-Boulder-Greeley-Ft Collins-Loveland, CO | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Detroit Area, MI | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.99 | 1.88 | 1.77 | 2.57 |
| Detroit, MI | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.79 | 1.59 | 1.68 | 2.45 |
| Detroit-Ann Arbor, MI | PM _{2.5} (2006 24-hour) | Maintenance, -- | 100 | 0 | 1.47 | 2.62 | 2.02 | 2.89 |
| Dona Ana County; Anthony, NM | PM ₁₀ (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Douglas, AZ | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Dukes County, MA | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Duluth Area, MN | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.02 | 0.02 | 0.01 | 0.01 |
| East Chicago Area, IN | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 3.86 | 7.84 | 8.52 | 12.45 |
| East Helena Area, MT | SO ₂ (1971 24-hour/Annual) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| East Kern County Area, CA | PM ₁₀ (1987 24-hour) | Nonattainment, Serious | 70 | 0 | 0.63 | 1.27 | 1.38 | 2.01 |
| El Paso County, TX | PM ₁₀ (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.91 | 1.81 | 1.90 | 2.77 |
| El Paso, TX | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.85 | 1.72 | 1.87 | 2.73 |
| Eugene-Springfield Area, OR | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.03 | 0.05 | 0.02 | 0.02 |
| Fairbanks Area, AK | CO (1971 8-hour) | Maintenance, Serious | 100 | 0 | 0.11 | 0.22 | 0.24 | 0.35 |
| Fairbanks, AK | PM _{2.5} (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.11 | 0.23 | 0.24 | 0.35 |

Table A1-46
Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Cumulative Impacts
Particulate Matter (PM2.5) 2025

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|---|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Flathead County; Columbia Falls and vicinity, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Flathead County; Kalispell and vicinity, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.01 | 0.01 | 0.00 | 0.00 |
| Flathead County; Whitefish and vicinity, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Fort Collins Area, CO | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.02 | 0.03 | 0.01 | 0.01 |
| Freehold Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.01 | 0.00 | 0.00 |
| Fremont County; Canon City Area, CO | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.01 | 0.01 | 0.00 | 0.00 |
| Fresno Area, CA | CO (1971 8-hour) | Maintenance, Moderate > 12.7ppm | 100 | 0 | 0.09 | 0.14 | 0.06 | 0.08 |
| Grants Pass Area, OR | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.01 | 0.01 | 0.00 | 0.00 |
| Great Falls Area, MT | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.43 | 0.88 | 0.96 | 1.40 |
| Greater Connecticut, CT | Ozone (2008 8-hour) | Nonattainment, Moderate | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Greeley Area, CO | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.13 | 0.24 | 0.20 | 0.29 |
| Hancock and Brooke Counties (Part); The city of Weirton, WV | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.02 | 0.04 | 0.04 | 0.06 |
| Hancock County (Part) The city of Weirton, including Butler and Clay: Magisterial Districts, WV | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Harrisburg-Lebanon-Carlisle-York, PA | PM2.5 (2006 24-hour) | Maintenance, Moderate | 100 | 0 | 0.18 | 0.28 | 0.09 | 0.11 |
| Hartford-New Britain-Middletown Area, CT | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.16 | 0.24 | 0.08 | 0.10 |
| Hayden, AZ | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Hayden, AZ | SO ₂ (1971 24-hour/Annual) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Hayden, AZ | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Hillsborough County, FL | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Houston-Galveston-Brazoria, TX | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Humphreys County; (part) TVA Johnsonville, TN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Imperial Co, CA | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.03 | 0.05 | 0.01 | 0.02 |

Appendix A Air Quality Non-Attainment Area Results

Table A1-46

Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Cumulative Impacts

Particulate Matter (PM2.5) 2025

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Imperial County, CA | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Imperial County, CA | PM2.5 (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 0.03 | 0.05 | 0.01 | 0.02 |
| Imperial County; Imperial Valley planning area, CA | PM10 (1987 24-hour) | Nonattainment, Serious | 70 | 0 | 0.04 | 0.05 | 0.02 | 0.02 |
| Indian Wells, CA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.63 | 1.27 | 1.38 | 2.01 |
| Indiana, PA | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.01 | 0.02 | 0.01 | 0.01 |
| Indianapolis Area, IN | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Indianapolis, IN | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.07 | 0.11 | 0.03 | 0.04 |
| Inyo County; Owens Valley planning area, CA | PM10 (1987 24-hour) | Nonattainment, Serious | 70 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Jackson County, MO | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.01 | 0.01 | 0.00 | 0.00 |
| Jackson County; Medford-Ashland (including White City), OR | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.03 | 0.04 | 0.01 | 0.02 |
| Jamestown, NY | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Jefferson County, KY | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.01 | 0.01 | 0.01 |
| Jefferson County, MO | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.01 | 0.01 | 0.00 | 0.00 |
| Jefferson County; (part) Steubenville & Mingo Junction, OH | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Jefferson County; (part), OH | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Johnstown, PA | PM2.5 (2006 24-hour) | Maintenance, Moderate | 100 | 0 | 0.02 | 0.03 | 0.01 | 0.01 |
| Josephine County; Grants Pass, OR | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.01 | 0.01 | 0.00 | 0.00 |
| Juneau; Mendenhall Valley area, AK | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Kern County (Eastern Kern), CA | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| King County; Kent, WA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| King County; Seattle, WA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Klamath County; Klamath Falls, OR | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.01 | 0.01 | 0.00 | 0.01 |
| Klamath Falls Area, OR | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.01 | 0.01 | 0.00 | 0.01 |
| Klamath Falls, OR | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.01 | 0.02 | 0.00 | 0.01 |

Table A1-46
Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Cumulative Impacts
Particulate Matter (PM2.5) 2025

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Knoxville, TN | Ozone (2008 8-hour) | Maintenance, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Knoxville-Sevierville-La Follette, TN | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.14 | 0.21 | 0.07 | 0.09 |
| La Porte County: (part), IN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lake County (part); Lakeview, OR | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lake County, OH | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.04 | 0.06 | 0.02 | 0.02 |
| Lake County: (part), IN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lake County; (part) Eastlake, Timberlake, Lakeline, Willoughby, Mentor, OH | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lake County; Cities of East Chicago, Hammond, Whiting, and Gary, IN | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 3.88 | 7.87 | 8.53 | 12.46 |
| Lake County; Polson, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lake County; Ronan, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lake Tahoe Nevada Area, NV | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lake Tahoe North Shore Area, CA | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lake Tahoe South Shore Area, CA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.01 | 0.00 | 0.00 |
| Lancaster, PA | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lancaster, PA | PM2.5 (2006 24-hour) | Maintenance, Moderate | 100 | 0 | 0.07 | 0.11 | 0.04 | 0.05 |
| Lane County (part); Oakridge, OR | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lane County; Eugene/Springfield, OR | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.03 | 0.05 | 0.02 | 0.02 |
| Las Vegas Area, NV | CO (1971 8-hour) | Maintenance, Serious | 100 | 0 | 0.28 | 0.46 | 0.24 | 0.33 |
| LaSalle County; Oglesby, IL | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.01 | 0.01 | 0.00 | 0.00 |
| Laurel Area, MT | SO ₂ (1971 24-hour/Annual) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lebanon County, PA | PM2.5 (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 0.03 | 0.04 | 0.01 | 0.02 |
| Lemont, IL | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 5.25 | 10.66 | 11.56 | 16.89 |
| Liberty-Clairton, PA | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.01 | 0.03 | 0.03 | 0.04 |

Appendix A Air Quality Non-Attainment Area Results

Table A1-46

Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Cumulative Impacts

Particulate Matter (PM2.5) 2025

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Lincoln County; Libby and vicinity, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Logan, UT-ID | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.01 | 0.02 | 0.01 | 0.01 |
| Longmont Area, CO | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.01 | 0.02 | 0.01 | 0.01 |
| Lorain County (part), OH | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Los Angeles, CA | PM2.5 (2006 24-hour) | Nonattainment, Serious | 100 | 0 | 18.89 | 37.24 | 37.97 | 55.32 |
| Los Angeles-San Bernardino Counties (West Mojave Desert), CA | Ozone (2008 8-hour) | Nonattainment, Severe 15 | 25 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Los Angeles-South Coast Air Basin Area, CA | CO (1971 8-hour) | Maintenance, Serious | 100 | 0 | 18.89 | 37.24 | 37.97 | 55.32 |
| Los Angeles-South Coast Air Basin Area, CA | NO ₂ (1971 Annual) | Maintenance, -- | 100 | 0 | 18.89 | 37.24 | 37.97 | 55.32 |
| Los Angeles-South Coast Air Basin, CA | Ozone (2008 8-hour) | Nonattainment, Extreme | 10 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Los Angeles-South Coast Air Basin, CA | PM2.5 (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 18.89 | 37.23 | 37.97 | 55.31 |
| Lowell Area, MA | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.01 | 0.02 | 0.01 | 0.01 |
| Lucas County (part), OH | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Madison County; Granite City Township and Nameoki Township, IL | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 2.63 | 5.33 | 5.79 | 8.46 |
| Manchester Area, NH | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.01 | 0.02 | 0.01 | 0.01 |
| Maricopa and Pinal Counties; Phoenix planning area, AZ | PM10 (1987 24-hour) | Nonattainment, Serious | 70 | 0 | 0.52 | 0.78 | 0.25 | 0.32 |
| Marion County; Lawrence, Washington, and Warrant Townships, IN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Mariposa County, CA | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Marshall, WV | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 1.92 | 3.89 | 4.23 | 6.18 |
| Medford Area, OR | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.01 | 0.02 | 0.01 | 0.01 |
| Memphis Area, TN | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 2.01 | 4.01 | 4.21 | 6.15 |

Table A1-46
Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Cumulative Impacts
Particulate Matter (PM2.5) 2025

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|---|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Memphis, TN-MS-AR | Ozone (2008 8-hour) | Nonattainment TN & Maintenance MS/AR, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Miami, AZ | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Miami, AZ | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Miami, AZ | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Milwaukee-Racine, WI | PM2.5 (2006 24-hour) | Maintenance, -- | 100 | 0 | 0.21 | 0.34 | 0.17 | 0.23 |
| Minneapolis-St. Paul Area, MN | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 4.98 | 9.89 | 10.24 | 14.93 |
| Missoula Area, MT | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.58 | 1.18 | 1.27 | 1.85 |
| Missoula county; Missoula and vicinity, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.58 | 1.18 | 1.26 | 1.85 |
| Modesto Area, CA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.03 | 0.05 | 0.02 | 0.03 |
| Mohave County (part); Bullhead City, AZ | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.01 | 0.02 | 0.01 | 0.01 |
| Mono County; Mammoth Lake planning area, CA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.01 | 0.00 | 0.00 |
| Mono County; Mono Basin, CA | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Morenci, AZ | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Morgan County, IN | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.01 | 0.01 | 0.00 | 0.00 |
| Morongo Band of Mission Indians | Ozone (2008 8-hour) | Nonattainment, Serious | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Morristown Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.02 | 0.04 | 0.03 | 0.05 |
| Muscatine County; (part), IA | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Muscatine, IA | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Muskingum River, OH | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Nashua Area, NH | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.01 | 0.02 | 0.01 | 0.01 |
| Nassau County, FL | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Nevada County (Western part), CA | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| New Haven County, CT | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |

Appendix A Air Quality Non-Attainment Area Results

Table A1-46

Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Cumulative Impacts

Particulate Matter (PM_{2.5}) 2025

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| New Haven-Meriden-Waterbury Area, CT | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.12 | 0.19 | 0.06 | 0.08 |
| New Manchester-Grant magisterial district in Hancock County, WV | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| New York County, NY | PM ₁₀ (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.08 | 0.12 | 0.04 | 0.05 |
| New York, NY-NJ-CT | PM _{2.5} (2006 24-hour) | Maintenance, -- | 100 | 0 | 4.73 | 8.41 | 6.52 | 9.34 |
| New York-N. New Jersey-Long Island Area, NY-NJ-CT | CO (1971 8-hour) | Maintenance, Moderate > 12.7ppm | 100 | 0 | 3.22 | 5.87 | 4.92 | 7.09 |
| New York-N. New Jersey-Long Island, NY-NJ-CT | Ozone (2008 8-hour) | Nonattainment, Moderate | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| NJ portion of the Northeast Pennsylvania-Upper Delaware Valley Interstate AQCR: (part), NJ | SO ₂ (1971 24-hour/Annual) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Nogales, AZ | PM _{2.5} (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.01 | 0.01 | 0.00 | 0.00 |
| Oakridge, OR | PM _{2.5} (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Ogden Area, UT | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.01 | 0.01 | 0.00 | 0.01 |
| Ogden Area, UT | PM ₁₀ (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.01 | 0.01 | 0.00 | 0.01 |
| Olmsted County; (part), MN | PM ₁₀ (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.01 | 0.00 | 0.00 |
| Olmsted; City of Rochester, MN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |

Table A1-46
Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Cumulative Impacts
Particulate Matter (PM2.5) 2025

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Pechanga Band of Luiseno Mission Indians of the Pechanga Reservation | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Pekin, IL | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.01 | 0.01 | 0.00 | 0.00 |
| Penns Grove Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Peoria County: Hollis Twp, IL | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Peoria County: Peoria, IL | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Perth Amboy Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.50 | 1.00 | 1.07 | 1.57 |
| Philadelphia-Camden County Area, PA-NJ | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 4.69 | 9.46 | 10.12 | 14.78 |
| Philadelphia-Wilmington, PA-NJ-DE | PM2.5 (2006 24-hour) | Maintenance, Moderate for PA and DE Subject to Former Subpart 1 for NJ | 100 | 0 | 17.08 | 34.36 | 36.64 | 53.50 |
| Philadelphia-Wilmington-Atlantic City, PA-NJ-MD-DE | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Phoenix Area, AZ | CO (1971 8-hour) | Maintenance, Serious | 100 | 0 | 0.50 | 0.75 | 0.24 | 0.31 |
| Phoenix-Mesa, AZ | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Pierce County; Tacoma, WA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.05 | 0.09 | 0.10 | 0.14 |
| Pima County; Ajo planning area, AZ | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Pima County; Rillito planning area, AZ | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.01 | 0.01 | 0.00 | 0.01 |
| Pinal and Gila Counties; Payson, AZ | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.01 | 0.00 | 0.00 |
| Pinal County (part); West Pinal, AZ | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.06 | 0.09 | 0.03 | 0.04 |
| Pitkin County; Aspen, CO | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.01 | 0.00 | 0.00 |
| Pittsburgh Area, PA | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.04 | 0.07 | 0.04 | 0.06 |
| Pittsburgh-Beaver Valley, PA | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Pittsburgh-Beaver Valley, PA | PM2.5 (2006 24-hour) | Maintenance, Moderate | 100 | 0 | 0.53 | 0.95 | 0.74 | 1.05 |
| Plumas County, CA | PM2.5 (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Polk County, TN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |

Appendix A Air Quality Non-Attainment Area Results

Table A1-46

Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Cumulative Impacts

Particulate Matter (PM2.5) 2025

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|-------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Portland Area: Portland Metro Service District Boundary, OR | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.17 | 0.26 | 0.09 | 0.11 |
| Power-Bannock Counties; Fort Hall Indian Reservation, ID | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Power-Bannock Counties; Portneuf Valley Area, ID | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.01 | 0.02 | 0.01 | 0.01 |
| Provo Area, UT | CO (1971 8-hour) | Maintenance, Moderate > 12.7ppm | 100 | 0 | 0.01 | 0.02 | 0.01 | 0.01 |
| Provo, UT | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.06 | 0.09 | 0.03 | 0.04 |
| Prowers County; Lamar, CO | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Raleigh-Durham Area, NC | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.20 | 0.30 | 0.09 | 0.12 |
| Ramsey County; (part), MN | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Reading, PA | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Reno Area, NV | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.05 | 0.07 | 0.02 | 0.03 |
| Rhineland, WI | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.01 | 0.01 | 0.00 | 0.00 |
| Riverside County (Coachella Valley), CA | Ozone (2008 8-hour) | Nonattainment, Severe 15 | 25 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Riverside County; Coachella Valley planning area, CA | PM10 (1987 24-hour) | Nonattainment, Serious | 70 | 0 | 0.08 | 0.11 | 0.04 | 0.05 |
| Riverside, Los Angeles, Orange, and San Bernardino Counties; South Coast Air Basin, CA | PM10 (1987 24-hour) | Maintenance, Serious | 100 | 0 | 18.88 | 37.22 | 37.97 | 55.31 |
| Rosebud County; Lame Deer, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Routt County (part); Steamboat Springs, CO | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.09 | 0.19 | 0.20 | 0.29 |
| Sacramento Area, CA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.19 | 0.29 | 0.09 | 0.12 |
| Sacramento County, CA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.18 | 0.26 | 0.08 | 0.11 |
| Sacramento Metro, CA | Ozone (2008 8-hour) | Nonattainment, Severe 15 | 25 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Sacramento, CA | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 1.68 | 3.23 | 3.13 | 4.54 |
| Salem Area, OR | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.04 | 0.05 | 0.02 | 0.02 |
| Salt Lake City Area, UT | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.95 | 1.92 | 2.06 | 3.00 |
| Salt Lake City, UT | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 1.36 | 2.65 | 2.62 | 3.81 |

Table A1-46
Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Cumulative Impacts
Particulate Matter (PM2.5) 2025

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|---|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Salt Lake County, UT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 1.06 | 2.08 | 2.11 | 3.07 |
| Salt Lake County, UT | SO ₂ (1971 24-hour/Annual) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| San Bernardino County (part); excluding Searles Valley Planning area and South Coast Air Basin, CA | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.09 | 0.13 | 0.04 | 0.05 |
| San Diego Area, CA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.48 | 0.72 | 0.23 | 0.30 |
| San Diego County, CA | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| San Francisco Bay Area, CA | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| San Francisco Bay Area, CA | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 21.20 | 42.56 | 45.18 | 65.95 |
| San Francisco-Oakland-San Jose Area, CA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 21.12 | 42.44 | 45.14 | 65.90 |
| San Joaquin Valley Air Basin; Fresno, Kern, Kings, Madera, Merced, San Joaquin, Stanislaus, Tulare Counties, CA | PM10 (1987 24-hour) | Maintenance, Serious | 100 | 0 | 1.28 | 2.28 | 1.75 | 2.51 |
| San Joaquin Valley, CA | Ozone (2008 8-hour) | Nonattainment, Extreme | 10 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| San Joaquin Valley, CA | PM2.5 (2006 24-hour) | Nonattainment, Serious | 100 | 0 | 1.28 | 2.28 | 1.75 | 2.51 |
| San Joaquin Valley, CA | PM2.5 (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 1.28 | 2.28 | 1.75 | 2.51 |
| San Luis Obispo (Eastern San Luis Obispo), CA | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| San Manuel, AZ | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| San Miguel County; Telluride, CO | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Sanders County (part); Thompson Falls and vicinity, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Santa Cruz County; Nogales planning area, AZ | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.01 | 0.01 | 0.00 | 0.00 |
| Seaford, DE | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Seattle-Tacoma Area, WA | CO (1971 8-hour) | Maintenance, Moderate > 12.7ppm | 100 | 0 | 0.44 | 0.68 | 0.29 | 0.39 |
| Seattle-Tacoma, WA | PM2.5 (2006 24-hour) | Maintenance, Moderate | 100 | 0 | 0.11 | 0.19 | 0.13 | 0.18 |
| Sheboygan County, WI | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |

Appendix A Air Quality Non-Attainment Area Results

Table A1-46

Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Cumulative Impacts

Particulate Matter (PM_{2.5}) 2025

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|---|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Sheridan County; City of Sheridan, WY | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.01 | 0.00 | 0.00 |
| Shoshone County (part); excluding Pinehurst, ID | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.01 | 0.01 | 0.00 | 0.00 |
| Shoshone County; City of Pinehurst, ID | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Silver Bow County; Butte, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.01 | 0.01 | 0.00 | 0.00 |
| Somerville Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Southwest Indiana, IN | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Spokane Area, WA | CO (1971 8-hour) | Maintenance, Serious | 100 | 0 | 0.04 | 0.06 | 0.02 | 0.03 |
| Spokane County; (part), WA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.04 | 0.06 | 0.02 | 0.03 |
| Springfield Area, MA | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.02 | 0.03 | 0.01 | 0.01 |
| St. Bernard Parish, LA | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 8.86 | 17.99 | 19.55 | 28.57 |
| St. Louis Area, MO | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.13 | 0.19 | 0.06 | 0.08 |
| St. Louis-St. Charles-Farmington, MO-IL | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Steubenville, OH-WV | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.01 | 0.01 | 0.00 | 0.01 |
| Steubenville-Weirton, OH-WV | PM _{2.5} (2006 24-hour) | Maintenance, -- | 100 | 0 | 0.04 | 0.06 | 0.05 | 0.07 |
| Stockton Area, CA | CO (1971 8-hour) | Maintenance, Moderate ≤ 12.7ppm | 100 | 0 | 0.07 | 0.11 | 0.06 | 0.08 |
| Sullivan County, TN | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.01 | 0.02 | 0.01 | 0.02 |
| Syracuse Area; Onondaga County, NY | CO (1971 8-hour) | Maintenance, Moderate ≤ 12.7ppm | 100 | 0 | 0.08 | 0.12 | 0.04 | 0.06 |
| Tazewell County; Groveland Twp, IL | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Terre Haute, IN | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.17 | 0.34 | 0.36 | 0.52 |

Table A1-46
Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Cumulative Impacts
Particulate Matter (PM2.5) 2025

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|---|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Thurston County; Cities of Olympia, Tumwater, and Lacey, WA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.01 | 0.02 | 0.01 | 0.01 |
| Toms River Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Tooele County (part), UT | SO ₂ (1971 24-hour/Annual) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Trenton Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.01 | 0.02 | 0.01 | 0.01 |
| Trona, CA | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Tucson Area, AZ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.12 | 0.18 | 0.06 | 0.07 |
| Tuscan Buttes, CA | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Union County; LaGrande, OR | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.01 | 0.00 | 0.00 |
| Upper Green River Basin Area, WY | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Utah County, UT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.06 | 0.09 | 0.03 | 0.04 |
| Vancouver Area: Clark County (part), WA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.04 | 0.06 | 0.02 | 0.02 |
| Ventura County, CA | Ozone (2008 8-hour) | Nonattainment, Serious | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Vermillion County; Part of Clinton Township, IN | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Vigo County, IN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Walla Walla County; Wallula, WA | PM10 (1987 24-hour) | Maintenance, Serious | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Waltham Area, MA | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.01 | 0.01 | 0.00 | 0.00 |
| Warren County: Conewago Twp, PA | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Warren County: Warren Boro, Pleasant Twp, Glade Twp, PA | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Warren, PA | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 1.19 | 2.41 | 2.62 | 3.82 |
| Washington Area, DC-MD-VA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.09 | 0.14 | 0.04 | 0.06 |
| Washington, DC-MD-VA | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Washoe County; Reno planning area, NV | PM10 (1987 24-hour) | Nonattainment, Serious | 70 | 0 | 0.05 | 0.07 | 0.02 | 0.03 |

Appendix A Air Quality Non-Attainment Area Results

Table A1-46

Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Cumulative Impacts

Particulate Matter (PM_{2.5}) 2025

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|---|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Wayne County: Boston, Center, Franklin, Wayne & Webster Townships, IN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Wayne County; (part), MI | PM ₁₀ (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.76 | 1.54 | 1.67 | 2.43 |
| West Central Pinal County, AZ | PM _{2.5} (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.01 | 0.02 | 0.01 | 0.01 |
| West Silver Valley, ID | PM _{2.5} (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Winston-Salem Area, NC | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.05 | 0.08 | 0.03 | 0.03 |
| Worcester Area, MA | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.03 | 0.05 | 0.02 | 0.02 |
| Yakima Area, WA | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.01 | 0.01 | 0.00 | 0.00 |
| Yakima County; (part), WA | PM ₁₀ (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.02 | 0.02 | 0.01 | 0.01 |
| Yuba City-Marysville, CA | PM _{2.5} (2006 24-hour) | Maintenance, Moderate | 100 | 0 | 0.03 | 0.04 | 0.01 | 0.02 |
| Yuma County; Yuma planning area, AZ | PM ₁₀ (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.02 | 0.04 | 0.01 | 0.01 |

^a Reductions are shown as positive values. Negative values are emissions increases. Values of less than 0.005 tons per year are rounded to zero.

^b Nonattainment or maintenance status as of 5/13/2016. Source: U.S. EPA, The Green Book Nonattainment Areas for Criteria Pollutants; <http://www.epa.gov/airquality/greenbook/>. "--" indicates that no severity classification has been established for the NAAQS pollutant.

^c Emissions thresholds in tons per year. Where the threshold differs by precursor pollutant, the smallest of the precursor thresholds is shown. These thresholds are provided for information only; a general conformity determination is not required for the Proposed Action. Source: 40 CFR 93.853.

Notes: CO = carbon monoxide; NAAQS = National Ambient Air Quality Standards; NO₂ = nitrogen dioxide; PM = particulate matter; SO₂ = sulfur dioxide

Table A1-47
Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Cumulative Impacts
Particulate Matter (PM2.5) 2040

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Ada County; Boise, ID | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.21 | 0.41 | 0.40 | 0.48 |
| Adams, Denver, and Boulder Counties; Denver Metropolitan area, CO | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 1.58 | 3.32 | 3.09 | 3.93 |
| Ajo, AZ | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Albuquerque Area, NM | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.43 | 0.84 | 0.83 | 0.99 |
| Allegheny County Air Basin: Hazelwood monitor, PA | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Allegheny County, PA | PM2.5 (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 0.60 | 1.17 | 1.15 | 1.39 |
| Allegheny County; The area including Liberty, Lincoln, Port Vue, and Glassport Boroughs and the City of Clairton, PA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.05 | 0.11 | 0.09 | 0.13 |
| Allegheny, PA | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.08 | 0.17 | 0.15 | 0.20 |
| Allentown, PA | PM2.5 (2006 24-hour) | Maintenance, Moderate | 100 | 0 | 0.38 | 0.73 | 0.72 | 0.87 |
| Allentown-Bethlehem-Easton, PA | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Anchorage Area, AK | CO (1971 8-hour) | Maintenance, Serious | 100 | 0 | 0.07 | 0.14 | 0.14 | 0.16 |
| Anchorage; Eagle River, AK | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.01 | 0.01 | 0.01 | 0.01 |
| AQCR 012: Portions of Grant County, NM | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| AQCR 109-Millinocket, ME | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| AQCR 131: Anoka, Carver, Dakota, Hennepin, Ramsey, Scott, and Washington counties (Minneapolis-St. Paul), MN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| AQCR 237: Brown County: Green Bay sub-city area, WI | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| AQCR 238: Marathon County: Rothschild Sub-city area, Rib Mountain, Weston, WI | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| AQCR 238: Oneida County: Rhinelander Sub-city area, WI | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| AQCR 239: Milwaukee County: Milwaukee sub-city area, WI | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |

Appendix A Air Quality Non-Attainment Area Results

Table A1-47

Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Cumulative Impacts

Particulate Matter (PM2.5) 2040

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| AQCR 240: Dane County: Madison sub-city area, WI | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Archuleta County; Pagosa Springs, CO | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.02 | 0.03 | 0.03 | 0.04 |
| Armstrong County: Madison Twp, Mahoning Twp, Boggs Twp, Washington Twp, Pine Twp, PA | SO ₂ (1971 24-hour/Annual) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Aroostock County; City of Presque Isle, ME | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.01 | 0.02 | 0.02 | 0.02 |
| Atlanta, GA | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Atlantic City Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.04 | 0.07 | 0.07 | 0.08 |
| Bakersfield Area, CA | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 2.44 | 5.78 | 4.98 | 6.83 |
| Baltimore Area, MD | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.01 | 0.02 | 0.02 | 0.02 |
| Baltimore, MD | Ozone (2008 8-hour) | Nonattainment, Moderate | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Baton Rouge, LA | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Beaver, PA | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.01 | 0.02 | 0.02 | 0.02 |
| Benton County; (part) TVA Johnsonville, TN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Billings Area, MT | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 16.24 | 39.54 | 33.48 | 46.70 |
| Billings, MT | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 16.18 | 39.44 | 33.38 | 46.58 |
| Birmingham, AL | PM2.5 (2006 24-hour) | Maintenance, -- | 100 | 0 | 1.05 | 2.13 | 2.04 | 2.51 |
| Boise-Northern Ada County Area, ID | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.21 | 0.41 | 0.40 | 0.48 |
| Bonner County; The Sandpoint Area, ID | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.01 | 0.02 | 0.01 | 0.02 |
| Boston Area, MA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 1.05 | 2.31 | 2.09 | 2.72 |
| Boyd County (part), KY | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Brooke; Follansbee area, WV | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Burlington Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.01 | 0.01 | 0.01 |
| Calaveras County, CA | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Campbell-Clermont Counties, KY-OH | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.02 | 0.05 | 0.05 | 0.06 |

Table A1-47
Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Cumulative Impacts
Particulate Matter (PM2.5) 2040

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|---|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Canton-Massillon, OH | PM2.5 (2006 24-hour) | Maintenance, -- | 100 | 0 | 9.61 | 23.28 | 19.78 | 27.50 |
| Central New Hampshire, NH | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.15 | 0.28 | 0.28 | 0.33 |
| Central Steptoe Valley, NV | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Charleston, WV | PM2.5 (2006 24-hour) | Maintenance, -- | 100 | 0 | 0.25 | 0.48 | 0.47 | 0.56 |
| Charlotte Area, NC | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.86 | 1.65 | 1.63 | 1.95 |
| Charlotte-Rock Hill, NC-SC | Ozone (2008 8-hour) | Maintenance, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Chicago-Naperville, IL-IN-WI | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Chico (Butte County), CA | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Chico Area, CA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.06 | 0.12 | 0.12 | 0.14 |
| Chico, CA | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.13 | 0.25 | 0.25 | 0.30 |
| Cincinnati, OH-KY-IN | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Clark County; Las Vegas planning area, NV | PM10 (1987 24-hour) | Maintenance, Serious | 100 | 0 | 1.26 | 2.53 | 2.44 | 2.99 |
| Cleveland Area, OH | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.64 | 1.23 | 1.22 | 1.46 |
| Cleveland, OH | PM2.5 (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 0.83 | 1.61 | 1.59 | 1.90 |
| Cleveland-Akron-Lorain, OH | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Cleveland-Akron-Lorain, OH | PM2.5 (2006 24-hour) | Maintenance, -- | 100 | 0 | 1.83 | 3.52 | 3.48 | 4.16 |
| Cochise County; Paul Spur/Douglas planning area, AZ | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.03 | 0.05 | 0.05 | 0.06 |
| Colorado Springs Area, CO | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.48 | 0.99 | 0.94 | 1.17 |
| Columbus, OH | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Cook County; Lyons Township, IL | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.05 | 0.10 | 0.10 | 0.12 |
| Cook County; Southeast Chicago, IL | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.06 | 0.11 | 0.11 | 0.13 |
| Coshocton County; Franklin Township, OH | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Coso Junction, CA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Cuyahoga County (part), OH | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Cuyahoga County, OH | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.64 | 1.23 | 1.21 | 1.45 |

Appendix A Air Quality Non-Attainment Area Results

Table A1-47

Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Cumulative Impacts

Particulate Matter (PM_{2.5}) 2040

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Dallas-Fort Worth, TX | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Delaware County, PA | PM _{2.5} (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 33.18 | 80.74 | 68.40 | 95.36 |
| Denver-Boulder Area, CO | CO (1971 8-hour) | Maintenance, Serious | 100 | 0 | 14.33 | 34.05 | 29.29 | 40.22 |
| Denver-Boulder-Greeley-Ft Collins-Loveland, CO | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Detroit Area, MI | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 3.52 | 8.09 | 7.11 | 9.55 |
| Detroit, MI | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 2.77 | 6.63 | 5.68 | 7.83 |
| Detroit-Ann Arbor, MI | PM _{2.5} (2006 24-hour) | Maintenance, -- | 100 | 0 | 5.92 | 12.71 | 11.68 | 15.02 |
| Dona Ana County; Anthony, NM | PM ₁₀ (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.01 | 0.01 | 0.01 | 0.02 |
| Douglas, AZ | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Dukes County, MA | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Duluth Area, MN | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.08 | 0.16 | 0.16 | 0.19 |
| East Chicago Area, IN | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 13.01 | 31.70 | 26.83 | 37.44 |
| East Helena Area, MT | SO ₂ (1971 24-hour/Annual) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| East Kern County Area, CA | PM ₁₀ (1987 24-hour) | Nonattainment, Serious | 70 | 0 | 2.12 | 5.15 | 4.37 | 6.09 |
| El Paso County, TX | PM ₁₀ (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 3.13 | 7.49 | 6.42 | 8.85 |
| El Paso, TX | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 2.86 | 6.96 | 5.90 | 8.22 |
| Eugene-Springfield Area, OR | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.16 | 0.30 | 0.30 | 0.36 |
| Fairbanks Area, AK | CO (1971 8-hour) | Maintenance, Serious | 100 | 0 | 0.37 | 0.90 | 0.76 | 1.06 |
| Fairbanks, AK | PM _{2.5} (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.39 | 0.93 | 0.79 | 1.10 |

Table A1-47
Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Cumulative Impacts
Particulate Matter (PM2.5) 2040

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|---|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Flathead County; Columbia Falls and vicinity, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Flathead County; Kalispell and vicinity, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.03 | 0.05 | 0.05 | 0.06 |
| Flathead County; Whitefish and vicinity, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.01 | 0.01 | 0.01 |
| Fort Collins Area, CO | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.08 | 0.15 | 0.15 | 0.18 |
| Freehold Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.02 | 0.03 | 0.03 | 0.04 |
| Fremont County; Canon City Area, CO | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.03 | 0.05 | 0.05 | 0.06 |
| Fresno Area, CA | CO (1971 8-hour) | Maintenance, Moderate > 12.7ppm | 100 | 0 | 0.40 | 0.78 | 0.76 | 0.92 |
| Grants Pass Area, OR | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.03 | 0.06 | 0.06 | 0.07 |
| Great Falls Area, MT | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 1.46 | 3.56 | 3.01 | 4.20 |
| Greater Connecticut, CT | Ozone (2008 8-hour) | Nonattainment, Moderate | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Greeley Area, CO | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.53 | 1.15 | 1.04 | 1.36 |
| Hancock and Brooke Counties (Part); The city of Weirton, WV | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.07 | 0.17 | 0.14 | 0.19 |
| Hancock County (Part) The city of Weirton, including Butler and Clay: Magisterial Districts, WV | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Harrisburg-Lebanon-Carlisle-York, PA | PM2.5 (2006 24-hour) | Maintenance, Moderate | 100 | 0 | 0.86 | 1.67 | 1.65 | 1.97 |
| Hartford-New Britain-Middletown Area, CT | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.76 | 1.47 | 1.45 | 1.74 |
| Hayden, AZ | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Hayden, AZ | SO ₂ (1971 24-hour/Annual) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Hayden, AZ | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Hillsborough County, FL | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.01 | 0.02 | 0.02 | 0.02 |
| Houston-Galveston-Brazoria, TX | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Humphreys County; (part) TVA Johnsonville, TN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Imperial Co, CA | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.14 | 0.27 | 0.27 | 0.32 |

Appendix A Air Quality Non-Attainment Area Results

Table A1-47

Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Cumulative Impacts

Particulate Matter (PM2.5) 2040

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Imperial County, CA | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Imperial County, CA | PM2.5 (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 0.14 | 0.27 | 0.27 | 0.32 |
| Imperial County; Imperial Valley planning area, CA | PM10 (1987 24-hour) | Nonattainment, Serious | 70 | 0 | 0.17 | 0.33 | 0.33 | 0.39 |
| Indian Wells, CA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 2.12 | 5.15 | 4.36 | 6.08 |
| Indiana, PA | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.06 | 0.12 | 0.12 | 0.14 |
| Indianapolis Area, IN | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Indianapolis, IN | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.32 | 0.61 | 0.60 | 0.72 |
| Inyo County; Owens Valley planning area, CA | PM10 (1987 24-hour) | Nonattainment, Serious | 70 | 0 | 0.01 | 0.01 | 0.01 | 0.01 |
| Jackson County, MO | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.04 | 0.07 | 0.07 | 0.08 |
| Jackson County; Medford-Ashland (including White City), OR | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.13 | 0.25 | 0.25 | 0.30 |
| Jamestown, NY | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Jefferson County, KY | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.01 | 0.03 | 0.02 | 0.03 |
| Jefferson County, MO | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.04 | 0.07 | 0.07 | 0.08 |
| Jefferson County; (part) Steubenville & Mingo Junction, OH | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Jefferson County; (part), OH | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.01 | 0.01 | 0.01 |
| Johnstown, PA | PM2.5 (2006 24-hour) | Maintenance, Moderate | 100 | 0 | 0.08 | 0.16 | 0.16 | 0.19 |
| Josephine County; Grants Pass, OR | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.03 | 0.06 | 0.06 | 0.07 |
| Juneau; Mendenhall Valley area, AK | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.01 | 0.01 | 0.01 | 0.01 |
| Kern County (Eastern Kern), CA | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| King County; Kent, WA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.02 | 0.03 | 0.03 | 0.04 |
| King County; Seattle, WA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.01 | 0.01 | 0.01 | 0.01 |
| Klamath County; Klamath Falls, OR | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.05 | 0.10 | 0.10 | 0.12 |
| Klamath Falls Area, OR | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.05 | 0.10 | 0.10 | 0.12 |
| Klamath Falls, OR | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.06 | 0.11 | 0.11 | 0.13 |

Table A1-47
Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Cumulative Impacts
Particulate Matter (PM2.5) 2040

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Knoxville, TN | Ozone (2008 8-hour) | Maintenance, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Knoxville-Sevierville-La Follette, TN | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.67 | 1.29 | 1.28 | 1.53 |
| La Porte County: (part), IN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lake County (part); Lakeview, OR | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.01 | 0.01 | 0.01 |
| Lake County, OH | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.18 | 0.35 | 0.35 | 0.42 |
| Lake County: (part), IN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lake County; (part) Eastlake, Timberlake, Lakeline, Willoughby, Mentor, OH | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lake County; Cities of East Chicago, Hammond, Whiting, and Gary, IN | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 13.10 | 31.88 | 27.01 | 37.65 |
| Lake County; Polson, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lake County; Ronan, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lake Tahoe Nevada Area, NV | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.01 | 0.02 | 0.02 | 0.02 |
| Lake Tahoe North Shore Area, CA | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.01 | 0.01 | 0.01 | 0.01 |
| Lake Tahoe South Shore Area, CA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.02 | 0.03 | 0.03 | 0.04 |
| Lancaster, PA | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lancaster, PA | PM2.5 (2006 24-hour) | Maintenance, Moderate | 100 | 0 | 0.35 | 0.68 | 0.67 | 0.80 |
| Lane County (part); Oakridge, OR | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lane County; Eugene/Springfield, OR | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.16 | 0.30 | 0.30 | 0.36 |
| Las Vegas Area, NV | CO (1971 8-hour) | Maintenance, Serious | 100 | 0 | 1.26 | 2.53 | 2.43 | 2.98 |
| LaSalle County; Oglesby, IL | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.02 | 0.05 | 0.05 | 0.06 |
| Laurel Area, MT | SO ₂ (1971 24-hour/Annual) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lebanon County, PA | PM2.5 (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 0.12 | 0.23 | 0.23 | 0.28 |
| Lemont, IL | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 17.73 | 43.15 | 36.55 | 50.96 |
| Liberty-Clairton, PA | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.05 | 0.11 | 0.09 | 0.13 |

Appendix A Air Quality Non-Attainment Area Results

Table A1-47

Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Cumulative Impacts

Particulate Matter (PM2.5) 2040

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Lincoln County; Libby and vicinity, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.01 | 0.01 | 0.01 |
| Logan, UT-ID | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.06 | 0.12 | 0.12 | 0.14 |
| Longmont Area, CO | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.05 | 0.10 | 0.10 | 0.12 |
| Lorain County (part), OH | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Los Angeles, CA | PM2.5 (2006 24-hour) | Nonattainment, Serious | 100 | 0 | 66.57 | 157.05 | 135.71 | 185.50 |
| Los Angeles-San Bernardino Counties (West Mojave Desert), CA | Ozone (2008 8-hour) | Nonattainment, Severe 15 | 25 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Los Angeles-South Coast Air Basin Area, CA | CO (1971 8-hour) | Maintenance, Serious | 100 | 0 | 66.58 | 157.06 | 135.72 | 185.51 |
| Los Angeles-South Coast Air Basin Area, CA | NO ₂ (1971 Annual) | Maintenance, -- | 100 | 0 | 66.58 | 157.06 | 135.72 | 185.51 |
| Los Angeles-South Coast Air Basin, CA | Ozone (2008 8-hour) | Nonattainment, Extreme | 10 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Los Angeles-South Coast Air Basin, CA | PM2.5 (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 66.56 | 157.02 | 135.68 | 185.46 |
| Lowell Area, MA | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.07 | 0.14 | 0.14 | 0.16 |
| Lucas County (part), OH | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Madison County; Granite City Township and Nameoki Township, IL | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 8.86 | 21.57 | 18.27 | 25.48 |
| Manchester Area, NH | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.06 | 0.11 | 0.11 | 0.13 |
| Maricopa and Pinal Counties; Phoenix planning area, AZ | PM10 (1987 24-hour) | Nonattainment, Serious | 70 | 0 | 2.44 | 4.71 | 4.66 | 5.57 |
| Marion County; Lawrence, Washington, and Warrant Townships, IN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Mariposa County, CA | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Marshall, WV | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 6.46 | 15.74 | 13.32 | 18.59 |
| Medford Area, OR | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.07 | 0.13 | 0.13 | 0.16 |
| Memphis Area, TN | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 6.94 | 16.60 | 14.21 | 19.60 |

Table A1-47
Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Cumulative Impacts
Particulate Matter (PM2.5) 2040

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|---|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Memphis, TN-MS-AR | Ozone (2008 8-hour) | Nonattainment TN & Maintenance MS/AR, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Miami, AZ | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.01 | 0.01 | 0.01 | 0.01 |
| Miami, AZ | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Miami, AZ | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.01 | 0.01 | 0.01 | 0.01 |
| Milwaukee-Racine, WI | PM2.5 (2006 24-hour) | Maintenance, -- | 100 | 0 | 0.93 | 1.87 | 1.80 | 2.21 |
| Minneapolis-St. Paul Area, MN | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 17.39 | 41.31 | 35.54 | 48.80 |
| Missoula Area, MT | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 1.98 | 4.80 | 4.08 | 5.67 |
| Missoula county; Missoula and vicinity, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 1.98 | 4.79 | 4.07 | 5.66 |
| Modesto Area, CA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.14 | 0.28 | 0.27 | 0.33 |
| Mohave County (part); Bullhead City, AZ | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.07 | 0.13 | 0.13 | 0.15 |
| Mono County; Mammoth Lake planning area, CA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.02 | 0.05 | 0.05 | 0.05 |
| Mono County; Mono Basin, CA | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Morenci, AZ | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Morgan County, IN | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.02 | 0.04 | 0.04 | 0.05 |
| Morongo Band of Mission Indians | Ozone (2008 8-hour) | Nonattainment, Serious | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Morristown Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.08 | 0.17 | 0.15 | 0.20 |
| Muscatine County; (part), IA | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Muscatine, IA | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.01 | 0.03 | 0.03 | 0.03 |
| Muskingum River, OH | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.01 | 0.01 | 0.01 | 0.01 |
| Nashua Area, NH | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.05 | 0.10 | 0.10 | 0.12 |
| Nassau County, FL | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.01 | 0.01 | 0.01 |
| Nevada County (Western part), CA | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| New Haven County, CT | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.01 | 0.02 | 0.02 | 0.03 |

Appendix A Air Quality Non-Attainment Area Results

Table A1-47

Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Cumulative Impacts

Particulate Matter (PM2.5) 2040

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| New Haven-Meriden-Waterbury Area, CT | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.58 | 1.12 | 1.11 | 1.32 |
| New Manchester-Grant magisterial district in Hancock County, WV | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| New York County, NY | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.38 | 0.74 | 0.73 | 0.87 |
| New York, NY-NJ-CT | PM2.5 (2006 24-hour) | Maintenance, -- | 100 | 0 | 18.97 | 40.80 | 37.47 | 48.21 |
| New York-N. New Jersey-Long Island Area, NY-NJ-CT | CO (1971 8-hour) | Maintenance, Moderate > 12.7ppm | 100 | 0 | 12.54 | 27.53 | 24.93 | 32.52 |
| New York-N. New Jersey-Long Island, NY-NJ-CT | Ozone (2008 8-hour) | Nonattainment, Moderate | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| NJ portion of the Northeast Pennsylvania-Upper Delaware Valley Interstate AQCR: (part), NJ | SO ₂ (1971 24-hour/Annual) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Nogales, AZ | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.03 | 0.06 | 0.06 | 0.07 |
| Oakridge, OR | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Ogden Area, UT | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.04 | 0.07 | 0.07 | 0.09 |
| Ogden Area, UT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.04 | 0.07 | 0.07 | 0.09 |
| Olmsted County; (part), MN | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.02 | 0.03 | 0.03 | 0.04 |
| Olmsted; City of Rochester, MN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |

Table A1-47
Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Cumulative Impacts
Particulate Matter (PM2.5) 2040

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Pechanga Band of Luiseno Mission Indians of the Pechanga Reservation | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Pekin, IL | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.03 | 0.05 | 0.05 | 0.06 |
| Penns Grove Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Peoria County: Hollis Twp, IL | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Peoria County: Peoria, IL | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Perth Amboy Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 1.70 | 4.11 | 3.50 | 4.86 |
| Philadelphia-Camden County Area, PA-NJ | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 15.98 | 38.63 | 32.86 | 45.62 |
| Philadelphia-Wilmington, PA-NJ-DE | PM2.5 (2006 24-hour) | Maintenance, Moderate for PA and DE Subject to Former Subpart 1 for NJ | 100 | 0 | 58.34 | 140.72 | 119.88 | 166.20 |
| Philadelphia-Wilmington-Atlantic City, PA-NJ-MD-DE | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Phoenix Area, AZ | CO (1971 8-hour) | Maintenance, Serious | 100 | 0 | 2.34 | 4.51 | 4.46 | 5.33 |
| Phoenix-Mesa, AZ | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Pierce County; Tacoma, WA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.15 | 0.37 | 0.31 | 0.44 |
| Pima County; Ajo planning area, AZ | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Pima County; Rillito planning area, AZ | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.04 | 0.09 | 0.09 | 0.10 |
| Pinal and Gila Counties; Payson, AZ | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.02 | 0.04 | 0.04 | 0.05 |
| Pinal County (part); West Pinal, AZ | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.28 | 0.53 | 0.53 | 0.63 |
| Pitkin County; Aspen, CO | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.02 | 0.03 | 0.03 | 0.04 |
| Pittsburgh Area, PA | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.16 | 0.33 | 0.31 | 0.39 |
| Pittsburgh-Beaver Valley, PA | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Pittsburgh-Beaver Valley, PA | PM2.5 (2006 24-hour) | Maintenance, Moderate | 100 | 0 | 2.13 | 4.59 | 4.21 | 5.42 |
| Plumas County, CA | PM2.5 (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Polk County, TN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |

Appendix A Air Quality Non-Attainment Area Results

Table A1-47

Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Cumulative Impacts

Particulate Matter (PM2.5) 2040

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|-------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Portland Area: Portland Metro Service District Boundary, OR | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.79 | 1.54 | 1.52 | 1.82 |
| Power-Bannock Counties; Fort Hall Indian Reservation, ID | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Power-Bannock Counties; Portneuf Valley Area, ID | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.06 | 0.12 | 0.12 | 0.14 |
| Provo Area, UT | CO (1971 8-hour) | Maintenance, Moderate > 12.7ppm | 100 | 0 | 0.05 | 0.09 | 0.09 | 0.11 |
| Provo, UT | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.27 | 0.52 | 0.51 | 0.61 |
| Prowers County; Lamar, CO | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Raleigh-Durham Area, NC | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.93 | 1.78 | 1.76 | 2.11 |
| Ramsey County; (part), MN | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Reading, PA | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Reno Area, NV | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.22 | 0.41 | 0.41 | 0.49 |
| Rhinelander, WI | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.03 | 0.05 | 0.05 | 0.06 |
| Riverside County (Coachella Valley), CA | Ozone (2008 8-hour) | Nonattainment, Severe 15 | 25 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Riverside County; Coachella Valley planning area, CA | PM10 (1987 24-hour) | Nonattainment, Serious | 70 | 0 | 0.34 | 0.66 | 0.65 | 0.78 |
| Riverside, Los Angeles, Orange, and San Bernardino Counties; South Coast Air Basin, CA | PM10 (1987 24-hour) | Maintenance, Serious | 100 | 0 | 66.53 | 156.96 | 135.63 | 185.40 |
| Rosebud County; Lame Deer, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.02 | 0.04 | 0.04 | 0.04 |
| Routt County (part); Steamboat Springs, CO | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.32 | 0.77 | 0.65 | 0.90 |
| Sacramento Area, CA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.87 | 1.69 | 1.67 | 1.99 |
| Sacramento County, CA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.83 | 1.60 | 1.58 | 1.89 |
| Sacramento Metro, CA | Ozone (2008 8-hour) | Nonattainment, Severe 15 | 25 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Sacramento, CA | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 6.10 | 14.06 | 12.33 | 16.61 |
| Salem Area, OR | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.17 | 0.33 | 0.32 | 0.39 |
| Salt Lake City Area, UT | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 3.22 | 7.80 | 6.63 | 9.21 |
| Salt Lake City, UT | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 4.89 | 11.38 | 9.92 | 13.44 |

Table A1-47
Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Cumulative Impacts
Particulate Matter (PM2.5) 2040

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|---|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Salt Lake County, UT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 3.75 | 8.82 | 7.63 | 10.41 |
| Salt Lake County, UT | SO ₂ (1971 24-hour/Annual) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| San Bernardino County (part); excluding Searles Valley Planning area and South Coast Air Basin, CA | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.37 | 0.72 | 0.71 | 0.85 |
| San Diego Area, CA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 2.24 | 4.32 | 4.27 | 5.11 |
| San Diego County, CA | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| San Francisco Bay Area, CA | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| San Francisco Bay Area, CA | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 72.67 | 174.85 | 149.18 | 206.51 |
| San Francisco-Oakland-San Jose Area, CA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 72.29 | 174.12 | 148.46 | 205.65 |
| San Joaquin Valley Air Basin; Fresno, Kern, Kings, Madera, Merced, San Joaquin, Stanislaus, Tulare Counties, CA | PM10 (1987 24-hour) | Maintenance, Serious | 100 | 0 | 5.17 | 11.09 | 10.20 | 13.11 |
| San Joaquin Valley, CA | Ozone (2008 8-hour) | Nonattainment, Extreme | 10 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| San Joaquin Valley, CA | PM2.5 (2006 24-hour) | Nonattainment, Serious | 100 | 0 | 5.17 | 11.09 | 10.20 | 13.11 |
| San Joaquin Valley, CA | PM2.5 (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 5.17 | 11.09 | 10.20 | 13.11 |
| San Luis Obispo (Eastern San Luis Obispo), CA | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| San Manuel, AZ | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| San Miguel County; Telluride, CO | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.01 | 0.01 | 0.01 | 0.01 |
| Sanders County (part); Thompson Falls and vicinity, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Santa Cruz County; Nogales planning area, AZ | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.03 | 0.06 | 0.06 | 0.07 |
| Seaford, DE | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Seattle-Tacoma Area, WA | CO (1971 8-hour) | Maintenance, Moderate > 12.7ppm | 100 | 0 | 1.99 | 3.91 | 3.82 | 4.62 |
| Seattle-Tacoma, WA | PM2.5 (2006 24-hour) | Maintenance, Moderate | 100 | 0 | 0.44 | 0.93 | 0.87 | 1.10 |
| Sheboygan County, WI | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |

Appendix A Air Quality Non-Attainment Area Results

Table A1-47

Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Cumulative Impacts

Particulate Matter (PM2.5) 2040

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|---|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Sheridan County; City of Sheridan, WY | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.02 | 0.03 | 0.03 | 0.04 |
| Shoshone County (part); excluding Pinehurst, ID | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.03 | 0.06 | 0.05 | 0.07 |
| Shoshone County; City of Pinehurst, ID | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Silver Bow County; Butte, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.03 | 0.05 | 0.05 | 0.06 |
| Somerville Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.01 | 0.02 | 0.02 | 0.02 |
| Southwest Indiana, IN | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.01 | 0.02 | 0.02 | 0.02 |
| Spokane Area, WA | CO (1971 8-hour) | Maintenance, Serious | 100 | 0 | 0.19 | 0.37 | 0.36 | 0.44 |
| Spokane County; (part), WA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.20 | 0.38 | 0.38 | 0.45 |
| Springfield Area, MA | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.11 | 0.22 | 0.21 | 0.26 |
| St. Bernard Parish, LA | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 29.85 | 72.74 | 61.57 | 85.91 |
| St. Louis Area, MO | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.58 | 1.11 | 1.10 | 1.31 |
| St. Louis-St. Charles-Farmington, MO-IL | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Steubenville, OH-WV | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.04 | 0.09 | 0.08 | 0.10 |
| Steubenville-Weirton, OH-WV | PM2.5 (2006 24-hour) | Maintenance, -- | 100 | 0 | 0.14 | 0.31 | 0.28 | 0.36 |
| Stockton Area, CA | CO (1971 8-hour) | Maintenance, Moderate ≤ 12.7ppm | 100 | 0 | 0.29 | 0.58 | 0.56 | 0.69 |
| Sullivan County, TN | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.03 | 0.07 | 0.06 | 0.08 |
| Syracuse Area; Onondaga County, NY | CO (1971 8-hour) | Maintenance, Moderate ≤ 12.7ppm | 100 | 0 | 0.37 | 0.72 | 0.71 | 0.85 |
| Tazewell County; Groveland Twp, IL | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Terre Haute, IN | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.57 | 1.37 | 1.16 | 1.61 |

Table A1-47
Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Cumulative Impacts
Particulate Matter (PM2.5) 2040

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|---|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Thurston County; Cities of Olympia, Tumwater, and Lacey, WA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.07 | 0.13 | 0.13 | 0.15 |
| Toms River Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.01 | 0.01 | 0.01 |
| Tooele County (part), UT | SO ₂ (1971 24-hour/Annual) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Trenton Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.06 | 0.11 | 0.11 | 0.13 |
| Trona, CA | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Tucson Area, AZ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.57 | 1.09 | 1.08 | 1.29 |
| Tuscan Buttes, CA | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Union County; LaGrande, OR | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.02 | 0.04 | 0.04 | 0.05 |
| Upper Green River Basin Area, WY | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Utah County, UT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.27 | 0.52 | 0.51 | 0.61 |
| Vancouver Area: Clark County (part), WA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.18 | 0.35 | 0.34 | 0.41 |
| Ventura County, CA | Ozone (2008 8-hour) | Nonattainment, Serious | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Vermillion County; Part of Clinton Township, IN | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.03 | 0.05 | 0.05 | 0.06 |
| Vigo County, IN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Walla Walla County; Wallula, WA | PM10 (1987 24-hour) | Maintenance, Serious | 100 | 0 | 0.00 | 0.01 | 0.01 | 0.01 |
| Waltham Area, MA | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.04 | 0.07 | 0.07 | 0.08 |
| Warren County: Conewago Twp, PA | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Warren County: Warren Boro, Pleasant Twp, Glade Twp, PA | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Warren, PA | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 4.00 | 9.75 | 8.26 | 11.52 |
| Washington Area, DC-MD-VA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.44 | 0.85 | 0.84 | 1.00 |
| Washington, DC-MD-VA | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Washoe County; Reno planning area, NV | PM10 (1987 24-hour) | Nonattainment, Serious | 70 | 0 | 0.21 | 0.41 | 0.41 | 0.49 |

Appendix A Air Quality Non-Attainment Area Results

Table A1-47

Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Cumulative Impacts

Particulate Matter (PM2.5) 2040

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|---|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Wayne County: Boston, Center, Franklin, Wayne & Webster Townships, IN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Wayne County; (part), MI | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 2.60 | 6.30 | 5.35 | 7.44 |
| West Central Pinal County, AZ | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.06 | 0.11 | 0.11 | 0.13 |
| West Silver Valley, ID | PM2.5 (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 0.02 | 0.03 | 0.03 | 0.04 |
| Winston-Salem Area, NC | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.25 | 0.48 | 0.47 | 0.56 |
| Worcester Area, MA | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.16 | 0.30 | 0.30 | 0.36 |
| Yakima Area, WA | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.03 | 0.05 | 0.05 | 0.06 |
| Yakima County; (part), WA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.08 | 0.15 | 0.15 | 0.17 |
| Yuba City-Marysville, CA | PM2.5 (2006 24-hour) | Maintenance, Moderate | 100 | 0 | 0.13 | 0.25 | 0.24 | 0.29 |
| Yuma County; Yuma planning area, AZ | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.11 | 0.21 | 0.21 | 0.25 |

^a Reductions are shown as positive values. Negative values are emissions increases. Values of less than 0.005 tons per year are rounded to zero.

^b Nonattainment or maintenance status as of 5/13/2016. Source: U.S. EPA, The Green Book Nonattainment Areas for Criteria Pollutants; <http://www.epa.gov/airquality/greenbook/>. "--" indicates that no severity classification has been established for the NAAQS pollutant.

^c Emissions thresholds in tons per year. Where the threshold differs by precursor pollutant, the smallest of the precursor thresholds is shown. These thresholds are provided for information only; a general conformity determination is not required for the Proposed Action. Source: 40 CFR 93.853.

Notes: CO = carbon monoxide; NAAQS = National Ambient Air Quality Standards; NO₂ = nitrogen dioxide; PM = particulate matter; SO₂ = sulfur dioxide

Table A1-48
Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Cumulative Impacts
Particulate Matter (PM2.5) 2050

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Ada County; Boise, ID | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.26 | 0.51 | 0.51 | 0.61 |
| Adams, Denver, and Boulder Counties; Denver Metropolitan area, CO | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 1.91 | 4.09 | 3.80 | 4.81 |
| Ajo, AZ | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Albuquerque Area, NM | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.53 | 1.04 | 1.03 | 1.24 |
| Allegheny County Air Basin: Hazelwood monitor, PA | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Allegheny County, PA | PM2.5 (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 0.73 | 1.46 | 1.43 | 1.73 |
| Allegheny County; The area including Liberty, Lincoln, Port Vue, and Glassport Boroughs and the City of Clairton, PA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.05 | 0.13 | 0.11 | 0.15 |
| Allegheny, PA | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.08 | 0.19 | 0.17 | 0.22 |
| Allentown, PA | PM2.5 (2006 24-hour) | Maintenance, Moderate | 100 | 0 | 0.46 | 0.91 | 0.91 | 1.09 |
| Allentown-Bethlehem-Easton, PA | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Anchorage Area, AK | CO (1971 8-hour) | Maintenance, Serious | 100 | 0 | 0.09 | 0.17 | 0.17 | 0.20 |
| Anchorage; Eagle River, AK | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.01 | 0.01 | 0.01 | 0.02 |
| AQCR 012: Portions of Grant County, NM | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| AQCR 109-Millinocket, ME | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| AQCR 131: Anoka, Carver, Dakota, Hennepin, Ramsey, Scott, and Washington counties (Minneapolis-St. Paul), MN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| AQCR 237: Brown County: Green Bay sub-city area, WI | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| AQCR 238: Marathon County: Rothschild Sub-city area, Rib Mountain, Weston, WI | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| AQCR 238: Oneida County: Rhinelander Sub-city area, WI | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| AQCR 239: Milwaukee County: Milwaukee sub-city area, WI | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |

Appendix A Air Quality Non-Attainment Area Results

Table A1-48

Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Cumulative Impacts

Particulate Matter (PM2.5) 2050

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| AQCR 240: Dane County: Madison sub-city area, WI | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Archuleta County; Pagosa Springs, CO | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.02 | 0.04 | 0.04 | 0.05 |
| Armstrong County: Madison Twp, Mahoning Twp, Boggs Twp, Washington Twp, Pine Twp, PA | SO ₂ (1971 24-hour/Annual) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Aroostock County; City of Presque Isle, ME | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.01 | 0.03 | 0.03 | 0.03 |
| Atlanta, GA | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Atlantic City Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.04 | 0.09 | 0.09 | 0.10 |
| Bakersfield Area, CA | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 2.90 | 6.98 | 5.93 | 8.10 |
| Baltimore Area, MD | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.01 | 0.02 | 0.02 | 0.02 |
| Baltimore, MD | Ozone (2008 8-hour) | Nonattainment, Moderate | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Baton Rouge, LA | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Beaver, PA | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.01 | 0.03 | 0.03 | 0.03 |
| Benton County; (part) TVA Johnsonville, TN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Billings Area, MT | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 19.21 | 47.58 | 39.51 | 55.03 |
| Billings, MT | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 19.14 | 47.45 | 39.38 | 54.87 |
| Birmingham, AL | PM2.5 (2006 24-hour) | Maintenance, -- | 100 | 0 | 1.28 | 2.63 | 2.52 | 3.12 |
| Boise-Northern Ada County Area, ID | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.26 | 0.51 | 0.51 | 0.61 |
| Bonner County; The Sandpoint Area, ID | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.01 | 0.02 | 0.02 | 0.02 |
| Boston Area, MA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 1.27 | 2.83 | 2.55 | 3.31 |
| Boyd County (part), KY | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Brooke; Follansbee area, WV | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Burlington Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.01 | 0.01 | 0.01 |
| Calaveras County, CA | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Campbell-Clermont Counties, KY-OH | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.03 | 0.06 | 0.06 | 0.07 |

Table A1-48
Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Cumulative Impacts
Particulate Matter (PM2.5) 2050

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|---|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Canton-Massillon, OH | PM2.5 (2006 24-hour) | Maintenance, -- | 100 | 0 | 11.38 | 28.04 | 23.37 | 32.44 |
| Central New Hampshire, NH | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.18 | 0.35 | 0.35 | 0.42 |
| Central Steptoe Valley, NV | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Charleston, WV | PM2.5 (2006 24-hour) | Maintenance, -- | 100 | 0 | 0.30 | 0.60 | 0.59 | 0.71 |
| Charlotte Area, NC | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 1.05 | 2.06 | 2.05 | 2.45 |
| Charlotte-Rock Hill, NC-SC | Ozone (2008 8-hour) | Maintenance, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Chicago-Naperville, IL-IN-WI | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Chico (Butte County), CA | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Chico Area, CA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.08 | 0.16 | 0.16 | 0.19 |
| Chico, CA | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.16 | 0.32 | 0.32 | 0.38 |
| Cincinnati, OH-KY-IN | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Clark County; Las Vegas planning area, NV | PM10 (1987 24-hour) | Maintenance, Serious | 100 | 0 | 1.54 | 3.14 | 3.03 | 3.72 |
| Cleveland Area, OH | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.78 | 1.54 | 1.53 | 1.83 |
| Cleveland, OH | PM2.5 (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 1.02 | 2.01 | 2.00 | 2.39 |
| Cleveland-Akron-Lorain, OH | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Cleveland-Akron-Lorain, OH | PM2.5 (2006 24-hour) | Maintenance, -- | 100 | 0 | 2.23 | 4.39 | 4.37 | 5.24 |
| Cochise County; Paul Spur/Douglas planning area, AZ | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.03 | 0.07 | 0.07 | 0.08 |
| Colorado Springs Area, CO | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.59 | 1.23 | 1.16 | 1.45 |
| Columbus, OH | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Cook County; Lyons Township, IL | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.06 | 0.13 | 0.12 | 0.15 |
| Cook County; Southeast Chicago, IL | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.06 | 0.12 | 0.12 | 0.15 |
| Coshocton County; Franklin Township, OH | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Coso Junction, CA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Cuyahoga County (part), OH | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Cuyahoga County, OH | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.78 | 1.53 | 1.52 | 1.83 |

Appendix A Air Quality Non-Attainment Area Results

Table A1-48

Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Cumulative Impacts

Particulate Matter (PM_{2.5}) 2050

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Dallas-Fort Worth, TX | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Delaware County, PA | PM _{2.5} (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 39.26 | 97.16 | 80.73 | 112.38 |
| Denver-Boulder Area, CO | CO (1971 8-hour) | Maintenance, Serious | 100 | 0 | 17.02 | 41.11 | 34.80 | 47.69 |
| Denver-Boulder-Greeley-Ft Collins-Loveland, CO | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Detroit Area, MI | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 4.08 | 9.55 | 8.28 | 11.12 |
| Detroit, MI | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 3.33 | 8.09 | 6.82 | 9.38 |
| Detroit-Ann Arbor, MI | PM _{2.5} (2006 24-hour) | Maintenance, -- | 100 | 0 | 7.14 | 15.58 | 14.26 | 18.30 |
| Dona Ana County; Anthony, NM | PM ₁₀ (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.01 | 0.02 | 0.02 | 0.02 |
| Douglas, AZ | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Dukes County, MA | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Duluth Area, MN | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.11 | 0.22 | 0.22 | 0.26 |
| East Chicago Area, IN | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 15.39 | 38.14 | 31.66 | 44.11 |
| East Helena Area, MT | SO ₂ (1971 24-hour/Annual) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| East Kern County Area, CA | PM ₁₀ (1987 24-hour) | Nonattainment, Serious | 70 | 0 | 2.50 | 6.20 | 5.15 | 7.17 |
| El Paso County, TX | PM ₁₀ (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 3.71 | 9.02 | 7.60 | 10.46 |
| El Paso, TX | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 3.38 | 8.38 | 6.96 | 9.69 |
| Eugene-Springfield Area, OR | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.20 | 0.39 | 0.38 | 0.46 |
| Fairbanks Area, AK | CO (1971 8-hour) | Maintenance, Serious | 100 | 0 | 0.44 | 1.08 | 0.90 | 1.25 |
| Fairbanks, AK | PM _{2.5} (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.46 | 1.12 | 0.94 | 1.30 |

Table A1-48

Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Cumulative Impacts

Particulate Matter (PM2.5) 2050

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|---|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Flathead County; Columbia Falls and vicinity, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Flathead County; Kalispell and vicinity, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.03 | 0.06 | 0.06 | 0.07 |
| Flathead County; Whitefish and vicinity, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.01 | 0.01 | 0.01 |
| Fort Collins Area, CO | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.10 | 0.19 | 0.19 | 0.23 |
| Freehold Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.02 | 0.05 | 0.05 | 0.06 |
| Fremont County; Canon City Area, CO | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.03 | 0.06 | 0.06 | 0.08 |
| Fresno Area, CA | CO (1971 8-hour) | Maintenance, Moderate > 12.7ppm | 100 | 0 | 0.48 | 0.96 | 0.95 | 1.15 |
| Grants Pass Area, OR | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.04 | 0.08 | 0.08 | 0.09 |
| Great Falls Area, MT | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 1.73 | 4.28 | 3.55 | 4.95 |
| Greater Connecticut, CT | Ozone (2008 8-hour) | Nonattainment, Moderate | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Greeley Area, CO | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.63 | 1.41 | 1.27 | 1.65 |
| Hancock and Brooke Counties (Part); The city of Weirton, WV | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.08 | 0.20 | 0.17 | 0.23 |
| Hancock County (Part) The city of Weirton, including Butler and Clay; Magisterial Districts, WV | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Harrisburg-Lebanon-Carlisle-York, PA | PM2.5 (2006 24-hour) | Maintenance, Moderate | 100 | 0 | 1.06 | 2.08 | 2.07 | 2.48 |
| Hartford-New Britain-Middletown Area, CT | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.93 | 1.84 | 1.83 | 2.19 |
| Hayden, AZ | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Hayden, AZ | SO ₂ (1971 24-hour/Annual) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Hayden, AZ | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Hillsborough County, FL | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.01 | 0.03 | 0.03 | 0.03 |
| Houston-Galveston-Brazoria, TX | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Humphreys County; (part) TVA Johnsonville, TN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Imperial Co, CA | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.17 | 0.34 | 0.34 | 0.41 |

Appendix A Air Quality Non-Attainment Area Results

Table A1-48

Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Cumulative Impacts

Particulate Matter (PM2.5) 2050

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Imperial County, CA | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Imperial County, CA | PM2.5 (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 0.17 | 0.34 | 0.34 | 0.41 |
| Imperial County; Imperial Valley planning area, CA | PM10 (1987 24-hour) | Nonattainment, Serious | 70 | 0 | 0.21 | 0.42 | 0.41 | 0.50 |
| Indian Wells, CA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 2.50 | 6.19 | 5.15 | 7.16 |
| Indiana, PA | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.08 | 0.15 | 0.15 | 0.18 |
| Indianapolis Area, IN | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Indianapolis, IN | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.38 | 0.75 | 0.74 | 0.89 |
| Inyo County; Owens Valley planning area, CA | PM10 (1987 24-hour) | Nonattainment, Serious | 70 | 0 | 0.01 | 0.02 | 0.02 | 0.02 |
| Jackson County, MO | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.05 | 0.09 | 0.09 | 0.11 |
| Jackson County; Medford-Ashland (including White City), OR | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.16 | 0.32 | 0.32 | 0.38 |
| Jamestown, NY | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Jefferson County, KY | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.01 | 0.03 | 0.03 | 0.04 |
| Jefferson County, MO | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.04 | 0.09 | 0.08 | 0.10 |
| Jefferson County; (part) Steubenville & Mingo Junction, OH | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Jefferson County; (part), OH | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.01 | 0.01 | 0.01 |
| Johnstown, PA | PM2.5 (2006 24-hour) | Maintenance, Moderate | 100 | 0 | 0.10 | 0.20 | 0.20 | 0.24 |
| Josephine County; Grants Pass, OR | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.04 | 0.08 | 0.08 | 0.09 |
| Juneau; Mendenhall Valley area, AK | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.01 | 0.01 | 0.01 | 0.02 |
| Kern County (Eastern Kern), CA | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| King County; Kent, WA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.02 | 0.04 | 0.04 | 0.05 |
| King County; Seattle, WA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.01 | 0.01 | 0.01 | 0.02 |
| Klamath County; Klamath Falls, OR | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.08 | 0.15 | 0.15 | 0.18 |
| Klamath Falls Area, OR | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.08 | 0.15 | 0.15 | 0.18 |
| Klamath Falls, OR | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.08 | 0.16 | 0.15 | 0.19 |

Table A1-48
Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Cumulative Impacts
Particulate Matter (PM2.5) 2050

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Knoxville, TN | Ozone (2008 8-hour) | Maintenance, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Knoxville-Sevierville-La Follette, TN | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.82 | 1.61 | 1.61 | 1.92 |
| La Porte County: (part), IN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lake County (part); Lakeview, OR | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.02 | 0.03 | 0.03 | 0.04 |
| Lake County, OH | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.22 | 0.44 | 0.44 | 0.53 |
| Lake County: (part), IN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lake County; (part) Eastlake, Timberlake, Lakeline, Willoughby, Mentor, OH | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lake County; Cities of East Chicago, Hammond, Whiting, and Gary, IN | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 15.49 | 38.35 | 31.87 | 44.35 |
| Lake County; Polson, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lake County; Ronan, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lake Tahoe Nevada Area, NV | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.01 | 0.02 | 0.02 | 0.03 |
| Lake Tahoe North Shore Area, CA | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.01 | 0.01 | 0.01 | 0.02 |
| Lake Tahoe South Shore Area, CA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.02 | 0.03 | 0.03 | 0.04 |
| Lancaster, PA | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lancaster, PA | PM2.5 (2006 24-hour) | Maintenance, Moderate | 100 | 0 | 0.43 | 0.85 | 0.84 | 1.01 |
| Lane County (part); Oakridge, OR | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lane County; Eugene/Springfield, OR | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.20 | 0.39 | 0.38 | 0.46 |
| Las Vegas Area, NV | CO (1971 8-hour) | Maintenance, Serious | 100 | 0 | 1.53 | 3.13 | 3.02 | 3.71 |
| LaSalle County; Oglesby, IL | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.03 | 0.06 | 0.06 | 0.07 |
| Laurel Area, MT | SO ₂ (1971 24-hour/Annual) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lebanon County, PA | PM2.5 (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 0.15 | 0.29 | 0.29 | 0.35 |
| Lemont, IL | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 20.98 | 51.93 | 43.14 | 60.06 |
| Liberty-Clairton, PA | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.05 | 0.13 | 0.11 | 0.15 |

Appendix A Air Quality Non-Attainment Area Results

Table A1-48

Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Cumulative Impacts

Particulate Matter (PM2.5) 2050

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Lincoln County; Libby and vicinity, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.01 | 0.01 | 0.01 |
| Logan, UT-ID | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.08 | 0.15 | 0.15 | 0.18 |
| Longmont Area, CO | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.06 | 0.13 | 0.13 | 0.15 |
| Lorain County (part), OH | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Los Angeles, CA | PM2.5 (2006 24-hour) | Nonattainment, Serious | 100 | 0 | 79.18 | 189.86 | 161.63 | 220.43 |
| Los Angeles-San Bernardino Counties (West Mojave Desert), CA | Ozone (2008 8-hour) | Nonattainment, Severe 15 | 25 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Los Angeles-South Coast Air Basin Area, CA | CO (1971 8-hour) | Maintenance, Serious | 100 | 0 | 79.19 | 189.88 | 161.64 | 220.44 |
| Los Angeles-South Coast Air Basin Area, CA | NO ₂ (1971 Annual) | Maintenance, -- | 100 | 0 | 79.19 | 189.88 | 161.64 | 220.44 |
| Los Angeles-South Coast Air Basin, CA | Ozone (2008 8-hour) | Nonattainment, Extreme | 10 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Los Angeles-South Coast Air Basin, CA | PM2.5 (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 79.16 | 189.83 | 161.59 | 220.38 |
| Lowell Area, MA | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.09 | 0.17 | 0.17 | 0.21 |
| Lucas County (part), OH | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Madison County; Granite City Township and Nameoki Township, IL | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 10.48 | 25.96 | 21.56 | 30.02 |
| Manchester Area, NH | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.07 | 0.13 | 0.13 | 0.16 |
| Maricopa and Pinal Counties; Phoenix planning area, AZ | PM10 (1987 24-hour) | Nonattainment, Serious | 70 | 0 | 2.99 | 5.88 | 5.85 | 7.00 |
| Marion County; Lawrence, Washington, and Warrant Townships, IN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Mariposa County, CA | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Marshall, WV | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 7.64 | 18.93 | 15.72 | 21.90 |
| Medford Area, OR | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.09 | 0.17 | 0.17 | 0.20 |
| Memphis Area, TN | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 8.23 | 20.02 | 16.85 | 23.20 |

Table A1-48
Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Cumulative Impacts
Particulate Matter (PM2.5) 2050

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|---|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Memphis, TN-MS-AR | Ozone (2008 8-hour) | Nonattainment TN & Maintenance MS/AR, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Miami, AZ | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.01 | 0.01 | 0.01 |
| Miami, AZ | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Miami, AZ | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.01 | 0.01 | 0.01 |
| Milwaukee-Racine, WI | PM2.5 (2006 24-hour) | Maintenance, -- | 100 | 0 | 1.14 | 2.32 | 2.24 | 2.75 |
| Minneapolis-St. Paul Area, MN | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 20.65 | 49.89 | 42.23 | 57.87 |
| Missoula Area, MT | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 2.35 | 5.78 | 4.82 | 6.69 |
| Missoula county; Missoula and vicinity, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 2.34 | 5.77 | 4.82 | 6.68 |
| Modesto Area, CA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.16 | 0.33 | 0.32 | 0.39 |
| Mohave County (part); Bullhead City, AZ | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.08 | 0.17 | 0.17 | 0.20 |
| Mono County; Mammoth Lake planning area, CA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.03 | 0.06 | 0.06 | 0.08 |
| Mono County; Mono Basin, CA | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Morenci, AZ | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Morgan County, IN | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.03 | 0.05 | 0.05 | 0.06 |
| Morongo Band of Mission Indians | Ozone (2008 8-hour) | Nonattainment, Serious | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Morristown Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.09 | 0.21 | 0.19 | 0.25 |
| Muscatine County; (part), IA | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Muscatine, IA | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.02 | 0.03 | 0.03 | 0.04 |
| Muskingum River, OH | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.01 | 0.02 | 0.02 | 0.02 |
| Nashua Area, NH | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.07 | 0.13 | 0.13 | 0.15 |
| Nassau County, FL | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.01 | 0.01 | 0.01 |
| Nevada County (Western part), CA | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| New Haven County, CT | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.01 | 0.03 | 0.03 | 0.04 |

Appendix A Air Quality Non-Attainment Area Results

Table A1-48

Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Cumulative Impacts

Particulate Matter (PM2.5) 2050

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| New Haven-Meriden-Waterbury Area, CT | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.71 | 1.40 | 1.39 | 1.67 |
| New Manchester-Grant magisterial district in Hancock County, WV | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| New York County, NY | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.47 | 0.92 | 0.92 | 1.10 |
| New York, NY-NJ-CT | PM2.5 (2006 24-hour) | Maintenance, -- | 100 | 0 | 22.88 | 50.02 | 45.74 | 58.74 |
| New York-N. New Jersey-Long Island Area, NY-NJ-CT | CO (1971 8-hour) | Maintenance, Moderate > 12.7ppm | 100 | 0 | 15.08 | 33.65 | 30.28 | 39.41 |
| New York-N. New Jersey-Long Island, NY-NJ-CT | Ozone (2008 8-hour) | Nonattainment, Moderate | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| NJ portion of the Northeast Pennsylvania-Upper Delaware Valley Interstate AQCR: (part), NJ | SO ₂ (1971 24-hour/Annual) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Nogales, AZ | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.04 | 0.08 | 0.08 | 0.09 |
| Oakridge, OR | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Ogden Area, UT | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.05 | 0.09 | 0.09 | 0.11 |
| Ogden Area, UT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.05 | 0.09 | 0.09 | 0.11 |
| Olmsted County; (part), MN | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.02 | 0.04 | 0.04 | 0.05 |
| Olmsted; City of Rochester, MN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |

Table A1-48

Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Cumulative Impacts

Particulate Matter (PM2.5) 2050

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Pechanga Band of Luiseno Mission Indians of the Pechanga Reservation | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Pekin, IL | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.03 | 0.07 | 0.07 | 0.08 |
| Penns Grove Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Peoria County: Hollis Twp, IL | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Peoria County: Peoria, IL | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Perth Amboy Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 2.03 | 4.97 | 4.16 | 5.75 |
| Philadelphia-Camden County Area, PA-NJ | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 18.93 | 46.53 | 38.87 | 53.86 |
| Philadelphia-Wilmington, PA-NJ-DE | PM2.5 (2006 24-hour) | Maintenance, Moderate for PA and DE Subject to Former Subpart 1 for NJ | 100 | 0 | 69.13 | 169.55 | 141.86 | 196.31 |
| Philadelphia-Wilmington-Atlantic City, PA-NJ-MD-DE | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Phoenix Area, AZ | CO (1971 8-hour) | Maintenance, Serious | 100 | 0 | 2.86 | 5.62 | 5.58 | 6.69 |
| Phoenix-Mesa, AZ | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Pierce County; Tacoma, WA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.18 | 0.44 | 0.37 | 0.51 |
| Pima County; Ajo planning area, AZ | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Pima County; Rillito planning area, AZ | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.06 | 0.11 | 0.11 | 0.13 |
| Pinal and Gila Counties; Payson, AZ | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.03 | 0.06 | 0.06 | 0.07 |
| Pinal County (part); West Pinal, AZ | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.34 | 0.68 | 0.67 | 0.80 |
| Pitkin County; Aspen, CO | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.02 | 0.04 | 0.04 | 0.05 |
| Pittsburgh Area, PA | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.19 | 0.39 | 0.37 | 0.46 |
| Pittsburgh-Beaver Valley, PA | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Pittsburgh-Beaver Valley, PA | PM2.5 (2006 24-hour) | Maintenance, Moderate | 100 | 0 | 2.57 | 5.62 | 5.14 | 6.60 |
| Plumas County, CA | PM2.5 (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Polk County, TN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |

Appendix A Air Quality Non-Attainment Area Results

Table A1-48

Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Cumulative Impacts

Particulate Matter (PM2.5) 2050

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|-------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Portland Area: Portland Metro Service District Boundary, OR | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.97 | 1.92 | 1.91 | 2.29 |
| Power-Bannock Counties; Fort Hall Indian Reservation, ID | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Power-Bannock Counties; Portneuf Valley Area, ID | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.08 | 0.16 | 0.15 | 0.18 |
| Provo Area, UT | CO (1971 8-hour) | Maintenance, Moderate > 12.7ppm | 100 | 0 | 0.06 | 0.12 | 0.11 | 0.14 |
| Provo, UT | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.33 | 0.64 | 0.64 | 0.77 |
| Prowers County; Lamar, CO | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Raleigh-Durham Area, NC | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 1.13 | 2.23 | 2.21 | 2.65 |
| Ramsey County; (part), MN | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.01 |
| Reading, PA | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Reno Area, NV | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.26 | 0.51 | 0.51 | 0.61 |
| Rhinelander, WI | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.04 | 0.08 | 0.08 | 0.09 |
| Riverside County (Coachella Valley), CA | Ozone (2008 8-hour) | Nonattainment, Severe 15 | 25 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Riverside County; Coachella Valley planning area, CA | PM10 (1987 24-hour) | Nonattainment, Serious | 70 | 0 | 0.41 | 0.81 | 0.80 | 0.96 |
| Riverside, Los Angeles, Orange, and San Bernardino Counties; South Coast Air Basin, CA | PM10 (1987 24-hour) | Maintenance, Serious | 100 | 0 | 79.13 | 189.76 | 161.53 | 220.31 |
| Rosebud County; Lame Deer, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.03 | 0.05 | 0.05 | 0.06 |
| Routt County (part); Steamboat Springs, CO | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.38 | 0.92 | 0.77 | 1.07 |
| Sacramento Area, CA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 1.05 | 2.06 | 2.05 | 2.46 |
| Sacramento County, CA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 1.01 | 1.99 | 1.98 | 2.37 |
| Sacramento Metro, CA | Ozone (2008 8-hour) | Nonattainment, Severe 15 | 25 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Sacramento, CA | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 7.28 | 17.06 | 14.78 | 19.87 |
| Salem Area, OR | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.21 | 0.41 | 0.41 | 0.49 |
| Salt Lake City Area, UT | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 3.81 | 9.38 | 7.83 | 10.86 |
| Salt Lake City, UT | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 5.83 | 13.79 | 11.86 | 16.03 |

Table A1-48
Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Cumulative Impacts
Particulate Matter (PM2.5) 2050

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|---|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Salt Lake County, UT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 4.46 | 10.66 | 9.10 | 12.38 |
| Salt Lake County, UT | SO ₂ (1971 24-hour/Annual) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| San Bernardino County (part); excluding Searles Valley Planning area and South Coast Air Basin, CA | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.43 | 0.85 | 0.85 | 1.02 |
| San Diego Area, CA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 2.74 | 5.39 | 5.36 | 6.43 |
| San Diego County, CA | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| San Francisco Bay Area, CA | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| San Francisco Bay Area, CA | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 86.14 | 210.75 | 176.66 | 244.09 |
| San Francisco-Oakland-San Jose Area, CA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 85.67 | 209.84 | 175.75 | 243.00 |
| San Joaquin Valley Air Basin; Fresno, Kern, Kings, Madera, Merced, San Joaquin, Stanislaus, Tulare Counties, CA | PM10 (1987 24-hour) | Maintenance, Serious | 100 | 0 | 6.24 | 13.62 | 12.47 | 16.00 |
| San Joaquin Valley, CA | Ozone (2008 8-hour) | Nonattainment, Extreme | 10 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| San Joaquin Valley, CA | PM2.5 (2006 24-hour) | Nonattainment, Serious | 100 | 0 | 6.24 | 13.62 | 12.47 | 16.00 |
| San Joaquin Valley, CA | PM2.5 (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 6.24 | 13.62 | 12.47 | 16.00 |
| San Luis Obispo (Eastern San Luis Obispo), CA | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| San Manuel, AZ | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| San Miguel County; Telluride, CO | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.01 | 0.02 | 0.02 | 0.02 |
| Sanders County (part); Thompson Falls and vicinity, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Santa Cruz County; Nogales planning area, AZ | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.04 | 0.08 | 0.08 | 0.09 |
| Seaford, DE | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Seattle-Tacoma Area, WA | CO (1971 8-hour) | Maintenance, Moderate > 12.7ppm | 100 | 0 | 2.43 | 4.86 | 4.76 | 5.78 |
| Seattle-Tacoma, WA | PM2.5 (2006 24-hour) | Maintenance, Moderate | 100 | 0 | 0.54 | 1.14 | 1.06 | 1.35 |
| Sheboygan County, WI | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |

Appendix A Air Quality Non-Attainment Area Results

Table A1-48

Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Cumulative Impacts

Particulate Matter (PM2.5) 2050

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|---|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Sheridan County; City of Sheridan, WY | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.02 | 0.04 | 0.04 | 0.05 |
| Shoshone County (part); excluding Pinehurst, ID | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.04 | 0.07 | 0.07 | 0.08 |
| Shoshone County; City of Pinehurst, ID | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Silver Bow County; Butte, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.03 | 0.07 | 0.07 | 0.08 |
| Somerville Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.01 | 0.03 | 0.02 | 0.03 |
| Southwest Indiana, IN | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.01 | 0.02 | 0.02 | 0.02 |
| Spokane Area, WA | CO (1971 8-hour) | Maintenance, Serious | 100 | 0 | 0.23 | 0.45 | 0.45 | 0.54 |
| Spokane County; (part), WA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.24 | 0.47 | 0.47 | 0.56 |
| Springfield Area, MA | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.14 | 0.28 | 0.28 | 0.33 |
| St. Bernard Parish, LA | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 35.31 | 87.52 | 72.65 | 101.21 |
| St. Louis Area, MO | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.70 | 1.37 | 1.36 | 1.63 |
| St. Louis-St. Charles-Farmington, MO-IL | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Steubenville, OH-WV | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.06 | 0.11 | 0.11 | 0.13 |
| Steubenville-Weirton, OH-WV | PM2.5 (2006 24-hour) | Maintenance, -- | 100 | 0 | 0.17 | 0.38 | 0.35 | 0.44 |
| Stockton Area, CA | CO (1971 8-hour) | Maintenance, Moderate ≤ 12.7ppm | 100 | 0 | 0.35 | 0.71 | 0.68 | 0.84 |
| Sullivan County, TN | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.03 | 0.08 | 0.07 | 0.09 |
| Syracuse Area; Onondaga County, NY | CO (1971 8-hour) | Maintenance, Moderate ≤ 12.7ppm | 100 | 0 | 0.45 | 0.90 | 0.89 | 1.07 |
| Tazewell County; Groveland Twp, IL | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Terre Haute, IN | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.66 | 1.63 | 1.36 | 1.88 |

Table A1-48
Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Cumulative Impacts
Particulate Matter (PM2.5) 2050

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|---|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Thurston County; Cities of Olympia, Tumwater, and Lacey, WA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.08 | 0.16 | 0.16 | 0.19 |
| Toms River Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.01 | 0.01 | 0.01 |
| Tooele County (part), UT | SO ₂ (1971 24-hour/Annual) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Trenton Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.07 | 0.14 | 0.14 | 0.17 |
| Trona, CA | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Tucson Area, AZ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.69 | 1.36 | 1.36 | 1.63 |
| Tuscan Buttes, CA | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Union County; LaGrande, OR | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.03 | 0.07 | 0.07 | 0.08 |
| Upper Green River Basin Area, WY | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Utah County, UT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.33 | 0.64 | 0.64 | 0.77 |
| Vancouver Area: Clark County (part), WA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.22 | 0.43 | 0.43 | 0.52 |
| Ventura County, CA | Ozone (2008 8-hour) | Nonattainment, Serious | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Vermillion County; Part of Clinton Township, IN | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Vigo County, IN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Walla Walla County; Wallula, WA | PM10 (1987 24-hour) | Maintenance, Serious | 100 | 0 | 0.00 | 0.01 | 0.01 | 0.01 |
| Waltham Area, MA | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.05 | 0.09 | 0.09 | 0.11 |
| Warren County: Conewago Twp, PA | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Warren County: Warren Boro, Pleasant Twp, Glade Twp, PA | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Warren, PA | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 4.74 | 11.73 | 9.74 | 13.57 |
| Washington Area, DC-MD-VA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.54 | 1.06 | 1.05 | 1.26 |
| Washington, DC-MD-VA | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Washoe County; Reno planning area, NV | PM10 (1987 24-hour) | Nonattainment, Serious | 70 | 0 | 0.26 | 0.51 | 0.50 | 0.60 |

Appendix A Air Quality Non-Attainment Area Results

Table A1-48

**Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Cumulative Impacts
Particulate Matter (PM2.5) 2050**

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|---|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Wayne County: Boston, Center, Franklin, Wayne & Webster Townships, IN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Wayne County; (part), MI | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 3.09 | 7.61 | 6.35 | 8.81 |
| West Central Pinal County, AZ | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.07 | 0.14 | 0.14 | 0.17 |
| West Silver Valley, ID | PM2.5 (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 0.02 | 0.04 | 0.04 | 0.05 |
| Winston-Salem Area, NC | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.30 | 0.59 | 0.59 | 0.71 |
| Worcester Area, MA | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.20 | 0.39 | 0.39 | 0.46 |
| Yakima Area, WA | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.04 | 0.07 | 0.07 | 0.08 |
| Yakima County; (part), WA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.09 | 0.18 | 0.18 | 0.22 |
| Yuba City-Marysville, CA | PM2.5 (2006 24-hour) | Maintenance, Moderate | 100 | 0 | 0.16 | 0.31 | 0.31 | 0.37 |
| Yuma County; Yuma planning area, AZ | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.13 | 0.26 | 0.26 | 0.31 |

^a Reductions are shown as positive values. Negative values are emissions increases. Values of less than 0.005 tons per year are rounded to zero.

^b Nonattainment or maintenance status as of 5/13/2016. Source: U.S. EPA, The Green Book Nonattainment Areas for Criteria Pollutants; <http://www.epa.gov/airquality/greenbook/>. "--" indicates that no severity classification has been established for the NAAQS pollutant.

^c Emissions thresholds in tons per year. Where the threshold differs by precursor pollutant, the smallest of the precursor thresholds is shown. These thresholds are provided for information only; a general conformity determination is not required for the Proposed Action. Source: 40 CFR 93.853.

Notes: CO = carbon monoxide; NAAQS = National Ambient Air Quality Standards; NO₂ = nitrogen dioxide; PM = particulate matter; SO₂ = sulfur dioxide

Table A1-49
Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Cumulative Impacts
Sulfur Dioxide (SO₂) 2018

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Ada County; Boise, ID | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Adams, Denver, and Boulder Counties; Denver Metropolitan area, CO | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.01 | 0.02 | 0.01 | 0.02 |
| Ajo, AZ | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Albuquerque Area, NM | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.01 | 0.01 | 0.01 |
| Allegheny County Air Basin: Hazelwood monitor, PA | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Allegheny County, PA | PM2.5 (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.01 | 0.01 | 0.01 |
| Allegheny County; The area including Liberty, Lincoln, Port Vue, and Glassport Boroughs and the City of Clairton, PA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Allegheny, PA | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Allentown, PA | PM2.5 (2006 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.01 | 0.01 | 0.01 |
| Allentown-Bethlehem-Easton, PA | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Anchorage Area, AK | CO (1971 8-hour) | Maintenance, Serious | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Anchorage; Eagle River, AK | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| AQCR 012: Portions of Grant County, NM | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| AQCR 109-Millinocket, ME | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| AQCR 131: Anoka, Carver, Dakota, Hennepin, Ramsey, Scott, and Washington counties (Minneapolis-St. Paul), MN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| AQCR 237: Brown County: Green Bay sub-city area, WI | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| AQCR 238: Marathon County: Rothschild Sub-city area, Rib Mountain, Weston, WI | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| AQCR 238: Oneida County: Rhinelander Sub-city area, WI | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| AQCR 239: Milwaukee County: Milwaukee sub-city area, WI | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |

Appendix A Air Quality Non-Attainment Area Results

Table A1-49

Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Cumulative Impacts

Sulfur Dioxide (SO₂) 2018

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| AQCR 240: Dane County: Madison sub-city area, WI | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Archuleta County; Pagosa Springs, CO | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Armstrong County: Madison Twp, Mahoning Twp, Boggs Twp, Washington Twp, Pine Twp, PA | SO ₂ (1971 24-hour/Annual) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Aroostock County; City of Presque Isle, ME | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Atlanta, GA | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Atlantic City Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Bakersfield Area, CA | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.11 | 0.16 | 0.19 | 0.23 |
| Baltimore Area, MD | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Baltimore, MD | Ozone (2008 8-hour) | Nonattainment, Moderate | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Baton Rouge, LA | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Beaver, PA | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Benton County; (part) TVA Johnsonville, TN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Billings Area, MT | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 1.01 | 1.52 | 1.76 | 2.11 |
| Billings, MT | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 1.00 | 1.52 | 1.76 | 2.11 |
| Birmingham, AL | PM2.5 (2006 24-hour) | Maintenance, -- | 100 | 0 | 0.01 | 0.01 | 0.01 | 0.02 |
| Boise-Northern Ada County Area, ID | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Bonner County; The Sandpoint Area, ID | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Boston Area, MA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.03 | 0.05 | 0.05 | 0.06 |
| Boyd County (part), KY | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Brooke; Follansbee area, WV | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Burlington Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Calaveras County, CA | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Campbell-Clermont Counties, KY-OH | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |

Table A1-49
Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Cumulative Impacts
Sulfur Dioxide (SO₂) 2018

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|---|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Canton-Massillon, OH | PM2.5 (2006 24-hour) | Maintenance, -- | 100 | 0 | 0.10 | 0.15 | 0.17 | 0.20 |
| Central New Hampshire, NH | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Central Steptoe Valley, NV | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Charleston, WV | PM2.5 (2006 24-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Charlotte Area, NC | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.01 | 0.01 | 0.01 | 0.02 |
| Charlotte-Rock Hill, NC-SC | Ozone (2008 8-hour) | Maintenance, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Chicago-Naperville, IL-IN-WI | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Chico (Butte County), CA | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Chico Area, CA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Chico, CA | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Cincinnati, OH-KY-IN | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Clark County; Las Vegas planning area, NV | PM10 (1987 24-hour) | Maintenance, Serious | 100 | 0 | 0.01 | 0.02 | 0.02 | 0.02 |
| Cleveland Area, OH | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.06 | 0.10 | 0.11 | 0.13 |
| Cleveland, OH | PM2.5 (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 0.06 | 0.10 | 0.11 | 0.14 |
| Cleveland-Akron-Lorain, OH | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Cleveland-Akron-Lorain, OH | PM2.5 (2006 24-hour) | Maintenance, -- | 100 | 0 | 0.07 | 0.12 | 0.13 | 0.16 |
| Cochise County; Paul Spur/Douglas planning area, AZ | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Colorado Springs Area, CO | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.01 | 0.01 | 0.01 |
| Columbus, OH | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Cook County; Lyons Township, IL | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Cook County; Southeast Chicago, IL | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Coshocton County; Franklin Township, OH | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Coso Junction, CA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Cuyahoga County (part), OH | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Cuyahoga County, OH | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.06 | 0.10 | 0.11 | 0.13 |

Appendix A Air Quality Non-Attainment Area Results

Table A1-49

Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Cumulative Impacts

Sulfur Dioxide (SO₂) 2018

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Dallas-Fort Worth, TX | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Delaware County, PA | PM2.5 (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 2.23 | 3.38 | 3.90 | 4.68 |
| Denver-Boulder Area, CO | CO (1971 8-hour) | Maintenance, Serious | 100 | 0 | 0.14 | 0.22 | 0.25 | 0.30 |
| Denver-Boulder-Greeley-Ft Collins-Loveland, CO | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Detroit Area, MI | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.10 | 0.15 | 0.18 | 0.21 |
| Detroit, MI | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.09 | 0.14 | 0.16 | 0.19 |
| Detroit-Ann Arbor, MI | PM2.5 (2006 24-hour) | Maintenance, -- | 100 | 0 | 0.11 | 0.19 | 0.21 | 0.25 |
| Dona Ana County; Anthony, NM | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Douglas, AZ | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Dukes County, MA | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Duluth Area, MN | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| East Chicago Area, IN | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.43 | 0.65 | 0.75 | 0.90 |
| East Helena Area, MT | SO ₂ (1971 24-hour/Annual) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| East Kern County Area, CA | PM10 (1987 24-hour) | Nonattainment, Serious | 70 | 0 | 0.11 | 0.16 | 0.18 | 0.22 |
| El Paso County, TX | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.06 | 0.09 | 0.10 | 0.12 |
| El Paso, TX | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.06 | 0.09 | 0.10 | 0.12 |
| Eugene-Springfield Area, OR | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Fairbanks Area, AK | CO (1971 8-hour) | Maintenance, Serious | 100 | 0 | 0.01 | 0.01 | 0.01 | 0.01 |
| Fairbanks, AK | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.01 | 0.01 | 0.01 | 0.01 |

Table A1-49
Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Cumulative Impacts
Sulfur Dioxide (SO₂) 2018

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|---|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Flathead County; Columbia Falls and vicinity, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Flathead County; Kalispell and vicinity, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Flathead County; Whitefish and vicinity, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Fort Collins Area, CO | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Freehold Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Fremont County; Canon City Area, CO | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Fresno Area, CA | CO (1971 8-hour) | Maintenance, Moderate > 12.7ppm | 100 | 0 | 0.00 | 0.01 | 0.01 | 0.01 |
| Grants Pass Area, OR | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Great Falls Area, MT | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.01 | 0.01 | 0.01 | 0.01 |
| Greater Connecticut, CT | Ozone (2008 8-hour) | Nonattainment, Moderate | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Greeley Area, CO | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.01 | 0.01 | 0.01 |
| Hancock and Brooke Counties (Part); The city of Weirton, WV | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Hancock County (Part) The city of Weirton, including Butler and Clay: Magisterial Districts, WV | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Harrisburg-Lebanon-Carlisle-York, PA | PM2.5 (2006 24-hour) | Maintenance, Moderate | 100 | 0 | 0.01 | 0.01 | 0.01 | 0.02 |
| Hartford-New Britain-Middletown Area, CT | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.01 | 0.01 | 0.01 | 0.01 |
| Hayden, AZ | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Hayden, AZ | SO ₂ (1971 24-hour/Annual) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Hayden, AZ | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Hillsborough County, FL | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Houston-Galveston-Brazoria, TX | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Humphreys County; (part) TVA Johnsonville, TN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Imperial Co, CA | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |

Appendix A Air Quality Non-Attainment Area Results

Table A1-49

Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Cumulative Impacts

Sulfur Dioxide (SO₂) 2018

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Imperial County, CA | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Imperial County, CA | PM2.5 (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Imperial County; Imperial Valley planning area, CA | PM10 (1987 24-hour) | Nonattainment, Serious | 70 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Indian Wells, CA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.11 | 0.16 | 0.18 | 0.22 |
| Indiana, PA | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Indianapolis Area, IN | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Indianapolis, IN | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.01 |
| Inyo County; Owens Valley planning area, CA | PM10 (1987 24-hour) | Nonattainment, Serious | 70 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Jackson County, MO | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Jackson County; Medford-Ashland (including White City), OR | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Jamestown, NY | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Jefferson County, KY | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Jefferson County, MO | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Jefferson County; (part) Steubenville & Mingo Junction, OH | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Jefferson County; (part), OH | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Johnstown, PA | PM2.5 (2006 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Josephine County; Grants Pass, OR | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Juneau; Mendenhall Valley area, AK | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Kern County (Eastern Kern), CA | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| King County; Kent, WA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| King County; Seattle, WA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Klamath County; Klamath Falls, OR | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Klamath Falls Area, OR | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Klamath Falls, OR | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |

Table A1-49
Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Cumulative Impacts
Sulfur Dioxide (SO₂) 2018

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Knoxville, TN | Ozone (2008 8-hour) | Maintenance, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Knoxville-Sevierville-La Follette, TN | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.01 | 0.01 | 0.01 |
| La Porte County: (part), IN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lake County (part); Lakeview, OR | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lake County, OH | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lake County: (part), IN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lake County; (part) Eastlake, Timberlake, Lakeline, Willoughby, Mentor, OH | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lake County; Cities of East Chicago, Hammond, Whiting, and Gary, IN | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.43 | 0.65 | 0.75 | 0.90 |
| Lake County; Polson, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lake County; Ronan, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lake Tahoe Nevada Area, NV | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lake Tahoe North Shore Area, CA | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lake Tahoe South Shore Area, CA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lancaster, PA | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lancaster, PA | PM2.5 (2006 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.01 | 0.01 | 0.01 |
| Lane County (part); Oakridge, OR | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lane County; Eugene/Springfield, OR | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Las Vegas Area, NV | CO (1971 8-hour) | Maintenance, Serious | 100 | 0 | 0.01 | 0.02 | 0.02 | 0.02 |
| LaSalle County; Oglesby, IL | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Laurel Area, MT | SO ₂ (1971 24-hour/Annual) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lebanon County, PA | PM2.5 (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lemont, IL | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 1.63 | 2.47 | 2.85 | 3.42 |
| Liberty-Clairton, PA | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |

Appendix A Air Quality Non-Attainment Area Results

Table A1-49

Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Cumulative Impacts

Sulfur Dioxide (SO₂) 2018

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Lincoln County; Libby and vicinity, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Logan, UT-ID | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Longmont Area, CO | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lorain County (part), OH | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Los Angeles, CA | PM2.5 (2006 24-hour) | Nonattainment, Serious | 100 | 0 | 1.23 | 1.91 | 2.17 | 2.62 |
| Los Angeles-San Bernardino Counties (West Mojave Desert), CA | Ozone (2008 8-hour) | Nonattainment, Severe 15 | 25 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Los Angeles-South Coast Air Basin Area, CA | CO (1971 8-hour) | Maintenance, Serious | 100 | 0 | 1.23 | 1.91 | 2.17 | 2.62 |
| Los Angeles-South Coast Air Basin Area, CA | NO ₂ (1971 Annual) | Maintenance, -- | 100 | 0 | 1.23 | 1.91 | 2.17 | 2.62 |
| Los Angeles-South Coast Air Basin, CA | Ozone (2008 8-hour) | Nonattainment, Extreme | 10 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Los Angeles-South Coast Air Basin, CA | PM2.5 (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 1.23 | 1.91 | 2.17 | 2.62 |
| Lowell Area, MA | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lucas County (part), OH | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Madison County; Granite City Township and Nameoki Township, IL | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 1.21 | 1.83 | 2.12 | 2.54 |
| Manchester Area, NH | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Maricopa and Pinal Counties; Phoenix planning area, AZ | PM10 (1987 24-hour) | Nonattainment, Serious | 70 | 0 | 0.02 | 0.04 | 0.04 | 0.04 |
| Marion County; Lawrence, Washington, and Warrant Townships, IN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Mariposa County, CA | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Marshall, WV | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 6.37 | 9.65 | 11.14 | 13.36 |
| Medford Area, OR | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Memphis Area, TN | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.03 | 0.05 | 0.05 | 0.06 |

Table A1-49
Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Cumulative Impacts
Sulfur Dioxide (SO₂) 2018

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|---|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Memphis, TN-MS-AR | Ozone (2008 8-hour) | Nonattainment TN & Maintenance MS/AR, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Miami, AZ | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Miami, AZ | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Miami, AZ | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Milwaukee-Racine, WI | PM2.5 (2006 24-hour) | Maintenance, -- | 100 | 0 | 0.01 | 0.01 | 0.01 | 0.01 |
| Minneapolis-St. Paul Area, MN | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.15 | 0.23 | 0.26 | 0.32 |
| Missoula Area, MT | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Missoula county; Missoula and vicinity, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Modesto Area, CA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Mohave County (part); Bullhead City, AZ | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Mono County; Mammoth Lake planning area, CA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Mono County; Mono Basin, CA | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Morenci, AZ | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Morgan County, IN | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Morongo Band of Mission Indians | Ozone (2008 8-hour) | Nonattainment, Serious | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Morristown Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Muscatine County; (part), IA | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Muscatine, IA | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Muskingum River, OH | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Nashua Area, NH | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Nassau County, FL | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Nevada County (Western part), CA | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| New Haven County, CT | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |

Appendix A Air Quality Non-Attainment Area Results

Table A1-49

Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Cumulative Impacts

Sulfur Dioxide (SO₂) 2018

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| New Haven-Meriden-Waterbury Area, CT | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.01 | 0.01 | 0.01 |
| New Manchester-Grant magisterial district in Hancock County, WV | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| New York County, NY | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.01 | 0.01 | 0.01 |
| New York, NY-NJ-CT | PM2.5 (2006 24-hour) | Maintenance, -- | 100 | 0 | 0.23 | 0.40 | 0.43 | 0.53 |
| New York-N. New Jersey-Long Island Area, NY-NJ-CT | CO (1971 8-hour) | Maintenance, Moderate > 12.7ppm | 100 | 0 | 0.07 | 0.14 | 0.14 | 0.18 |
| New York-N. New Jersey-Long Island, NY-NJ-CT | Ozone (2008 8-hour) | Nonattainment, Moderate | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| NJ portion of the Northeast Pennsylvania-Upper Delaware Valley Interstate AQCR: (part), NJ | SO ₂ (1971 24-hour/Annual) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Nogales, AZ | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Oakridge, OR | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Ogden Area, UT | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Ogden Area, UT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Olmsted County; (part), MN | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Olmsted; City of Rochester, MN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |

Table A1-49
Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Cumulative Impacts
Sulfur Dioxide (SO₂) 2018

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Pechanga Band of Luiseno Mission Indians of the Pechanga Reservation | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Pekin, IL | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Penns Grove Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Peoria County: Hollis Twp, IL | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Peoria County: Peoria, IL | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Perth Amboy Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.13 | 0.19 | 0.22 | 0.27 |
| Philadelphia-Camden County Area, PA-NJ | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.25 | 0.39 | 0.44 | 0.53 |
| Philadelphia-Wilmington, PA-NJ-DE | PM _{2.5} (2006 24-hour) | Maintenance, Moderate for PA and DE Subject to Former Subpart 1 for NJ | 100 | 0 | 2.66 | 4.05 | 4.66 | 5.59 |
| Philadelphia-Wilmington-Atlantic City, PA-NJ-MD-DE | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Phoenix Area, AZ | CO (1971 8-hour) | Maintenance, Serious | 100 | 0 | 0.02 | 0.03 | 0.03 | 0.04 |
| Phoenix-Mesa, AZ | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Pierce County; Tacoma, WA | PM ₁₀ (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Pima County; Ajo planning area, AZ | PM ₁₀ (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Pima County; Rillito planning area, AZ | PM ₁₀ (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Pinal and Gila Counties; Payson, AZ | PM ₁₀ (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Pinal County (part); West Pinal, AZ | PM ₁₀ (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Pitkin County; Aspen, CO | PM ₁₀ (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Pittsburgh Area, PA | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Pittsburgh-Beaver Valley, PA | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Pittsburgh-Beaver Valley, PA | PM _{2.5} (2006 24-hour) | Maintenance, Moderate | 100 | 0 | 0.08 | 0.13 | 0.15 | 0.18 |
| Plumas County, CA | PM _{2.5} (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Polk County, TN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |

Appendix A Air Quality Non-Attainment Area Results

Table A1-49

Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Cumulative Impacts

Sulfur Dioxide (SO₂) 2018

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|-------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Portland Area: Portland Metro Service District Boundary, OR | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.01 | 0.01 | 0.01 | 0.02 |
| Power-Bannock Counties; Fort Hall Indian Reservation, ID | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Power-Bannock Counties; Portneuf Valley Area, ID | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Provo Area, UT | CO (1971 8-hour) | Maintenance, Moderate > 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Provo, UT | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Prowers County; Lamar, CO | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Raleigh-Durham Area, NC | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.01 | 0.01 | 0.01 | 0.02 |
| Ramsey County; (part), MN | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Reading, PA | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Reno Area, NV | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Rhinelander, WI | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Riverside County (Coachella Valley), CA | Ozone (2008 8-hour) | Nonattainment, Severe 15 | 25 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Riverside County; Coachella Valley planning area, CA | PM10 (1987 24-hour) | Nonattainment, Serious | 70 | 0 | 0.00 | 0.01 | 0.01 | 0.01 |
| Riverside, Los Angeles, Orange, and San Bernardino Counties; South Coast Air Basin, CA | PM10 (1987 24-hour) | Maintenance, Serious | 100 | 0 | 1.23 | 1.91 | 2.17 | 2.62 |
| Rosebud County; Lame Deer, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Routt County (part); Steamboat Springs, CO | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Sacramento Area, CA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.01 | 0.01 | 0.01 | 0.02 |
| Sacramento County, CA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.01 | 0.01 | 0.01 | 0.02 |
| Sacramento Metro, CA | Ozone (2008 8-hour) | Nonattainment, Severe 15 | 25 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Sacramento, CA | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 1.23 | 1.87 | 2.16 | 2.59 |
| Salem Area, OR | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Salt Lake City Area, UT | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.85 | 1.28 | 1.48 | 1.77 |
| Salt Lake City, UT | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.99 | 1.51 | 1.74 | 2.08 |

Table A1-49

Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Cumulative Impacts

Sulfur Dioxide (SO₂) 2018

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|---|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Salt Lake County, UT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.85 | 1.29 | 1.49 | 1.78 |
| Salt Lake County, UT | SO ₂ (1971 24-hour/Annual) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| San Bernardino County (part); excluding Searles Valley Planning area and South Coast Air Basin, CA | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.01 | 0.01 | 0.01 |
| San Diego Area, CA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.02 | 0.03 | 0.03 | 0.04 |
| San Diego County, CA | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| San Francisco Bay Area, CA | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| San Francisco Bay Area, CA | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 1.72 | 2.62 | 3.01 | 3.61 |
| San Francisco-Oakland-San Jose Area, CA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 1.71 | 2.61 | 3.00 | 3.61 |
| San Joaquin Valley Air Basin; Fresno, Kern, Kings, Madera, Merced, San Joaquin, Stanislaus, Tulare Counties, CA | PM10 (1987 24-hour) | Maintenance, Serious | 100 | 0 | 0.13 | 0.20 | 0.23 | 0.28 |
| San Joaquin Valley, CA | Ozone (2008 8-hour) | Nonattainment, Extreme | 10 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| San Joaquin Valley, CA | PM2.5 (2006 24-hour) | Nonattainment, Serious | 100 | 0 | 0.13 | 0.20 | 0.23 | 0.28 |
| San Joaquin Valley, CA | PM2.5 (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 0.13 | 0.20 | 0.23 | 0.28 |
| San Luis Obispo (Eastern San Luis Obispo), CA | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| San Manuel, AZ | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| San Miguel County; Telluride, CO | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Sanders County (part); Thompson Falls and vicinity, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Santa Cruz County; Nogales planning area, AZ | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Seaford, DE | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Seattle-Tacoma Area, WA | CO (1971 8-hour) | Maintenance, Moderate > 12.7ppm | 100 | 0 | 0.01 | 0.03 | 0.03 | 0.03 |
| Seattle-Tacoma, WA | PM2.5 (2006 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.01 |
| Sheboygan County, WI | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |

Appendix A Air Quality Non-Attainment Area Results

Table A1-49

Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Cumulative Impacts

Sulfur Dioxide (SO₂) 2018

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|---|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Sheridan County; City of Sheridan, WY | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Shoshone County (part); excluding Pinehurst, ID | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Shoshone County; City of Pinehurst, ID | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Silver Bow County; Butte, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Somerville Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Southwest Indiana, IN | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Spokane Area, WA | CO (1971 8-hour) | Maintenance, Serious | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Spokane County; (part), WA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Springfield Area, MA | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| St. Bernard Parish, LA | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.22 | 0.33 | 0.38 | 0.46 |
| St. Louis Area, MO | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.01 | 0.01 | 0.01 |
| St. Louis-St. Charles-Farmington, MO-IL | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Steubenville, OH-WV | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Steubenville-Weirton, OH-WV | PM2.5 (2006 24-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Stockton Area, CA | CO (1971 8-hour) | Maintenance, Moderate ≤ 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.01 |
| Sullivan County, TN | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.01 | 0.02 | 0.02 | 0.02 |
| Syracuse Area; Onondaga County, NY | CO (1971 8-hour) | Maintenance, Moderate ≤ 12.7ppm | 100 | 0 | 0.00 | 0.01 | 0.01 | 0.01 |
| Tazewell County; Groveland Twp, IL | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Terre Haute, IN | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |

Table A1-49
Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Cumulative Impacts
Sulfur Dioxide (SO₂) 2018

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|---|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Thurston County; Cities of Olympia, Tumwater, and Lacey, WA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Toms River Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Tooele County (part), UT | SO ₂ (1971 24-hour/Annual) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Trenton Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Trona, CA | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Tucson Area, AZ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.01 | 0.01 | 0.01 |
| Tuscan Buttes, CA | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Union County; LaGrande, OR | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Upper Green River Basin Area, WY | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Utah County, UT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Vancouver Area: Clark County (part), WA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Ventura County, CA | Ozone (2008 8-hour) | Nonattainment, Serious | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Vermillion County; Part of Clinton Township, IN | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Vigo County, IN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Walla Walla County; Wallula, WA | PM10 (1987 24-hour) | Maintenance, Serious | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Waltham Area, MA | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Warren County: Conewago Twp, PA | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Warren County: Warren Boro, Pleasant Twp, Glade Twp, PA | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Warren, PA | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 1.04 | 1.57 | 1.82 | 2.18 |
| Washington Area, DC-MD-VA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.01 | 0.01 | 0.01 |
| Washington, DC-MD-VA | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Washoe County; Reno planning area, NV | PM10 (1987 24-hour) | Nonattainment, Serious | 70 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |

Appendix A Air Quality Non-Attainment Area Results

Table A1-49

Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Cumulative Impacts

Sulfur Dioxide (SO₂) 2018

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|---|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Wayne County: Boston, Center, Franklin, Wayne & Webster Townships, IN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Wayne County; (part), MI | PM ₁₀ (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.09 | 0.14 | 0.16 | 0.19 |
| West Central Pinal County, AZ | PM _{2.5} (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| West Silver Valley, ID | PM _{2.5} (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Winston-Salem Area, NC | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Worcester Area, MA | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Yakima Area, WA | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Yakima County; (part), WA | PM ₁₀ (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Yuba City-Marysville, CA | PM _{2.5} (2006 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Yuma County; Yuma planning area, AZ | PM ₁₀ (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |

^a Reductions are shown as positive values. Negative values are emissions increases. Values of less than 0.005 tons per year are rounded to zero.

^b Nonattainment or maintenance status as of 5/13/2016. Source: U.S. EPA, The Green Book Nonattainment Areas for Criteria Pollutants; <http://www.epa.gov/airquality/greenbook/>. "--" indicates that no severity classification has been established for the NAAQS pollutant.

^c Emissions thresholds in tons per year. Where the threshold differs by precursor pollutant, the smallest of the precursor thresholds is shown. These thresholds are provided for information only; a general conformity determination is not required for the Proposed Action. Source: 40 CFR 93.853.

Notes: CO = carbon monoxide; NAAQS = National Ambient Air Quality Standards; NO₂ = nitrogen dioxide; PM = particulate matter; SO₂ = sulfur dioxide

Table A1-50
Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Cumulative Impacts
Sulfur Dioxide (SO₂) 2025

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Ada County; Boise, ID | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.09 | 0.19 | 0.20 | 0.31 |
| Adams, Denver, and Boulder Counties; Denver Metropolitan area, CO | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.42 | 0.90 | 0.97 | 1.48 |
| Ajo, AZ | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Albuquerque Area, NM | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.19 | 0.41 | 0.44 | 0.66 |
| Allegheny County Air Basin: Hazelwood monitor, PA | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Allegheny County, PA | PM2.5 (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 0.23 | 0.49 | 0.53 | 0.81 |
| Allegheny County; The area including Liberty, Lincoln, Port Vue, and Glassport Boroughs and the City of Clairton, PA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.01 | 0.01 | 0.01 |
| Allegheny, PA | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.02 | 0.04 | 0.05 | 0.07 |
| Allentown, PA | PM2.5 (2006 24-hour) | Maintenance, Moderate | 100 | 0 | 0.16 | 0.33 | 0.36 | 0.55 |
| Allentown-Bethlehem-Easton, PA | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Anchorage Area, AK | CO (1971 8-hour) | Maintenance, Serious | 100 | 0 | 0.03 | 0.07 | 0.07 | 0.11 |
| Anchorage; Eagle River, AK | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.01 |
| AQCR 012: Portions of Grant County, NM | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| AQCR 109-Millinocket, ME | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| AQCR 131: Anoka, Carver, Dakota, Hennepin, Ramsey, Scott, and Washington counties (Minneapolis-St. Paul), MN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| AQCR 237: Brown County: Green Bay sub-city area, WI | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| AQCR 238: Marathon County: Rothschild Sub-city area, Rib Mountain, Weston, WI | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| AQCR 238: Oneida County: Rhinelander Sub-city area, WI | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| AQCR 239: Milwaukee County: Milwaukee sub-city area, WI | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |

Appendix A Air Quality Non-Attainment Area Results

Table A1-50

Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Cumulative Impacts

Sulfur Dioxide (SO₂) 2025

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| AQCR 240: Dane County: Madison sub-city area, WI | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Archuleta County; Pagosa Springs, CO | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.01 | 0.01 | 0.02 | 0.02 |
| Armstrong County: Madison Twp, Mahoning Twp, Boggs Twp, Washington Twp, Pine Twp, PA | SO ₂ (1971 24-hour/Annual) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Aroostock County; City of Presque Isle, ME | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.01 | 0.01 | 0.01 |
| Atlanta, GA | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Atlantic City Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.02 | 0.03 | 0.03 | 0.05 |
| Bakersfield Area, CA | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 2.58 | 5.19 | 5.65 | 8.20 |
| Baltimore Area, MD | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.01 | 0.01 | 0.01 |
| Baltimore, MD | Ozone (2008 8-hour) | Nonattainment, Moderate | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Baton Rouge, LA | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Beaver, PA | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.01 | 0.01 | 0.01 |
| Benton County; (part) TVA Johnsonville, TN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Billings Area, MT | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 23.31 | 46.76 | 50.93 | 73.71 |
| Billings, MT | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 23.28 | 46.71 | 50.87 | 73.63 |
| Birmingham, AL | PM2.5 (2006 24-hour) | Maintenance, -- | 100 | 0 | 0.38 | 0.80 | 0.87 | 1.32 |
| Boise-Northern Ada County Area, ID | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.09 | 0.19 | 0.20 | 0.31 |
| Bonner County; The Sandpoint Area, ID | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.01 | 0.01 | 0.01 |
| Boston Area, MA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.79 | 1.61 | 1.75 | 2.57 |
| Boyd County (part), KY | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Brooke; Follansbee area, WV | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Burlington Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.01 | 0.01 | 0.01 |
| Calaveras County, CA | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Campbell-Clermont Counties, KY-OH | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.01 | 0.02 | 0.02 | 0.03 |

Table A1-50
Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Cumulative Impacts
Sulfur Dioxide (SO₂) 2025

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|---|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Canton-Massillon, OH | PM2.5 (2006 24-hour) | Maintenance, -- | 100 | 0 | 2.28 | 4.59 | 5.00 | 7.25 |
| Central New Hampshire, NH | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.06 | 0.13 | 0.14 | 0.21 |
| Central Steptoe Valley, NV | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Charleston, WV | PM2.5 (2006 24-hour) | Maintenance, -- | 100 | 0 | 0.10 | 0.22 | 0.24 | 0.36 |
| Charlotte Area, NC | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.35 | 0.76 | 0.81 | 1.24 |
| Charlotte-Rock Hill, NC-SC | Ozone (2008 8-hour) | Maintenance, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Chicago-Naperville, IL-IN-WI | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Chico (Butte County), CA | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Chico Area, CA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.02 | 0.05 | 0.05 | 0.08 |
| Chico, CA | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.05 | 0.12 | 0.12 | 0.19 |
| Cincinnati, OH-KY-IN | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Clark County; Las Vegas planning area, NV | PM10 (1987 24-hour) | Maintenance, Serious | 100 | 0 | 0.44 | 0.94 | 1.01 | 1.54 |
| Cleveland Area, OH | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 1.62 | 3.30 | 3.58 | 5.23 |
| Cleveland, OH | PM2.5 (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 1.71 | 3.47 | 3.77 | 5.52 |
| Cleveland-Akron-Lorain, OH | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Cleveland-Akron-Lorain, OH | PM2.5 (2006 24-hour) | Maintenance, -- | 100 | 0 | 2.11 | 4.35 | 4.71 | 6.95 |
| Cochise County; Paul Spur/Douglas planning area, AZ | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.01 | 0.02 | 0.03 | 0.04 |
| Colorado Springs Area, CO | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.15 | 0.32 | 0.35 | 0.53 |
| Columbus, OH | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Cook County; Lyons Township, IL | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.02 | 0.04 | 0.05 | 0.07 |
| Cook County; Southeast Chicago, IL | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.02 | 0.05 | 0.06 | 0.09 |
| Coshocton County; Franklin Township, OH | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Coso Junction, CA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Cuyahoga County (part), OH | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Cuyahoga County, OH | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 1.62 | 3.29 | 3.58 | 5.23 |

Appendix A Air Quality Non-Attainment Area Results

Table A1-50

Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Cumulative Impacts

Sulfur Dioxide (SO₂) 2025

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Dallas-Fort Worth, TX | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Delaware County, PA | PM2.5 (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 51.73 | 103.81 | 113.05 | 163.64 |
| Denver-Boulder Area, CO | CO (1971 8-hour) | Maintenance, Serious | 100 | 0 | 3.72 | 7.55 | 8.21 | 12.00 |
| Denver-Boulder-Greeley-Ft Collins-Loveland, CO | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Detroit Area, MI | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 2.56 | 5.20 | 5.65 | 8.26 |
| Detroit, MI | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 2.18 | 4.39 | 4.78 | 6.94 |
| Detroit-Ann Arbor, MI | PM2.5 (2006 24-hour) | Maintenance, -- | 100 | 0 | 3.49 | 7.20 | 7.80 | 11.53 |
| Dona Ana County; Anthony, NM | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.01 | 0.01 | 0.01 |
| Douglas, AZ | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Dukes County, MA | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Duluth Area, MN | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.03 | 0.07 | 0.07 | 0.11 |
| East Chicago Area, IN | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 9.95 | 19.97 | 21.75 | 31.48 |
| East Helena Area, MT | SO ₂ (1971 24-hour/Annual) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| East Kern County Area, CA | PM10 (1987 24-hour) | Nonattainment, Serious | 70 | 0 | 2.45 | 4.91 | 5.34 | 7.74 |
| El Paso County, TX | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 1.43 | 2.88 | 3.14 | 4.56 |
| El Paso, TX | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 1.31 | 2.64 | 2.87 | 4.16 |
| Eugene-Springfield Area, OR | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.06 | 0.13 | 0.14 | 0.22 |
| Fairbanks Area, AK | CO (1971 8-hour) | Maintenance, Serious | 100 | 0 | 0.13 | 0.27 | 0.29 | 0.42 |
| Fairbanks, AK | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.14 | 0.28 | 0.31 | 0.45 |

Table A1-50
Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Cumulative Impacts
Sulfur Dioxide (SO₂) 2025

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|---|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Flathead County; Columbia Falls and vicinity, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Flathead County; Kalispell and vicinity, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.01 | 0.02 | 0.02 | 0.04 |
| Flathead County; Whitefish and vicinity, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Fort Collins Area, CO | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.03 | 0.07 | 0.08 | 0.12 |
| Freehold Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.01 | 0.01 | 0.02 | 0.02 |
| Fremont County; Canon City Area, CO | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.01 | 0.02 | 0.03 | 0.04 |
| Fresno Area, CA | CO (1971 8-hour) | Maintenance, Moderate > 12.7ppm | 100 | 0 | 0.16 | 0.34 | 0.37 | 0.56 |
| Grants Pass Area, OR | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.01 | 0.03 | 0.03 | 0.04 |
| Great Falls Area, MT | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.13 | 0.26 | 0.28 | 0.41 |
| Greater Connecticut, CT | Ozone (2008 8-hour) | Nonattainment, Moderate | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Greeley Area, CO | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.13 | 0.28 | 0.31 | 0.46 |
| Hancock and Brooke Counties (Part); The city of Weirton, WV | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.03 | 0.05 | 0.06 | 0.09 |
| Hancock County (Part) The city of Weirton, including Butler and Clay: Magisterial Districts, WV | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Harrisburg-Lebanon-Carlisle-York, PA | PM2.5 (2006 24-hour) | Maintenance, Moderate | 100 | 0 | 0.36 | 0.76 | 0.82 | 1.25 |
| Hartford-New Britain-Middletown Area, CT | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.31 | 0.67 | 0.72 | 1.10 |
| Hayden, AZ | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Hayden, AZ | SO ₂ (1971 24-hour/Annual) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Hayden, AZ | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Hillsborough County, FL | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.01 | 0.01 | 0.01 |
| Houston-Galveston-Brazoria, TX | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Humphreys County; (part) TVA Johnsonville, TN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Imperial Co, CA | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.06 | 0.12 | 0.13 | 0.20 |

Appendix A Air Quality Non-Attainment Area Results

Table A1-50

Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Cumulative Impacts

Sulfur Dioxide (SO₂) 2025

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Imperial County, CA | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Imperial County, CA | PM2.5 (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 0.06 | 0.12 | 0.13 | 0.20 |
| Imperial County; Imperial Valley planning area, CA | PM10 (1987 24-hour) | Nonattainment, Serious | 70 | 0 | 0.07 | 0.15 | 0.16 | 0.25 |
| Indian Wells, CA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 2.45 | 4.91 | 5.34 | 7.74 |
| Indiana, PA | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.03 | 0.06 | 0.06 | 0.09 |
| Indianapolis Area, IN | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Indianapolis, IN | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.14 | 0.29 | 0.31 | 0.48 |
| Inyo County; Owens Valley planning area, CA | PM10 (1987 24-hour) | Nonattainment, Serious | 70 | 0 | 0.00 | 0.00 | 0.00 | 0.01 |
| Jackson County, MO | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.01 | 0.03 | 0.03 | 0.05 |
| Jackson County; Medford-Ashland (including White City), OR | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.05 | 0.11 | 0.12 | 0.18 |
| Jamestown, NY | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Jefferson County, KY | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Jefferson County, MO | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.01 | 0.03 | 0.03 | 0.05 |
| Jefferson County; (part) Steubenville & Mingo Junction, OH | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Jefferson County; (part), OH | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Johnstown, PA | PM2.5 (2006 24-hour) | Maintenance, Moderate | 100 | 0 | 0.03 | 0.07 | 0.08 | 0.12 |
| Josephine County; Grants Pass, OR | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.01 | 0.03 | 0.03 | 0.04 |
| Juneau; Mendenhall Valley area, AK | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.01 | 0.01 | 0.01 |
| Kern County (Eastern Kern), CA | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| King County; Kent, WA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.01 | 0.01 | 0.01 | 0.02 |
| King County; Seattle, WA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.01 | 0.01 | 0.01 |
| Klamath County; Klamath Falls, OR | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.02 | 0.04 | 0.04 | 0.07 |
| Klamath Falls Area, OR | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.02 | 0.04 | 0.04 | 0.06 |
| Klamath Falls, OR | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.02 | 0.04 | 0.05 | 0.07 |

Table A1-50
Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Cumulative Impacts
Sulfur Dioxide (SO₂) 2025

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Knoxville, TN | Ozone (2008 8-hour) | Maintenance, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Knoxville-Sevierville-La Follette, TN | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.28 | 0.59 | 0.64 | 0.97 |
| La Porte County: (part), IN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lake County (part); Lakeview, OR | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.01 |
| Lake County, OH | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.08 | 0.16 | 0.17 | 0.27 |
| Lake County: (part), IN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lake County; (part) Eastlake, Timberlake, Lakeline, Willoughby, Mentor, OH | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lake County; Cities of East Chicago, Hammond, Whiting, and Gary, IN | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 10.00 | 20.07 | 21.86 | 31.64 |
| Lake County; Polson, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lake County; Ronan, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lake Tahoe Nevada Area, NV | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.01 | 0.01 | 0.01 | 0.02 |
| Lake Tahoe North Shore Area, CA | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.01 | 0.01 | 0.01 |
| Lake Tahoe South Shore Area, CA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.01 | 0.02 | 0.02 | 0.03 |
| Lancaster, PA | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lancaster, PA | PM2.5 (2006 24-hour) | Maintenance, Moderate | 100 | 0 | 0.14 | 0.31 | 0.33 | 0.51 |
| Lane County (part); Oakridge, OR | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lane County; Eugene/Springfield, OR | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.06 | 0.13 | 0.14 | 0.22 |
| Las Vegas Area, NV | CO (1971 8-hour) | Maintenance, Serious | 100 | 0 | 0.44 | 0.94 | 1.01 | 1.54 |
| LaSalle County; Oglesby, IL | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.01 | 0.02 | 0.02 | 0.03 |
| Laurel Area, MT | SO ₂ (1971 24-hour/Annual) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lebanon County, PA | PM2.5 (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 0.05 | 0.11 | 0.12 | 0.18 |
| Lemont, IL | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 37.79 | 75.82 | 82.58 | 119.53 |
| Liberty-Clairton, PA | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.01 | 0.01 | 0.01 |

Appendix A Air Quality Non-Attainment Area Results

Table A1-50

Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Cumulative Impacts

Sulfur Dioxide (SO₂) 2025

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Lincoln County; Libby and vicinity, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.01 |
| Logan, UT-ID | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.03 | 0.05 | 0.06 | 0.09 |
| Longmont Area, CO | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.02 | 0.04 | 0.05 | 0.07 |
| Lorain County (part), OH | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Los Angeles, CA | PM2.5 (2006 24-hour) | Nonattainment, Serious | 100 | 0 | 31.04 | 62.86 | 68.34 | 99.67 |
| Los Angeles-San Bernardino Counties (West Mojave Desert), CA | Ozone (2008 8-hour) | Nonattainment, Severe 15 | 25 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Los Angeles-South Coast Air Basin Area, CA | CO (1971 8-hour) | Maintenance, Serious | 100 | 0 | 31.04 | 62.87 | 68.35 | 99.68 |
| Los Angeles-South Coast Air Basin Area, CA | NO ₂ (1971 Annual) | Maintenance, -- | 100 | 0 | 31.04 | 62.87 | 68.35 | 99.68 |
| Los Angeles-South Coast Air Basin, CA | Ozone (2008 8-hour) | Nonattainment, Extreme | 10 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Los Angeles-South Coast Air Basin, CA | PM2.5 (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 31.04 | 62.86 | 68.34 | 99.65 |
| Lowell Area, MA | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.03 | 0.06 | 0.07 | 0.10 |
| Lucas County (part), OH | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Madison County; Granite City Township and Nameoki Township, IL | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 28.04 | 56.26 | 61.27 | 88.69 |
| Manchester Area, NH | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.02 | 0.05 | 0.06 | 0.09 |
| Maricopa and Pinal Counties; Phoenix planning area, AZ | PM10 (1987 24-hour) | Nonattainment, Serious | 70 | 0 | 1.01 | 2.16 | 2.33 | 3.55 |
| Marion County; Lawrence, Washington, and Warrant Townships, IN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Mariposa County, CA | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Marshall, WV | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 147.55 | 296.04 | 322.40 | 466.65 |
| Medford Area, OR | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.03 | 0.06 | 0.06 | 0.09 |
| Memphis Area, TN | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.82 | 1.68 | 1.82 | 2.68 |

Table A1-50
Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Cumulative Impacts
Sulfur Dioxide (SO₂) 2025

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|---|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Memphis, TN-MS-AR | Ozone (2008 8-hour) | Nonattainment TN & Maintenance MS/AR, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Miami, AZ | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.01 | 0.01 | 0.01 |
| Miami, AZ | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Miami, AZ | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.01 | 0.01 | 0.01 |
| Milwaukee-Racine, WI | PM2.5 (2006 24-hour) | Maintenance, -- | 100 | 0 | 0.33 | 0.71 | 0.77 | 1.17 |
| Minneapolis-St. Paul Area, MN | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 3.96 | 8.06 | 8.75 | 12.82 |
| Missoula Area, MT | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.03 | 0.05 | 0.06 | 0.09 |
| Missoula county; Missoula and vicinity, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.02 | 0.05 | 0.06 | 0.08 |
| Modesto Area, CA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.06 | 0.12 | 0.13 | 0.20 |
| Mohave County (part); Bullhead City, AZ | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.03 | 0.06 | 0.06 | 0.09 |
| Mono County; Mammoth Lake planning area, CA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.01 | 0.02 | 0.02 | 0.03 |
| Mono County; Mono Basin, CA | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Morenci, AZ | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Morgan County, IN | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.01 | 0.02 | 0.02 | 0.04 |
| Morongo Band of Mission Indians | Ozone (2008 8-hour) | Nonattainment, Serious | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Morristown Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.01 | 0.02 | 0.03 | 0.04 |
| Muscatine County; (part), IA | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Muscatine, IA | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.01 | 0.01 | 0.01 | 0.02 |
| Muskingum River, OH | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.01 | 0.01 |
| Nashua Area, NH | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.02 | 0.05 | 0.05 | 0.07 |
| Nassau County, FL | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.01 |
| Nevada County (Western part), CA | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| New Haven County, CT | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.01 | 0.01 | 0.01 | 0.02 |

Appendix A Air Quality Non-Attainment Area Results

Table A1-50

Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Cumulative Impacts

Sulfur Dioxide (SO₂) 2025

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| New Haven-Meriden-Waterbury Area, CT | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.24 | 0.51 | 0.55 | 0.84 |
| New Manchester-Grant magisterial district in Hancock County, WV | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| New York County, NY | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.16 | 0.34 | 0.36 | 0.55 |
| New York, NY-NJ-CT | PM2.5 (2006 24-hour) | Maintenance, -- | 100 | 0 | 8.08 | 16.82 | 18.19 | 27.11 |
| New York-N. New Jersey-Long Island Area, NY-NJ-CT | CO (1971 8-hour) | Maintenance, Moderate > 12.7ppm | 100 | 0 | 3.20 | 6.76 | 7.29 | 10.99 |
| New York-N. New Jersey-Long Island, NY-NJ-CT | Ozone (2008 8-hour) | Nonattainment, Moderate | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| NJ portion of the Northeast Pennsylvania-Upper Delaware Valley Interstate AQCR: (part), NJ | SO ₂ (1971 24-hour/Annual) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Nogales, AZ | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.01 | 0.03 | 0.03 | 0.04 |
| Oakridge, OR | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Ogden Area, UT | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.02 | 0.03 | 0.04 | 0.05 |
| Ogden Area, UT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.02 | 0.03 | 0.04 | 0.05 |
| Olmsted County; (part), MN | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.01 | 0.02 | 0.02 | 0.03 |
| Olmsted; City of Rochester, MN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |

Table A1-50
Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Cumulative Impacts
Sulfur Dioxide (SO₂) 2025

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Pechanga Band of Luiseno Mission Indians of the Pechanga Reservation | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Pekin, IL | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.01 | 0.02 | 0.03 | 0.04 |
| Penns Grove Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Peoria County: Hollis Twp, IL | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Peoria County: Peoria, IL | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Perth Amboy Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 2.94 | 5.91 | 6.44 | 9.32 |
| Philadelphia-Camden County Area, PA-NJ | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 6.03 | 12.14 | 13.22 | 19.17 |
| Philadelphia-Wilmington, PA-NJ-DE | PM _{2.5} (2006 24-hour) | Maintenance, Moderate for PA and DE Subject to Former Subpart 1 for NJ | 100 | 0 | 62.39 | 125.35 | 136.48 | 197.75 |
| Philadelphia-Wilmington-Atlantic City, PA-NJ-MD-DE | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Phoenix Area, AZ | CO (1971 8-hour) | Maintenance, Serious | 100 | 0 | 0.96 | 2.07 | 2.23 | 3.40 |
| Phoenix-Mesa, AZ | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Pierce County; Tacoma, WA | PM ₁₀ (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Pima County; Ajo planning area, AZ | PM ₁₀ (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Pima County; Rillito planning area, AZ | PM ₁₀ (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.02 | 0.04 | 0.04 | 0.06 |
| Pinal and Gila Counties; Payson, AZ | PM ₁₀ (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.01 | 0.02 | 0.02 | 0.03 |
| Pinal County (part); West Pinal, AZ | PM ₁₀ (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.11 | 0.24 | 0.26 | 0.39 |
| Pitkin County; Aspen, CO | PM ₁₀ (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.01 | 0.01 | 0.02 | 0.02 |
| Pittsburgh Area, PA | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.05 | 0.12 | 0.13 | 0.19 |
| Pittsburgh-Beaver Valley, PA | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Pittsburgh-Beaver Valley, PA | PM _{2.5} (2006 24-hour) | Maintenance, Moderate | 100 | 0 | 2.24 | 4.56 | 4.95 | 7.25 |
| Plumas County, CA | PM _{2.5} (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.01 |
| Polk County, TN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |

Appendix A Air Quality Non-Attainment Area Results

Table A1-50

Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Cumulative Impacts

Sulfur Dioxide (SO₂) 2025

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|-------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Portland Area: Portland Metro Service District Boundary, OR | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.33 | 0.71 | 0.76 | 1.16 |
| Power-Bannock Counties; Fort Hall Indian Reservation, ID | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Power-Bannock Counties; Portneuf Valley Area, ID | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.03 | 0.05 | 0.06 | 0.09 |
| Provo Area, UT | CO (1971 8-hour) | Maintenance, Moderate > 12.7ppm | 100 | 0 | 0.02 | 0.04 | 0.05 | 0.07 |
| Provo, UT | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.11 | 0.24 | 0.25 | 0.39 |
| Prowers County; Lamar, CO | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.01 | 0.01 | 0.02 |
| Raleigh-Durham Area, NC | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.38 | 0.82 | 0.88 | 1.34 |
| Ramsey County; (part), MN | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Reading, PA | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Reno Area, NV | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.09 | 0.20 | 0.21 | 0.32 |
| Rhinelander, WI | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.01 | 0.02 | 0.02 | 0.03 |
| Riverside County (Coachella Valley), CA | Ozone (2008 8-hour) | Nonattainment, Severe 15 | 25 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Riverside County; Coachella Valley planning area, CA | PM10 (1987 24-hour) | Nonattainment, Serious | 70 | 0 | 0.15 | 0.31 | 0.34 | 0.51 |
| Riverside, Los Angeles, Orange, and San Bernardino Counties; South Coast Air Basin, CA | PM10 (1987 24-hour) | Maintenance, Serious | 100 | 0 | 31.02 | 62.83 | 68.30 | 99.60 |
| Rosebud County; Lame Deer, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.01 | 0.01 | 0.02 |
| Routt County (part); Steamboat Springs, CO | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.01 | 0.02 | 0.02 | 0.03 |
| Sacramento Area, CA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.37 | 0.80 | 0.86 | 1.31 |
| Sacramento County, CA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.34 | 0.73 | 0.79 | 1.20 |
| Sacramento Metro, CA | Ozone (2008 8-hour) | Nonattainment, Severe 15 | 25 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Sacramento, CA | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 28.95 | 58.18 | 63.34 | 91.79 |
| Salem Area, OR | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.07 | 0.15 | 0.16 | 0.24 |
| Salt Lake City Area, UT | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 19.60 | 39.34 | 42.84 | 62.01 |
| Salt Lake City, UT | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 23.25 | 46.71 | 50.86 | 73.69 |

Table A1-50
Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Cumulative Impacts
Sulfur Dioxide (SO₂) 2025

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|---|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Salt Lake County, UT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 19.82 | 39.80 | 43.33 | 62.77 |
| Salt Lake County, UT | SO ₂ (1971 24-hour/Annual) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| San Bernardino County (part); excluding Searles Valley Planning area and South Coast Air Basin, CA | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.17 | 0.36 | 0.39 | 0.59 |
| San Diego Area, CA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.92 | 1.98 | 2.13 | 3.25 |
| San Diego County, CA | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| San Francisco Bay Area, CA | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| San Francisco Bay Area, CA | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 40.85 | 82.20 | 89.47 | 129.82 |
| San Francisco-Oakland-San Jose Area, CA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 40.69 | 81.87 | 89.12 | 129.28 |
| San Joaquin Valley Air Basin; Fresno, Kern, Kings, Madera, Merced, San Joaquin, Stanislaus, Tulare Counties, CA | PM10 (1987 24-hour) | Maintenance, Serious | 100 | 0 | 3.66 | 7.52 | 8.15 | 12.01 |
| San Joaquin Valley, CA | Ozone (2008 8-hour) | Nonattainment, Extreme | 10 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| San Joaquin Valley, CA | PM2.5 (2006 24-hour) | Nonattainment, Serious | 100 | 0 | 3.66 | 7.52 | 8.15 | 12.01 |
| San Joaquin Valley, CA | PM2.5 (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 3.66 | 7.52 | 8.15 | 12.01 |
| San Luis Obispo (Eastern San Luis Obispo), CA | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| San Manuel, AZ | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| San Miguel County; Telluride, CO | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.01 | 0.01 | 0.01 |
| Sanders County (part); Thompson Falls and vicinity, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Santa Cruz County; Nogales planning area, AZ | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.01 | 0.03 | 0.03 | 0.04 |
| Seaford, DE | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Seattle-Tacoma Area, WA | CO (1971 8-hour) | Maintenance, Moderate > 12.7ppm | 100 | 0 | 0.76 | 1.63 | 1.75 | 2.67 |
| Seattle-Tacoma, WA | PM2.5 (2006 24-hour) | Maintenance, Moderate | 100 | 0 | 0.12 | 0.26 | 0.28 | 0.43 |
| Sheboygan County, WI | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |

Appendix A Air Quality Non-Attainment Area Results

Table A1-50

Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Cumulative Impacts

Sulfur Dioxide (SO₂) 2025

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|---|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Sheridan County; City of Sheridan, WY | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.01 | 0.02 | 0.02 | 0.02 |
| Shoshone County (part); excluding Pinehurst, ID | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.01 | 0.03 | 0.03 | 0.04 |
| Shoshone County; City of Pinehurst, ID | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Silver Bow County; Butte, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.01 | 0.02 | 0.03 | 0.04 |
| Somerville Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.01 | 0.01 | 0.02 |
| Southwest Indiana, IN | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.01 | 0.01 | 0.01 |
| Spokane Area, WA | CO (1971 8-hour) | Maintenance, Serious | 100 | 0 | 0.08 | 0.17 | 0.18 | 0.28 |
| Spokane County; (part), WA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.08 | 0.18 | 0.19 | 0.29 |
| Springfield Area, MA | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.04 | 0.10 | 0.10 | 0.16 |
| St. Bernard Parish, LA | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 5.04 | 10.11 | 11.01 | 15.94 |
| St. Louis Area, MO | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.24 | 0.52 | 0.56 | 0.85 |
| St. Louis-St. Charles-Farmington, MO-IL | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Steubenville, OH-WV | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.02 | 0.04 | 0.04 | 0.06 |
| Steubenville-Weirton, OH-WV | PM2.5 (2006 24-hour) | Maintenance, -- | 100 | 0 | 0.06 | 0.12 | 0.13 | 0.19 |
| Stockton Area, CA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.11 | 0.23 | 0.25 | 0.37 |
| Sullivan County, TN | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.27 | 0.53 | 0.58 | 0.84 |
| Syracuse Area; Onondaga County, NY | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.15 | 0.32 | 0.35 | 0.53 |
| Tazewell County; Groveland Twp, IL | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Terre Haute, IN | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.02 | 0.03 | 0.04 | 0.06 |

Table A1-50
Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Cumulative Impacts
Sulfur Dioxide (SO₂) 2025

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|---|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Thurston County; Cities of Olympia, Tumwater, and Lacey, WA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.03 | 0.06 | 0.06 | 0.10 |
| Toms River Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Tooele County (part), UT | SO ₂ (1971 24-hour/Annual) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Trenton Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.02 | 0.05 | 0.05 | 0.08 |
| Trona, CA | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Tucson Area, AZ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.23 | 0.50 | 0.54 | 0.82 |
| Tuscan Buttes, CA | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Union County; LaGrande, OR | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.01 | 0.02 | 0.02 | 0.03 |
| Upper Green River Basin Area, WY | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Utah County, UT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.11 | 0.24 | 0.25 | 0.39 |
| Vancouver Area: Clark County (part), WA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.07 | 0.16 | 0.17 | 0.26 |
| Ventura County, CA | Ozone (2008 8-hour) | Nonattainment, Serious | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Vermillion County; Part of Clinton Township, IN | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.01 | 0.01 | 0.01 | 0.02 |
| Vigo County, IN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Walla Walla County; Wallula, WA | PM10 (1987 24-hour) | Maintenance, Serious | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Waltham Area, MA | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.02 | 0.03 | 0.04 | 0.05 |
| Warren County: Conewago Twp, PA | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Warren County: Warren Boro, Pleasant Twp, Glade Twp, PA | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Warren, PA | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 24.06 | 48.26 | 52.56 | 76.08 |
| Washington Area, DC-MD-VA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.18 | 0.39 | 0.42 | 0.64 |
| Washington, DC-MD-VA | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Washoe County; Reno planning area, NV | PM10 (1987 24-hour) | Nonattainment, Serious | 70 | 0 | 0.09 | 0.19 | 0.21 | 0.32 |

Appendix A Air Quality Non-Attainment Area Results

Table A1-50

Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Cumulative Impacts

Sulfur Dioxide (SO₂) 2025

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|---|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Wayne County: Boston, Center, Franklin, Wayne & Webster Townships, IN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Wayne County; (part), MI | PM ₁₀ (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 2.12 | 4.26 | 4.64 | 6.72 |
| West Central Pinal County, AZ | PM _{2.5} (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.02 | 0.05 | 0.05 | 0.08 |
| West Silver Valley, ID | PM _{2.5} (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 0.01 | 0.01 | 0.01 | 0.02 |
| Winston-Salem Area, NC | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.10 | 0.22 | 0.23 | 0.36 |
| Worcester Area, MA | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.06 | 0.13 | 0.14 | 0.22 |
| Yakima Area, WA | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.01 | 0.02 | 0.02 | 0.04 |
| Yakima County; (part), WA | PM ₁₀ (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.03 | 0.07 | 0.07 | 0.11 |
| Yuba City-Marysville, CA | PM _{2.5} (2006 24-hour) | Maintenance, Moderate | 100 | 0 | 0.05 | 0.11 | 0.12 | 0.18 |
| Yuma County; Yuma planning area, AZ | PM ₁₀ (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.05 | 0.10 | 0.10 | 0.16 |

^a Reductions are shown as positive values. Negative values are emissions increases. Values of less than 0.005 tons per year are rounded to zero.

^b Nonattainment or maintenance status as of 5/13/2016. Source: U.S. EPA, The Green Book Nonattainment Areas for Criteria Pollutants; <http://www.epa.gov/airquality/greenbook/>. "--" indicates that no severity classification has been established for the NAAQS pollutant.

^c Emissions thresholds in tons per year. Where the threshold differs by precursor pollutant, the smallest of the precursor thresholds is shown. These thresholds are provided for information only; a general conformity determination is not required for the Proposed Action. Source: 40 CFR 93.853.

Notes: CO = carbon monoxide; NAAQS = National Ambient Air Quality Standards; NO₂ = nitrogen dioxide; PM = particulate matter; SO₂ = sulfur dioxide

Table A1-51
Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Cumulative Impacts
Sulfur Dioxide (SO₂) 2040

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Ada County; Boise, ID | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.32 | 0.80 | 0.66 | 0.94 |
| Adams, Denver, and Boulder Counties; Denver Metropolitan area, CO | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 1.54 | 3.88 | 3.21 | 4.56 |
| Ajo, AZ | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Albuquerque Area, NM | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.69 | 1.74 | 1.44 | 2.04 |
| Allegheny County Air Basin: Hazelwood monitor, PA | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Allegheny County, PA | PM2.5 (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 0.84 | 2.11 | 1.75 | 2.48 |
| Allegheny County; The area including Liberty, Lincoln, Port Vue, and Glassport Boroughs and the City of Clairton, PA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.01 | 0.02 | 0.02 | 0.03 |
| Allegheny, PA | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.06 | 0.14 | 0.12 | 0.17 |
| Allentown, PA | PM2.5 (2006 24-hour) | Maintenance, Moderate | 100 | 0 | 0.57 | 1.43 | 1.18 | 1.68 |
| Allentown-Bethlehem-Easton, PA | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Anchorage Area, AK | CO (1971 8-hour) | Maintenance, Serious | 100 | 0 | 0.11 | 0.28 | 0.23 | 0.33 |
| Anchorage; Eagle River, AK | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.01 | 0.02 | 0.01 | 0.02 |
| AQCR 012: Portions of Grant County, NM | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| AQCR 109-Millinocket, ME | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| AQCR 131: Anoka, Carver, Dakota, Hennepin, Ramsey, Scott, and Washington counties (Minneapolis-St. Paul), MN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| AQCR 237: Brown County: Green Bay sub-city area, WI | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| AQCR 238: Marathon County: Rothschild Sub-city area, Rib Mountain, Weston, WI | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| AQCR 238: Oneida County: Rhinelander Sub-city area, WI | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| AQCR 239: Milwaukee County: Milwaukee sub-city area, WI | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |

Appendix A Air Quality Non-Attainment Area Results

Table A1-51

Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Cumulative Impacts

Sulfur Dioxide (SO₂) 2040

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| AQCR 240: Dane County: Madison sub-city area, WI | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Archuleta County; Pagosa Springs, CO | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.02 | 0.06 | 0.05 | 0.07 |
| Armstrong County: Madison Twp, Mahoning Twp, Boggs Twp, Washington Twp, Pine Twp, PA | SO ₂ (1971 24-hour/Annual) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Aroostock County; City of Presque Isle, ME | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.02 | 0.04 | 0.03 | 0.05 |
| Atlanta, GA | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Atlantic City Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.05 | 0.14 | 0.11 | 0.16 |
| Bakersfield Area, CA | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 8.57 | 20.78 | 17.63 | 24.54 |
| Baltimore Area, MD | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.01 | 0.03 | 0.03 | 0.04 |
| Baltimore, MD | Ozone (2008 8-hour) | Nonattainment, Moderate | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Baton Rouge, LA | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Beaver, PA | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.02 | 0.04 | 0.03 | 0.05 |
| Benton County; (part) TVA Johnsonville, TN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Billings Area, MT | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 77.08 | 186.34 | 158.37 | 220.22 |
| Billings, MT | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 76.99 | 186.13 | 158.20 | 219.97 |
| Birmingham, AL | PM2.5 (2006 24-hour) | Maintenance, -- | 100 | 0 | 1.37 | 3.44 | 2.85 | 4.04 |
| Boise-Northern Ada County Area, ID | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.32 | 0.80 | 0.66 | 0.94 |
| Bonner County; The Sandpoint Area, ID | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.01 | 0.03 | 0.02 | 0.03 |
| Boston Area, MA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 2.70 | 6.60 | 5.56 | 7.78 |
| Boyd County (part), KY | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Brooke; Follansbee area, WV | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Burlington Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.01 | 0.02 | 0.01 | 0.02 |
| Calaveras County, CA | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Campbell-Clermont Counties, KY-OH | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.04 | 0.09 | 0.08 | 0.11 |

Table A1-51
Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Cumulative Impacts
Sulfur Dioxide (SO₂) 2040

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|---|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Canton-Massillon, OH | PM2.5 (2006 24-hour) | Maintenance, -- | 100 | 0 | 7.58 | 18.36 | 15.58 | 21.69 |
| Central New Hampshire, NH | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.22 | 0.56 | 0.46 | 0.66 |
| Central Steptoe Valley, NV | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Charleston, WV | PM2.5 (2006 24-hour) | Maintenance, -- | 100 | 0 | 0.37 | 0.94 | 0.78 | 1.11 |
| Charlotte Area, NC | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 1.29 | 3.25 | 2.69 | 3.82 |
| Charlotte-Rock Hill, NC-SC | Ozone (2008 8-hour) | Maintenance, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Chicago-Naperville, IL-IN-WI | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Chico (Butte County), CA | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Chico Area, CA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.10 | 0.24 | 0.20 | 0.28 |
| Chico, CA | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.20 | 0.50 | 0.41 | 0.59 |
| Cincinnati, OH-KY-IN | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Clark County; Las Vegas planning area, NV | PM10 (1987 24-hour) | Maintenance, Serious | 100 | 0 | 1.61 | 4.06 | 3.36 | 4.77 |
| Cleveland Area, OH | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 5.47 | 13.32 | 11.26 | 15.72 |
| Cleveland, OH | PM2.5 (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 5.76 | 14.06 | 11.87 | 16.59 |
| Cleveland-Akron-Lorain, OH | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Cleveland-Akron-Lorain, OH | PM2.5 (2006 24-hour) | Maintenance, -- | 100 | 0 | 7.26 | 17.83 | 14.99 | 21.02 |
| Cochise County; Paul Spur/Douglas planning area, AZ | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.04 | 0.10 | 0.09 | 0.12 |
| Colorado Springs Area, CO | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.55 | 1.39 | 1.15 | 1.63 |
| Columbus, OH | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Cook County; Lyons Township, IL | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.07 | 0.18 | 0.15 | 0.22 |
| Cook County; Southeast Chicago, IL | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.08 | 0.20 | 0.16 | 0.23 |
| Coshocton County; Franklin Township, OH | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Coso Junction, CA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Cuyahoga County (part), OH | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Cuyahoga County, OH | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 5.46 | 13.31 | 11.25 | 15.71 |

Appendix A Air Quality Non-Attainment Area Results

Table A1-51

Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Cumulative Impacts

Sulfur Dioxide (SO₂) 2040

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Dallas-Fort Worth, TX | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Delaware County, PA | PM2.5 (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 171.12 | 413.71 | 351.61 | 488.92 |
| Denver-Boulder Area, CO | CO (1971 8-hour) | Maintenance, Serious | 100 | 0 | 12.54 | 30.57 | 25.84 | 36.09 |
| Denver-Boulder-Greeley-Ft Collins-Loveland, CO | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Detroit Area, MI | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 8.45 | 20.57 | 17.40 | 24.29 |
| Detroit, MI | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 7.31 | 17.71 | 15.03 | 20.92 |
| Detroit-Ann Arbor, MI | PM2.5 (2006 24-hour) | Maintenance, -- | 100 | 0 | 12.03 | 29.60 | 24.87 | 34.89 |
| Dona Ana County; Anthony, NM | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.01 | 0.03 | 0.02 | 0.03 |
| Douglas, AZ | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Dukes County, MA | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Duluth Area, MN | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.13 | 0.32 | 0.26 | 0.37 |
| East Chicago Area, IN | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 32.92 | 79.59 | 67.64 | 94.05 |
| East Helena Area, MT | SO ₂ (1971 24-hour/Annual) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| East Kern County Area, CA | PM10 (1987 24-hour) | Nonattainment, Serious | 70 | 0 | 8.08 | 19.54 | 16.61 | 23.10 |
| El Paso County, TX | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 4.75 | 11.53 | 9.77 | 13.62 |
| El Paso, TX | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 4.34 | 10.50 | 8.92 | 12.41 |
| Eugene-Springfield Area, OR | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.24 | 0.60 | 0.49 | 0.70 |
| Fairbanks Area, AK | CO (1971 8-hour) | Maintenance, Serious | 100 | 0 | 0.44 | 1.07 | 0.91 | 1.26 |
| Fairbanks, AK | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.47 | 1.13 | 0.96 | 1.33 |

Table A1-51
Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Cumulative Impacts
Sulfur Dioxide (SO₂) 2040

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|---|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Flathead County; Columbia Falls and vicinity, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Flathead County; Kalispell and vicinity, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.04 | 0.10 | 0.08 | 0.11 |
| Flathead County; Whitefish and vicinity, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.01 | 0.01 | 0.01 |
| Fort Collins Area, CO | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.12 | 0.30 | 0.25 | 0.35 |
| Freehold Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.03 | 0.07 | 0.06 | 0.08 |
| Fremont County; Canon City Area, CO | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.04 | 0.10 | 0.08 | 0.12 |
| Fresno Area, CA | CO (1971 8-hour) | Maintenance, Moderate > 12.7ppm | 100 | 0 | 0.58 | 1.45 | 1.20 | 1.70 |
| Grants Pass Area, OR | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.05 | 0.12 | 0.10 | 0.14 |
| Great Falls Area, MT | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.43 | 1.04 | 0.88 | 1.23 |
| Greater Connecticut, CT | Ozone (2008 8-hour) | Nonattainment, Moderate | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Greeley Area, CO | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.48 | 1.20 | 1.00 | 1.41 |
| Hancock and Brooke Counties (Part); The city of Weirton, WV | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.09 | 0.22 | 0.18 | 0.25 |
| Hancock County (Part) The city of Weirton, including Butler and Clay: Magisterial Districts, WV | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Harrisburg-Lebanon-Carlisle-York, PA | PM2.5 (2006 24-hour) | Maintenance, Moderate | 100 | 0 | 1.30 | 3.28 | 2.71 | 3.86 |
| Hartford-New Britain-Middletown Area, CT | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 1.15 | 2.90 | 2.39 | 3.40 |
| Hayden, AZ | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.01 | 0.01 | 0.01 |
| Hayden, AZ | SO ₂ (1971 24-hour/Annual) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Hayden, AZ | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.01 | 0.00 | 0.01 |
| Hillsborough County, FL | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.02 | 0.04 | 0.03 | 0.05 |
| Houston-Galveston-Brazoria, TX | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Humphreys County; (part) TVA Johnsonville, TN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Imperial Co, CA | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.21 | 0.54 | 0.45 | 0.64 |

Appendix A Air Quality Non-Attainment Area Results

Table A1-51

Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Cumulative Impacts

Sulfur Dioxide (SO₂) 2040

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Imperial County, CA | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Imperial County, CA | PM2.5 (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 0.21 | 0.54 | 0.45 | 0.64 |
| Imperial County; Imperial Valley planning area, CA | PM10 (1987 24-hour) | Nonattainment, Serious | 70 | 0 | 0.26 | 0.66 | 0.54 | 0.77 |
| Indian Wells, CA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 8.08 | 19.54 | 16.61 | 23.09 |
| Indiana, PA | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.09 | 0.24 | 0.20 | 0.28 |
| Indianapolis Area, IN | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Indianapolis, IN | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.48 | 1.21 | 1.00 | 1.42 |
| Inyo County; Owens Valley planning area, CA | PM10 (1987 24-hour) | Nonattainment, Serious | 70 | 0 | 0.01 | 0.02 | 0.02 | 0.02 |
| Jackson County, MO | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.06 | 0.14 | 0.11 | 0.16 |
| Jackson County; Medford-Ashland (including White City), OR | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.20 | 0.49 | 0.41 | 0.58 |
| Jamestown, NY | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Jefferson County, KY | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Jefferson County, MO | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.05 | 0.13 | 0.11 | 0.16 |
| Jefferson County; (part) Steubenville & Mingo Junction, OH | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Jefferson County; (part), OH | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.01 | 0.01 | 0.01 |
| Johnstown, PA | PM2.5 (2006 24-hour) | Maintenance, Moderate | 100 | 0 | 0.13 | 0.32 | 0.26 | 0.37 |
| Josephine County; Grants Pass, OR | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.05 | 0.12 | 0.10 | 0.14 |
| Juneau; Mendenhall Valley area, AK | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.01 | 0.02 | 0.02 | 0.03 |
| Kern County (Eastern Kern), CA | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| King County; Kent, WA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.02 | 0.06 | 0.05 | 0.07 |
| King County; Seattle, WA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.01 | 0.02 | 0.02 | 0.02 |
| Klamath County; Klamath Falls, OR | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.08 | 0.20 | 0.17 | 0.24 |
| Klamath Falls Area, OR | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.08 | 0.20 | 0.17 | 0.24 |
| Klamath Falls, OR | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.09 | 0.22 | 0.18 | 0.26 |

Table A1-51
Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Cumulative Impacts
Sulfur Dioxide (SO₂) 2040

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Knoxville, TN | Ozone (2008 8-hour) | Maintenance, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Knoxville-Sevierville-La Follette, TN | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 1.01 | 2.55 | 2.11 | 3.00 |
| La Porte County: (part), IN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lake County (part); Lakeview, OR | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.01 | 0.02 | 0.01 | 0.02 |
| Lake County, OH | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.28 | 0.70 | 0.58 | 0.82 |
| Lake County: (part), IN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lake County; (part) Eastlake, Timberlake, Lakeline, Willoughby, Mentor, OH | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lake County; Cities of East Chicago, Hammond, Whiting, and Gary, IN | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 33.06 | 79.95 | 67.94 | 94.48 |
| Lake County; Polson, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.01 | 0.00 | 0.01 |
| Lake County; Ronan, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lake Tahoe Nevada Area, NV | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.02 | 0.04 | 0.03 | 0.05 |
| Lake Tahoe North Shore Area, CA | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.01 | 0.02 | 0.02 | 0.03 |
| Lake Tahoe South Shore Area, CA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.02 | 0.06 | 0.05 | 0.07 |
| Lancaster, PA | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lancaster, PA | PM2.5 (2006 24-hour) | Maintenance, Moderate | 100 | 0 | 0.53 | 1.34 | 1.11 | 1.57 |
| Lane County (part); Oakridge, OR | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lane County; Eugene/Springfield, OR | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.24 | 0.60 | 0.49 | 0.70 |
| Las Vegas Area, NV | CO (1971 8-hour) | Maintenance, Serious | 100 | 0 | 1.61 | 4.05 | 3.35 | 4.76 |
| LaSalle County; Oglesby, IL | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.04 | 0.09 | 0.08 | 0.11 |
| Laurel Area, MT | SO ₂ (1971 24-hour/Annual) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lebanon County, PA | PM2.5 (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 0.18 | 0.46 | 0.38 | 0.54 |
| Lemont, IL | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 124.99 | 302.18 | 256.82 | 357.11 |
| Liberty-Clairton, PA | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.01 | 0.02 | 0.02 | 0.03 |

Appendix A Air Quality Non-Attainment Area Results

Table A1-51

Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Cumulative Impacts

Sulfur Dioxide (SO₂) 2040

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|---------------------------------------|--|---|---|--------|--------------------|----------|----------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Lincoln County; Libby and vicinity, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.01 | 0.01 | 0.01 | 0.02 |
| Logan, UT-ID | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.09 | 0.24 | 0.20 | 0.28 |
| Longmont Area, CO | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.08 | 0.20 | 0.16 | 0.23 |
| Lorain County (part), OH | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Los Angeles, CA | PM2.5 (2006 24-hour) | Nonattainment, Serious | 100 | 0 | 104.19 | 253.46 | 214.53 | 299.26 |
| Los Angeles-San Bernardino Counties (West Mojave Desert), CA | Ozone (2008 8-hour) | Nonattainment, Severe 15 | 25 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Los Angeles-South Coast Air Basin Area, CA | CO (1971 8-hour) | Maintenance, Serious | 100 | 0 | 104.20 | 253.48 | 214.55 | 299.29 |
| Los Angeles-South Coast Air Basin Area, CA | NO ₂ (1971 Annual) | Maintenance, -- | 100 | 0 | 104.20 | 253.48 | 214.55 | 299.29 |
| Los Angeles-South Coast Air Basin, CA | Ozone (2008 8-hour) | Nonattainment, Extreme | 10 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Los Angeles-South Coast Air Basin, CA | PM2.5 (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 104.17 | 253.40 | 214.49 | 299.20 |
| Lowell Area, MA | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.11 | 0.27 | 0.22 | 0.32 |
| Lucas County (part), OH | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Madison County; Granite City Township and Nameoki Township, IL | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 92.74 | 224.20 | 190.55 | 264.96 |
| Manchester Area, NH | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.09 | 0.22 | 0.18 | 0.25 |
| Maricopa and Pinal Counties; Phoenix planning area, AZ | PM10 (1987 24-hour) | Nonattainment, Serious | 70 | 0 | 3.68 | 9.29 | 7.68 | 10.91 |
| Marion County; Lawrence, Washington, and Warrant Townships, IN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Mariposa County, CA | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Marshall, WV | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 487.96 | 1,179.65 | 1,002.62 | 1,394.11 |
| Medford Area, OR | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.10 | 0.26 | 0.21 | 0.30 |
| Memphis Area, TN | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 2.80 | 6.85 | 5.77 | 8.08 |

Table A1-51

Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Cumulative Impacts

Sulfur Dioxide (SO₂) 2040

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|---|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Memphis, TN-MS-AR | Ozone (2008 8-hour) | Nonattainment TN & Maintenance MS/AR, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Miami, AZ | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.01 | 0.02 | 0.02 | 0.03 |
| Miami, AZ | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Miami, AZ | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.01 | 0.02 | 0.02 | 0.03 |
| Milwaukee-Racine, WI | PM2.5 (2006 24-hour) | Maintenance, -- | 100 | 0 | 1.21 | 3.06 | 2.53 | 3.59 |
| Minneapolis-St. Paul Area, MN | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 13.39 | 32.70 | 27.61 | 38.59 |
| Missoula Area, MT | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.09 | 0.23 | 0.19 | 0.27 |
| Missoula county; Missoula and vicinity, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.09 | 0.22 | 0.18 | 0.26 |
| Modesto Area, CA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.20 | 0.49 | 0.41 | 0.58 |
| Mohave County (part); Bullhead City, AZ | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.10 | 0.26 | 0.21 | 0.30 |
| Mono County; Mammoth Lake planning area, CA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.04 | 0.09 | 0.07 | 0.11 |
| Mono County; Mono Basin, CA | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Morenci, AZ | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Morgan County, IN | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.03 | 0.09 | 0.07 | 0.10 |
| Morongo Band of Mission Indians | Ozone (2008 8-hour) | Nonattainment, Serious | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Morristown Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.04 | 0.11 | 0.09 | 0.13 |
| Muscatine County; (part), IA | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Muscatine, IA | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.02 | 0.05 | 0.04 | 0.06 |
| Muskingum River, OH | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.01 | 0.02 | 0.02 | 0.03 |
| Nashua Area, NH | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.08 | 0.20 | 0.17 | 0.24 |
| Nassau County, FL | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.01 | 0.01 | 0.01 |
| Nevada County (Western part), CA | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| New Haven County, CT | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.02 | 0.05 | 0.04 | 0.06 |

Appendix A Air Quality Non-Attainment Area Results

Table A1-51

Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Cumulative Impacts

Sulfur Dioxide (SO₂) 2040

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| New Haven-Meriden-Waterbury Area, CT | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.88 | 2.21 | 1.83 | 2.59 |
| New Manchester-Grant magisterial district in Hancock County, WV | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| New York County, NY | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.58 | 1.45 | 1.20 | 1.71 |
| New York, NY-NJ-CT | PM2.5 (2006 24-hour) | Maintenance, -- | 100 | 0 | 28.26 | 69.99 | 58.55 | 82.43 |
| New York-N. New Jersey-Long Island Area, NY-NJ-CT | CO (1971 8-hour) | Maintenance, Moderate > 12.7ppm | 100 | 0 | 11.46 | 28.62 | 23.81 | 33.67 |
| New York-N. New Jersey-Long Island, NY-NJ-CT | Ozone (2008 8-hour) | Nonattainment, Moderate | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| NJ portion of the Northeast Pennsylvania-Upper Delaware Valley Interstate AQCR: (part), NJ | SO ₂ (1971 24-hour/Annual) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Nogales, AZ | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.05 | 0.12 | 0.10 | 0.14 |
| Oakridge, OR | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Ogden Area, UT | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.06 | 0.14 | 0.12 | 0.16 |
| Ogden Area, UT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.06 | 0.14 | 0.12 | 0.16 |
| Olmsted County; (part), MN | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.03 | 0.07 | 0.05 | 0.08 |
| Olmsted; City of Rochester, MN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |

Table A1-51
Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Cumulative Impacts
Sulfur Dioxide (SO₂) 2040

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Pechanga Band of Luiseno Mission Indians of the Pechanga Reservation | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Pekin, IL | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.04 | 0.10 | 0.09 | 0.12 |
| Penns Grove Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Peoria County: Hollis Twp, IL | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Peoria County: Peoria, IL | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Perth Amboy Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 9.76 | 23.62 | 20.07 | 27.91 |
| Philadelphia-Camden County Area, PA-NJ | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 20.04 | 48.56 | 41.21 | 57.37 |
| Philadelphia-Wilmington, PA-NJ-DE | PM _{2.5} (2006 24-hour) | Maintenance, Moderate for PA and DE Subject to Former Subpart 1 for NJ | 100 | 0 | 206.75 | 500.27 | 424.95 | 591.15 |
| Philadelphia-Wilmington-Atlantic City, PA-NJ-MD-DE | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Phoenix Area, AZ | CO (1971 8-hour) | Maintenance, Serious | 100 | 0 | 3.52 | 8.88 | 7.34 | 10.43 |
| Phoenix-Mesa, AZ | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Pierce County; Tacoma, WA | PM ₁₀ (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.01 |
| Pima County; Ajo planning area, AZ | PM ₁₀ (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Pima County; Rillito planning area, AZ | PM ₁₀ (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.07 | 0.17 | 0.14 | 0.20 |
| Pinal and Gila Counties; Payson, AZ | PM ₁₀ (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.03 | 0.08 | 0.07 | 0.10 |
| Pinal County (part); West Pinal, AZ | PM ₁₀ (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.42 | 1.05 | 0.87 | 1.24 |
| Pitkin County; Aspen, CO | PM ₁₀ (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.03 | 0.06 | 0.05 | 0.08 |
| Pittsburgh Area, PA | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.18 | 0.46 | 0.38 | 0.54 |
| Pittsburgh-Beaver Valley, PA | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Pittsburgh-Beaver Valley, PA | PM _{2.5} (2006 24-hour) | Maintenance, Moderate | 100 | 0 | 7.57 | 18.49 | 15.61 | 21.82 |
| Plumas County, CA | PM _{2.5} (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Polk County, TN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |

Appendix A Air Quality Non-Attainment Area Results

Table A1-51

Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Cumulative Impacts

Sulfur Dioxide (SO₂) 2040

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|-------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Portland Area: Portland Metro Service District Boundary, OR | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 1.22 | 3.06 | 2.53 | 3.60 |
| Power-Bannock Counties; Fort Hall Indian Reservation, ID | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Power-Bannock Counties; Portneuf Valley Area, ID | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.10 | 0.24 | 0.20 | 0.28 |
| Provo Area, UT | CO (1971 8-hour) | Maintenance, Moderate > 12.7ppm | 100 | 0 | 0.07 | 0.18 | 0.15 | 0.21 |
| Provo, UT | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.40 | 1.01 | 0.84 | 1.19 |
| Prowers County; Lamar, CO | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Raleigh-Durham Area, NC | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 1.39 | 3.51 | 2.91 | 4.13 |
| Ramsey County; (part), MN | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.01 | 0.01 | 0.01 |
| Reading, PA | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Reno Area, NV | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.32 | 0.82 | 0.68 | 0.96 |
| Rhineland, WI | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.04 | 0.11 | 0.09 | 0.13 |
| Riverside County (Coachella Valley), CA | Ozone (2008 8-hour) | Nonattainment, Severe 15 | 25 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Riverside County; Coachella Valley planning area, CA | PM10 (1987 24-hour) | Nonattainment, Serious | 70 | 0 | 0.51 | 1.30 | 1.07 | 1.52 |
| Riverside, Los Angeles, Orange, and San Bernardino Counties; South Coast Air Basin, CA | PM10 (1987 24-hour) | Maintenance, Serious | 100 | 0 | 104.12 | 253.29 | 214.40 | 299.07 |
| Rosebud County; Lame Deer, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.03 | 0.07 | 0.06 | 0.09 |
| Routt County (part); Steamboat Springs, CO | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.03 | 0.08 | 0.06 | 0.09 |
| Sacramento Area, CA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 1.32 | 3.32 | 2.75 | 3.90 |
| Sacramento County, CA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 1.25 | 3.14 | 2.60 | 3.69 |
| Sacramento Metro, CA | Ozone (2008 8-hour) | Nonattainment, Severe 15 | 25 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Sacramento, CA | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 95.99 | 232.29 | 197.30 | 274.48 |
| Salem Area, OR | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.26 | 0.65 | 0.53 | 0.76 |
| Salt Lake City Area, UT | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 64.83 | 156.75 | 133.22 | 185.24 |
| Salt Lake City, UT | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 77.05 | 186.42 | 158.35 | 220.29 |

Table A1-51

Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Cumulative Impacts

Sulfur Dioxide (SO₂) 2040

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|---|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Salt Lake County, UT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 65.63 | 158.75 | 134.87 | 187.60 |
| Salt Lake County, UT | SO ₂ (1971 24-hour/Annual) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| San Bernardino County (part); excluding Searles Valley Planning area and South Coast Air Basin, CA | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.56 | 1.42 | 1.17 | 1.67 |
| San Diego Area, CA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 3.38 | 8.51 | 7.04 | 10.00 |
| San Diego County, CA | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| San Francisco Bay Area, CA | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| San Francisco Bay Area, CA | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 135.72 | 328.79 | 279.07 | 388.45 |
| San Francisco-Oakland-San Jose Area, CA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 135.15 | 327.35 | 277.88 | 386.76 |
| San Joaquin Valley Air Basin; Fresno, Kern, Kings, Madera, Merced, San Joaquin, Stanislaus, Tulare Counties, CA | PM10 (1987 24-hour) | Maintenance, Serious | 100 | 0 | 12.56 | 30.82 | 25.94 | 36.35 |
| San Joaquin Valley, CA | Ozone (2008 8-hour) | Nonattainment, Extreme | 10 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| San Joaquin Valley, CA | PM2.5 (2006 24-hour) | Nonattainment, Serious | 100 | 0 | 12.56 | 30.82 | 25.94 | 36.34 |
| San Joaquin Valley, CA | PM2.5 (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 12.56 | 30.82 | 25.94 | 36.34 |
| San Luis Obispo (Eastern San Luis Obispo), CA | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| San Manuel, AZ | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| San Miguel County; Telluride, CO | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.01 | 0.02 | 0.02 | 0.03 |
| Sanders County (part); Thompson Falls and vicinity, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Santa Cruz County; Nogales planning area, AZ | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.05 | 0.12 | 0.10 | 0.14 |
| Seaford, DE | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Seattle-Tacoma Area, WA | CO (1971 8-hour) | Maintenance, Moderate > 12.7ppm | 100 | 0 | 2.77 | 6.98 | 5.78 | 8.21 |
| Seattle-Tacoma, WA | PM2.5 (2006 24-hour) | Maintenance, Moderate | 100 | 0 | 0.44 | 1.12 | 0.92 | 1.31 |
| Sheboygan County, WI | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |

Appendix A Air Quality Non-Attainment Area Results

Table A1-51

Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Cumulative Impacts

Sulfur Dioxide (SO₂) 2040

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|---|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Sheridan County; City of Sheridan, WY | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.03 | 0.07 | 0.05 | 0.08 |
| Shoshone County (part); excluding Pinehurst, ID | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.04 | 0.11 | 0.09 | 0.13 |
| Shoshone County; City of Pinehurst, ID | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Silver Bow County; Butte, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.04 | 0.11 | 0.09 | 0.13 |
| Somerville Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.02 | 0.04 | 0.03 | 0.05 |
| Southwest Indiana, IN | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.01 | 0.03 | 0.02 | 0.04 |
| Spokane Area, WA | CO (1971 8-hour) | Maintenance, Serious | 100 | 0 | 0.29 | 0.73 | 0.60 | 0.85 |
| Spokane County; (part), WA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.30 | 0.75 | 0.62 | 0.88 |
| Springfield Area, MA | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.17 | 0.43 | 0.35 | 0.50 |
| St. Bernard Parish, LA | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 16.67 | 40.30 | 34.25 | 47.63 |
| St. Louis Area, MO | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.87 | 2.19 | 1.81 | 2.57 |
| St. Louis-St. Charles-Farmington, MO-IL | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Steubenville, OH-WV | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.07 | 0.17 | 0.14 | 0.20 |
| Steubenville-Weirton, OH-WV | PM2.5 (2006 24-hour) | Maintenance, -- | 100 | 0 | 0.20 | 0.50 | 0.42 | 0.58 |
| Stockton Area, CA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.38 | 0.95 | 0.78 | 1.11 |
| Sullivan County, TN | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.88 | 2.12 | 1.80 | 2.50 |
| Syracuse Area; Onondaga County, NY | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.55 | 1.38 | 1.14 | 1.62 |
| Tazewell County; Groveland Twp, IL | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Terre Haute, IN | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.04 | 0.11 | 0.09 | 0.13 |

Table A1-51

Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Cumulative Impacts

Sulfur Dioxide (SO₂) 2040

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|---|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Thurston County; Cities of Olympia, Tumwater, and Lacey, WA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.10 | 0.25 | 0.21 | 0.30 |
| Toms River Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.01 | 0.01 | 0.01 | 0.02 |
| Tooele County (part), UT | SO ₂ (1971 24-hour/Annual) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Trenton Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.09 | 0.22 | 0.19 | 0.26 |
| Trona, CA | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Tucson Area, AZ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.85 | 2.15 | 1.78 | 2.53 |
| Tuscan Buttes, CA | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Union County; LaGrande, OR | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.04 | 0.09 | 0.07 | 0.10 |
| Upper Green River Basin Area, WY | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Utah County, UT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.40 | 1.01 | 0.84 | 1.19 |
| Vancouver Area: Clark County (part), WA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.27 | 0.68 | 0.57 | 0.80 |
| Ventura County, CA | Ozone (2008 8-hour) | Nonattainment, Serious | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Vermillion County; Part of Clinton Township, IN | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.04 | 0.10 | 0.08 | 0.12 |
| Vigo County, IN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Walla Walla County; Wallula, WA | PM10 (1987 24-hour) | Maintenance, Serious | 100 | 0 | 0.00 | 0.01 | 0.01 | 0.01 |
| Waltham Area, MA | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.06 | 0.14 | 0.12 | 0.17 |
| Warren County: Conewago Twp, PA | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Warren County: Warren Boro, Pleasant Twp, Glade Twp, PA | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Warren, PA | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 79.55 | 192.32 | 163.46 | 227.29 |
| Washington Area, DC-MD-VA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.66 | 1.67 | 1.38 | 1.96 |
| Washington, DC-MD-VA | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Washoe County; Reno planning area, NV | PM10 (1987 24-hour) | Nonattainment, Serious | 70 | 0 | 0.32 | 0.81 | 0.67 | 0.95 |

Appendix A Air Quality Non-Attainment Area Results

Table A1-51

Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Cumulative Impacts

Sulfur Dioxide (SO₂) 2040

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|---|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Wayne County: Boston, Center, Franklin, Wayne & Webster Townships, IN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Wayne County; (part), MI | PM ₁₀ (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 7.05 | 17.05 | 14.48 | 20.14 |
| West Central Pinal County, AZ | PM _{2.5} (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.09 | 0.22 | 0.18 | 0.26 |
| West Silver Valley, ID | PM _{2.5} (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 0.02 | 0.06 | 0.05 | 0.07 |
| Winston-Salem Area, NC | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.37 | 0.94 | 0.77 | 1.10 |
| Worcester Area, MA | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.24 | 0.60 | 0.49 | 0.70 |
| Yakima Area, WA | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.04 | 0.11 | 0.09 | 0.13 |
| Yakima County; (part), WA | PM ₁₀ (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.12 | 0.29 | 0.24 | 0.34 |
| Yuba City-Marysville, CA | PM _{2.5} (2006 24-hour) | Maintenance, Moderate | 100 | 0 | 0.19 | 0.48 | 0.40 | 0.57 |
| Yuma County; Yuma planning area, AZ | PM ₁₀ (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.16 | 0.41 | 0.34 | 0.48 |

^a Reductions are shown as positive values. Negative values are emissions increases. Values of less than 0.005 tons per year are rounded to zero.

^b Nonattainment or maintenance status as of 5/13/2016. Source: U.S. EPA, The Green Book Nonattainment Areas for Criteria Pollutants; <http://www.epa.gov/airquality/greenbook/>. "--" indicates that no severity classification has been established for the NAAQS pollutant.

^c Emissions thresholds in tons per year. Where the threshold differs by precursor pollutant, the smallest of the precursor thresholds is shown. These thresholds are provided for information only; a general conformity determination is not required for the Proposed Action. Source: 40 CFR 93.853.

Notes: CO = carbon monoxide; NAAQS = National Ambient Air Quality Standards; NO₂ = nitrogen dioxide; PM = particulate matter; SO₂ = sulfur dioxide

Table A1-52
Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Cumulative Impacts
Sulfur Dioxide (SO₂) 2050

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Ada County; Boise, ID | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.38 | 0.97 | 0.79 | 1.12 |
| Adams, Denver, and Boulder Counties; Denver Metropolitan area, CO | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 1.83 | 4.69 | 3.80 | 5.39 |
| Ajo, AZ | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Albuquerque Area, NM | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.82 | 2.10 | 1.70 | 2.41 |
| Allegheny County Air Basin: Hazelwood monitor, PA | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Allegheny County, PA | PM2.5 (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 1.00 | 2.56 | 2.07 | 2.94 |
| Allegheny County; The area including Liberty, Lincoln, Port Vue, and Glassport Boroughs and the City of Clairton, PA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.01 | 0.02 | 0.02 | 0.02 |
| Allegheny, PA | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.05 | 0.13 | 0.11 | 0.15 |
| Allentown, PA | PM2.5 (2006 24-hour) | Maintenance, Moderate | 100 | 0 | 0.68 | 1.73 | 1.40 | 1.99 |
| Allentown-Bethlehem-Easton, PA | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Anchorage Area, AK | CO (1971 8-hour) | Maintenance, Serious | 100 | 0 | 0.13 | 0.33 | 0.27 | 0.38 |
| Anchorage; Eagle River, AK | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.01 | 0.02 | 0.02 | 0.02 |
| AQCR 012: Portions of Grant County, NM | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| AQCR 109-Millinocket, ME | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| AQCR 131: Anoka, Carver, Dakota, Hennepin, Ramsey, Scott, and Washington counties (Minneapolis-St. Paul), MN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| AQCR 237: Brown County: Green Bay sub-city area, WI | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| AQCR 238: Marathon County: Rothschild Sub-city area, Rib Mountain, Weston, WI | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| AQCR 238: Oneida County: Rhinelander Sub-city area, WI | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| AQCR 239: Milwaukee County: Milwaukee sub-city area, WI | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |

Appendix A Air Quality Non-Attainment Area Results

Table A1-52

Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Cumulative Impacts

Sulfur Dioxide (SO₂) 2050

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| AQCR 240: Dane County: Madison sub-city area, WI | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Archuleta County; Pagosa Springs, CO | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.03 | 0.07 | 0.06 | 0.08 |
| Armstrong County: Madison Twp, Mahoning Twp, Boggs Twp, Washington Twp, Pine Twp, PA | SO ₂ (1971 24-hour/Annual) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Aroostock County; City of Presque Isle, ME | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.02 | 0.05 | 0.04 | 0.06 |
| Atlanta, GA | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Atlantic City Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.06 | 0.17 | 0.13 | 0.19 |
| Bakersfield Area, CA | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 10.13 | 24.98 | 20.79 | 28.91 |
| Baltimore Area, MD | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.02 | 0.04 | 0.03 | 0.05 |
| Baltimore, MD | Ozone (2008 8-hour) | Nonattainment, Moderate | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Baton Rouge, LA | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Beaver, PA | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.02 | 0.05 | 0.04 | 0.06 |
| Benton County; (part) TVA Johnsonville, TN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Billings Area, MT | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 91.04 | 223.97 | 186.66 | 259.25 |
| Billings, MT | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 90.94 | 223.72 | 186.46 | 258.96 |
| Birmingham, AL | PM2.5 (2006 24-hour) | Maintenance, -- | 100 | 0 | 1.63 | 4.16 | 3.38 | 4.78 |
| Boise-Northern Ada County Area, ID | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.38 | 0.97 | 0.79 | 1.12 |
| Bonner County; The Sandpoint Area, ID | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.01 | 0.04 | 0.03 | 0.04 |
| Boston Area, MA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 3.20 | 7.96 | 6.58 | 9.20 |
| Boyd County (part), KY | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Brooke; Follansbee area, WV | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Burlington Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.01 | 0.02 | 0.01 | 0.02 |
| Calaveras County, CA | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Campbell-Clermont Counties, KY-OH | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.05 | 0.12 | 0.09 | 0.13 |

Table A1-52
Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Cumulative Impacts
Sulfur Dioxide (SO₂) 2050

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|---|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Canton-Massillon, OH | PM2.5 (2006 24-hour) | Maintenance, -- | 100 | 0 | 8.96 | 22.08 | 18.37 | 25.55 |
| Central New Hampshire, NH | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.26 | 0.67 | 0.55 | 0.78 |
| Central Steptoe Valley, NV | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Charleston, WV | PM2.5 (2006 24-hour) | Maintenance, -- | 100 | 0 | 0.44 | 1.14 | 0.92 | 1.31 |
| Charlotte Area, NC | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 1.54 | 3.93 | 3.19 | 4.52 |
| Charlotte-Rock Hill, NC-SC | Ozone (2008 8-hour) | Maintenance, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Chicago-Naperville, IL-IN-WI | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Chico (Butte County), CA | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Chico Area, CA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.12 | 0.31 | 0.25 | 0.35 |
| Chico, CA | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.24 | 0.61 | 0.49 | 0.70 |
| Cincinnati, OH-KY-IN | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Clark County; Las Vegas planning area, NV | PM10 (1987 24-hour) | Maintenance, Serious | 100 | 0 | 1.92 | 4.91 | 3.99 | 5.65 |
| Cleveland Area, OH | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 6.47 | 16.03 | 13.29 | 18.53 |
| Cleveland, OH | PM2.5 (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 6.82 | 16.92 | 14.02 | 19.56 |
| Cleveland-Akron-Lorain, OH | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Cleveland-Akron-Lorain, OH | PM2.5 (2006 24-hour) | Maintenance, -- | 100 | 0 | 8.60 | 21.48 | 17.71 | 24.79 |
| Cochise County; Paul Spur/Douglas planning area, AZ | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.05 | 0.12 | 0.10 | 0.14 |
| Colorado Springs Area, CO | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.66 | 1.68 | 1.36 | 1.93 |
| Columbus, OH | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Cook County; Lyons Township, IL | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.09 | 0.22 | 0.18 | 0.26 |
| Cook County; Southeast Chicago, IL | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.09 | 0.22 | 0.18 | 0.25 |
| Coshocton County; Franklin Township, OH | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Coso Junction, CA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Cuyahoga County (part), OH | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Cuyahoga County, OH | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 6.46 | 16.01 | 13.28 | 18.51 |

Appendix A Air Quality Non-Attainment Area Results

Table A1-52

Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Cumulative Impacts

Sulfur Dioxide (SO₂) 2050

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Dallas-Fort Worth, TX | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Delaware County, PA | PM2.5 (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 202.11 | 497.27 | 414.42 | 575.58 |
| Denver-Boulder Area, CO | CO (1971 8-hour) | Maintenance, Serious | 100 | 0 | 14.83 | 36.80 | 30.49 | 42.53 |
| Denver-Boulder-Greeley-Ft Collins-Loveland, CO | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Detroit Area, MI | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 9.80 | 24.26 | 20.13 | 28.05 |
| Detroit, MI | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 8.70 | 21.46 | 17.86 | 24.83 |
| Detroit-Ann Arbor, MI | PM2.5 (2006 24-hour) | Maintenance, -- | 100 | 0 | 14.26 | 35.67 | 29.38 | 41.17 |
| Dona Ana County; Anthony, NM | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.01 | 0.03 | 0.03 | 0.04 |
| Douglas, AZ | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Dukes County, MA | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Duluth Area, MN | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.16 | 0.41 | 0.33 | 0.47 |
| East Chicago Area, IN | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 38.88 | 95.66 | 79.73 | 110.73 |
| East Helena Area, MT | SO ₂ (1971 24-hour/Annual) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| East Kern County Area, CA | PM10 (1987 24-hour) | Nonattainment, Serious | 70 | 0 | 9.54 | 23.48 | 19.57 | 27.18 |
| El Paso County, TX | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 5.61 | 13.84 | 11.51 | 16.01 |
| El Paso, TX | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 5.13 | 12.62 | 10.51 | 14.60 |
| Eugene-Springfield Area, OR | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.29 | 0.74 | 0.60 | 0.85 |
| Fairbanks Area, AK | CO (1971 8-hour) | Maintenance, Serious | 100 | 0 | 0.52 | 1.28 | 1.06 | 1.48 |
| Fairbanks, AK | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.55 | 1.36 | 1.13 | 1.57 |

Table A1-52
Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Cumulative Impacts
Sulfur Dioxide (SO₂) 2050

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|---|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Flathead County; Columbia Falls and vicinity, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Flathead County; Kalispell and vicinity, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.05 | 0.12 | 0.09 | 0.13 |
| Flathead County; Whitefish and vicinity, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.01 | 0.01 | 0.01 |
| Fort Collins Area, CO | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.14 | 0.36 | 0.29 | 0.42 |
| Freehold Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.04 | 0.09 | 0.07 | 0.10 |
| Fremont County; Canon City Area, CO | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.05 | 0.12 | 0.10 | 0.14 |
| Fresno Area, CA | CO (1971 8-hour) | Maintenance, Moderate > 12.7ppm | 100 | 0 | 0.68 | 1.74 | 1.41 | 2.00 |
| Grants Pass Area, OR | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.06 | 0.15 | 0.12 | 0.17 |
| Great Falls Area, MT | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.51 | 1.25 | 1.04 | 1.45 |
| Greater Connecticut, CT | Ozone (2008 8-hour) | Nonattainment, Moderate | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Greeley Area, CO | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.57 | 1.45 | 1.18 | 1.67 |
| Hancock and Brooke Counties (Part); The city of Weirton, WV | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.10 | 0.26 | 0.21 | 0.30 |
| Hancock County (Part) The city of Weirton, including Butler and Clay: Magisterial Districts, WV | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Harrisburg-Lebanon-Carlisle-York, PA | PM2.5 (2006 24-hour) | Maintenance, Moderate | 100 | 0 | 1.55 | 3.97 | 3.22 | 4.56 |
| Hartford-New Britain-Middletown Area, CT | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 1.37 | 3.50 | 2.84 | 4.03 |
| Hayden, AZ | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.01 | 0.01 | 0.01 |
| Hayden, AZ | SO ₂ (1971 24-hour/Annual) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Hayden, AZ | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.01 | 0.01 | 0.01 |
| Hillsborough County, FL | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.02 | 0.05 | 0.04 | 0.06 |
| Houston-Galveston-Brazoria, TX | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Humphreys County; (part) TVA Johnsonville, TN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Imperial Co, CA | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.26 | 0.66 | 0.53 | 0.76 |

Appendix A Air Quality Non-Attainment Area Results

Table A1-52

Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Cumulative Impacts

Sulfur Dioxide (SO₂) 2050

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Imperial County, CA | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Imperial County, CA | PM2.5 (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 0.26 | 0.66 | 0.53 | 0.76 |
| Imperial County; Imperial Valley planning area, CA | PM10 (1987 24-hour) | Nonattainment, Serious | 70 | 0 | 0.31 | 0.79 | 0.64 | 0.91 |
| Indian Wells, CA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 9.54 | 23.47 | 19.56 | 27.17 |
| Indiana, PA | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.11 | 0.29 | 0.23 | 0.33 |
| Indianapolis Area, IN | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Indianapolis, IN | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.56 | 1.43 | 1.16 | 1.64 |
| Inyo County; Owens Valley planning area, CA | PM10 (1987 24-hour) | Nonattainment, Serious | 70 | 0 | 0.01 | 0.03 | 0.02 | 0.04 |
| Jackson County, MO | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.07 | 0.17 | 0.14 | 0.19 |
| Jackson County; Medford-Ashland (including White City), OR | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.24 | 0.61 | 0.49 | 0.70 |
| Jamestown, NY | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Jefferson County, KY | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Jefferson County, MO | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.06 | 0.16 | 0.13 | 0.19 |
| Jefferson County; (part) Steubenville & Mingo Junction, OH | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Jefferson County; (part), OH | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.01 | 0.01 | 0.01 | 0.01 |
| Johnstown, PA | PM2.5 (2006 24-hour) | Maintenance, Moderate | 100 | 0 | 0.15 | 0.38 | 0.31 | 0.44 |
| Josephine County; Grants Pass, OR | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.06 | 0.15 | 0.12 | 0.17 |
| Juneau; Mendenhall Valley area, AK | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.01 | 0.03 | 0.02 | 0.03 |
| Kern County (Eastern Kern), CA | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| King County; Kent, WA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.03 | 0.08 | 0.06 | 0.09 |
| King County; Seattle, WA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.01 | 0.02 | 0.02 | 0.03 |
| Klamath County; Klamath Falls, OR | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.11 | 0.28 | 0.23 | 0.32 |
| Klamath Falls Area, OR | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.11 | 0.28 | 0.23 | 0.32 |
| Klamath Falls, OR | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.12 | 0.30 | 0.24 | 0.34 |

Table A1-52
Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Cumulative Impacts
Sulfur Dioxide (SO₂) 2050

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Knoxville, TN | Ozone (2008 8-hour) | Maintenance, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Knoxville-Sevierville-La Follette, TN | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 1.20 | 3.08 | 2.50 | 3.54 |
| La Porte County: (part), IN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lake County (part); Lakeview, OR | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.02 | 0.06 | 0.05 | 0.07 |
| Lake County, OH | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.33 | 0.84 | 0.68 | 0.97 |
| Lake County: (part), IN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lake County; (part) Eastlake, Timberlake, Lakeline, Willoughby, Mentor, OH | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lake County; Cities of East Chicago, Hammond, Whiting, and Gary, IN | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 39.04 | 96.06 | 80.05 | 111.18 |
| Lake County; Polson, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.01 | 0.00 | 0.01 |
| Lake County; Ronan, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lake Tahoe Nevada Area, NV | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.02 | 0.04 | 0.03 | 0.05 |
| Lake Tahoe North Shore Area, CA | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.01 | 0.02 | 0.02 | 0.03 |
| Lake Tahoe South Shore Area, CA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.02 | 0.06 | 0.05 | 0.06 |
| Lancaster, PA | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lancaster, PA | PM2.5 (2006 24-hour) | Maintenance, Moderate | 100 | 0 | 0.63 | 1.62 | 1.31 | 1.86 |
| Lane County (part); Oakridge, OR | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lane County; Eugene/Springfield, OR | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.29 | 0.74 | 0.60 | 0.85 |
| Las Vegas Area, NV | CO (1971 8-hour) | Maintenance, Serious | 100 | 0 | 1.91 | 4.90 | 3.97 | 5.63 |
| LaSalle County; Oglesby, IL | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.04 | 0.11 | 0.09 | 0.13 |
| Laurel Area, MT | SO ₂ (1971 24-hour/Annual) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lebanon County, PA | PM2.5 (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 0.22 | 0.56 | 0.45 | 0.64 |
| Lemont, IL | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 147.63 | 363.21 | 302.70 | 420.41 |
| Liberty-Clairton, PA | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.01 | 0.02 | 0.02 | 0.02 |

Appendix A Air Quality Non-Attainment Area Results

Table A1-52

Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Cumulative Impacts

Sulfur Dioxide (SO₂) 2050

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|---------------------------------------|--|---|---|--------|--------------------|----------|----------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Lincoln County; Libby and vicinity, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.01 | 0.01 | 0.01 | 0.02 |
| Logan, UT-ID | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.11 | 0.29 | 0.23 | 0.33 |
| Longmont Area, CO | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.09 | 0.24 | 0.20 | 0.28 |
| Lorain County (part), OH | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Los Angeles, CA | PM2.5 (2006 24-hour) | Nonattainment, Serious | 100 | 0 | 123.23 | 304.98 | 253.15 | 352.66 |
| Los Angeles-San Bernardino Counties (West Mojave Desert), CA | Ozone (2008 8-hour) | Nonattainment, Severe 15 | 25 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Los Angeles-South Coast Air Basin Area, CA | CO (1971 8-hour) | Maintenance, Serious | 100 | 0 | 123.24 | 305.01 | 253.17 | 352.69 |
| Los Angeles-South Coast Air Basin Area, CA | NO ₂ (1971 Annual) | Maintenance, -- | 100 | 0 | 123.25 | 305.01 | 253.17 | 352.69 |
| Los Angeles-South Coast Air Basin, CA | Ozone (2008 8-hour) | Nonattainment, Extreme | 10 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Los Angeles-South Coast Air Basin, CA | PM2.5 (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 123.21 | 304.91 | 253.09 | 352.57 |
| Lowell Area, MA | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.13 | 0.33 | 0.27 | 0.38 |
| Lucas County (part), OH | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Madison County; Granite City Township and Nameoki Township, IL | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 109.53 | 269.47 | 224.59 | 311.91 |
| Manchester Area, NH | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.10 | 0.25 | 0.21 | 0.29 |
| Maricopa and Pinal Counties; Phoenix planning area, AZ | PM10 (1987 24-hour) | Nonattainment, Serious | 70 | 0 | 4.39 | 11.22 | 9.10 | 12.90 |
| Marion County; Lawrence, Washington, and Warrant Townships, IN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Mariposa County, CA | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Marshall, WV | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 576.33 | 1,417.87 | 1,181.71 | 1,641.19 |
| Medford Area, OR | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.13 | 0.32 | 0.26 | 0.37 |
| Memphis Area, TN | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 3.31 | 8.25 | 6.82 | 9.53 |

Table A1-52
Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Cumulative Impacts
Sulfur Dioxide (SO₂) 2050

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|---|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Memphis, TN-MS-AR | Ozone (2008 8-hour) | Nonattainment TN & Maintenance MS/AR, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Miami, AZ | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.01 | 0.02 | 0.01 | 0.02 |
| Miami, AZ | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Miami, AZ | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.01 | 0.02 | 0.01 | 0.02 |
| Milwaukee-Racine, WI | PM2.5 (2006 24-hour) | Maintenance, -- | 100 | 0 | 1.45 | 3.70 | 3.00 | 4.25 |
| Minneapolis-St. Paul Area, MN | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 15.85 | 39.36 | 32.60 | 45.49 |
| Missoula Area, MT | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.11 | 0.28 | 0.23 | 0.32 |
| Missoula county; Missoula and vicinity, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.11 | 0.27 | 0.22 | 0.31 |
| Modesto Area, CA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.22 | 0.57 | 0.46 | 0.66 |
| Mohave County (part); Bullhead City, AZ | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.12 | 0.32 | 0.26 | 0.37 |
| Mono County; Mammoth Lake planning area, CA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.05 | 0.12 | 0.10 | 0.14 |
| Mono County; Mono Basin, CA | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Morenci, AZ | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Morgan County, IN | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.04 | 0.10 | 0.08 | 0.12 |
| Morongo Band of Mission Indians | Ozone (2008 8-hour) | Nonattainment, Serious | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Morristown Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.05 | 0.13 | 0.11 | 0.15 |
| Muscatine County; (part), IA | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Muscatine, IA | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.03 | 0.07 | 0.05 | 0.08 |
| Muskingum River, OH | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.01 | 0.03 | 0.02 | 0.03 |
| Nashua Area, NH | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.10 | 0.25 | 0.20 | 0.28 |
| Nassau County, FL | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.01 | 0.01 | 0.01 |
| Nevada County (Western part), CA | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| New Haven County, CT | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.02 | 0.06 | 0.05 | 0.06 |

Appendix A Air Quality Non-Attainment Area Results

Table A1-52

Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Cumulative Impacts

Sulfur Dioxide (SO₂) 2050

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| New Haven-Meriden-Waterbury Area, CT | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 1.04 | 2.67 | 2.17 | 3.07 |
| New Manchester-Grant magisterial district in Hancock County, WV | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| New York County, NY | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.69 | 1.76 | 1.42 | 2.02 |
| New York, NY-NJ-CT | PM2.5 (2006 24-hour) | Maintenance, -- | 100 | 0 | 33.54 | 84.41 | 69.26 | 97.33 |
| New York-N. New Jersey-Long Island Area, NY-NJ-CT | CO (1971 8-hour) | Maintenance, Moderate > 12.7ppm | 100 | 0 | 13.63 | 34.59 | 28.22 | 39.82 |
| New York-N. New Jersey-Long Island, NY-NJ-CT | Ozone (2008 8-hour) | Nonattainment, Moderate | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| NJ portion of the Northeast Pennsylvania-Upper Delaware Valley Interstate AQCR: (part), NJ | SO ₂ (1971 24-hour/Annual) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Nogales, AZ | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.06 | 0.15 | 0.12 | 0.17 |
| Oakridge, OR | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Ogden Area, UT | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.07 | 0.17 | 0.14 | 0.19 |
| Ogden Area, UT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.07 | 0.17 | 0.14 | 0.19 |
| Olmsted County; (part), MN | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.03 | 0.08 | 0.06 | 0.09 |
| Olmsted; City of Rochester, MN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |

Table A1-52
Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Cumulative Impacts
Sulfur Dioxide (SO₂) 2050

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Pechanga Band of Luiseno Mission Indians of the Pechanga Reservation | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Pekin, IL | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.05 | 0.13 | 0.10 | 0.15 |
| Penns Grove Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Peoria County: Hollis Twp, IL | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Peoria County: Peoria, IL | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Perth Amboy Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 11.54 | 28.42 | 23.67 | 32.89 |
| Philadelphia-Camden County Area, PA-NJ | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 23.68 | 58.38 | 48.59 | 67.55 |
| Philadelphia-Wilmington, PA-NJ-DE | PM2.5 (2006 24-hour) | Maintenance, Moderate for PA and DE Subject to Former Subpart 1 for NJ | 100 | 0 | 244.24 | 601.37 | 500.92 | 695.99 |
| Philadelphia-Wilmington-Atlantic City, PA-NJ-MD-DE | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Phoenix Area, AZ | CO (1971 8-hour) | Maintenance, Serious | 100 | 0 | 4.19 | 10.72 | 8.70 | 12.33 |
| Phoenix-Mesa, AZ | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Pierce County; Tacoma, WA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.01 |
| Pima County; Ajo planning area, AZ | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Pima County; Rillito planning area, AZ | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.08 | 0.21 | 0.17 | 0.24 |
| Pinal and Gila Counties; Payson, AZ | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.04 | 0.11 | 0.09 | 0.12 |
| Pinal County (part); West Pinal, AZ | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.50 | 1.29 | 1.05 | 1.48 |
| Pitkin County; Aspen, CO | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.03 | 0.08 | 0.06 | 0.09 |
| Pittsburgh Area, PA | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.20 | 0.52 | 0.42 | 0.59 |
| Pittsburgh-Beaver Valley, PA | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Pittsburgh-Beaver Valley, PA | PM2.5 (2006 24-hour) | Maintenance, Moderate | 100 | 0 | 8.96 | 22.26 | 18.43 | 25.73 |
| Plumas County, CA | PM2.5 (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Polk County, TN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |

Appendix A Air Quality Non-Attainment Area Results

Table A1-52

Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Cumulative Impacts

Sulfur Dioxide (SO₂) 2050

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|-------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Portland Area: Portland Metro Service District Boundary, OR | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 1.45 | 3.71 | 3.01 | 4.27 |
| Power-Bannock Counties; Fort Hall Indian Reservation, ID | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Power-Bannock Counties; Portneuf Valley Area, ID | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.12 | 0.30 | 0.24 | 0.34 |
| Provo Area, UT | CO (1971 8-hour) | Maintenance, Moderate > 12.7ppm | 100 | 0 | 0.08 | 0.21 | 0.17 | 0.24 |
| Provo, UT | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.48 | 1.22 | 0.99 | 1.41 |
| Prowers County; Lamar, CO | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Raleigh-Durham Area, NC | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 1.66 | 4.25 | 3.45 | 4.89 |
| Ramsey County; (part), MN | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.01 | 0.01 | 0.01 |
| Reading, PA | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Reno Area, NV | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.38 | 0.97 | 0.79 | 1.12 |
| Rhinelander, WI | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.06 | 0.15 | 0.12 | 0.17 |
| Riverside County (Coachella Valley), CA | Ozone (2008 8-hour) | Nonattainment, Severe 15 | 25 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Riverside County; Coachella Valley planning area, CA | PM10 (1987 24-hour) | Nonattainment, Serious | 70 | 0 | 0.60 | 1.54 | 1.25 | 1.77 |
| Riverside, Los Angeles, Orange, and San Bernardino Counties; South Coast Air Basin, CA | PM10 (1987 24-hour) | Maintenance, Serious | 100 | 0 | 123.16 | 304.79 | 252.99 | 352.44 |
| Rosebud County; Lame Deer, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.04 | 0.10 | 0.08 | 0.11 |
| Routt County (part); Steamboat Springs, CO | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.04 | 0.09 | 0.07 | 0.11 |
| Sacramento Area, CA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 1.54 | 3.93 | 3.19 | 4.52 |
| Sacramento County, CA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 1.48 | 3.80 | 3.08 | 4.37 |
| Sacramento Metro, CA | Ozone (2008 8-hour) | Nonattainment, Severe 15 | 25 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Sacramento, CA | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 113.40 | 279.27 | 232.59 | 323.19 |
| Salem Area, OR | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.31 | 0.79 | 0.64 | 0.91 |
| Salt Lake City Area, UT | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 76.57 | 188.39 | 157.00 | 218.06 |
| Salt Lake City, UT | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 91.02 | 224.10 | 186.67 | 259.36 |

Table A1-52
Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Cumulative Impacts
Sulfur Dioxide (SO₂) 2050

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|---|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Salt Lake County, UT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 77.52 | 190.83 | 158.98 | 220.86 |
| Salt Lake County, UT | SO ₂ (1971 24-hour/Annual) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| San Bernardino County (part); excluding Searles Valley Planning area and South Coast Air Basin, CA | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.64 | 1.63 | 1.32 | 1.87 |
| San Diego Area, CA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 4.02 | 10.29 | 8.35 | 11.83 |
| San Diego County, CA | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| San Francisco Bay Area, CA | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| San Francisco Bay Area, CA | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 160.37 | 395.32 | 329.03 | 457.43 |
| San Francisco-Oakland-San Jose Area, CA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 159.69 | 393.58 | 327.61 | 455.42 |
| San Joaquin Valley Air Basin; Fresno, Kern, Kings, Madera, Merced, San Joaquin, Stanislaus, Tulare Counties, CA | PM10 (1987 24-hour) | Maintenance, Serious | 100 | 0 | 14.89 | 37.16 | 30.67 | 42.90 |
| San Joaquin Valley, CA | Ozone (2008 8-hour) | Nonattainment, Extreme | 10 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| San Joaquin Valley, CA | PM2.5 (2006 24-hour) | Nonattainment, Serious | 100 | 0 | 14.89 | 37.16 | 30.67 | 42.90 |
| San Joaquin Valley, CA | PM2.5 (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 14.89 | 37.16 | 30.67 | 42.90 |
| San Luis Obispo (Eastern San Luis Obispo), CA | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| San Manuel, AZ | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| San Miguel County; Telluride, CO | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.01 | 0.03 | 0.02 | 0.03 |
| Sanders County (part); Thompson Falls and vicinity, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Santa Cruz County; Nogales planning area, AZ | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.06 | 0.15 | 0.12 | 0.17 |
| Seaford, DE | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Seattle-Tacoma Area, WA | CO (1971 8-hour) | Maintenance, Moderate > 12.7ppm | 100 | 0 | 3.30 | 8.44 | 6.84 | 9.70 |
| Seattle-Tacoma, WA | PM2.5 (2006 24-hour) | Maintenance, Moderate | 100 | 0 | 0.52 | 1.34 | 1.09 | 1.54 |
| Sheboygan County, WI | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |

Appendix A Air Quality Non-Attainment Area Results

Table A1-52

Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Cumulative Impacts

Sulfur Dioxide (SO₂) 2050

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|---|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Sheridan County; City of Sheridan, WY | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.03 | 0.08 | 0.07 | 0.09 |
| Shoshone County (part); excluding Pinehurst, ID | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.05 | 0.13 | 0.11 | 0.15 |
| Shoshone County; City of Pinehurst, ID | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Silver Bow County; Butte, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.05 | 0.13 | 0.11 | 0.15 |
| Somerville Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.02 | 0.05 | 0.04 | 0.06 |
| Southwest Indiana, IN | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.01 | 0.04 | 0.03 | 0.04 |
| Spokane Area, WA | CO (1971 8-hour) | Maintenance, Serious | 100 | 0 | 0.34 | 0.87 | 0.70 | 1.00 |
| Spokane County; (part), WA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.35 | 0.90 | 0.73 | 1.03 |
| Springfield Area, MA | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.21 | 0.53 | 0.43 | 0.61 |
| St. Bernard Parish, LA | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 19.69 | 48.44 | 40.37 | 56.07 |
| St. Louis Area, MO | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 1.02 | 2.61 | 2.12 | 3.00 |
| St. Louis-St. Charles-Farmington, MO-IL | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Steubenville, OH-WV | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.08 | 0.21 | 0.17 | 0.24 |
| Steubenville-Weirton, OH-WV | PM2.5 (2006 24-hour) | Maintenance, -- | 100 | 0 | 0.24 | 0.60 | 0.49 | 0.69 |
| Stockton Area, CA | CO (1971 8-hour) | Maintenance, Moderate ≤ 12.7ppm | 100 | 0 | 0.44 | 1.13 | 0.91 | 1.29 |
| Sullivan County, TN | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 1.03 | 2.54 | 2.12 | 2.94 |
| Syracuse Area; Onondaga County, NY | CO (1971 8-hour) | Maintenance, Moderate ≤ 12.7ppm | 100 | 0 | 0.65 | 1.67 | 1.35 | 1.92 |
| Tazewell County; Groveland Twp, IL | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Terre Haute, IN | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.04 | 0.10 | 0.08 | 0.12 |

Table A1-52

Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Cumulative Impacts

Sulfur Dioxide (SO₂) 2050

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|---|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Thurston County; Cities of Olympia, Tumwater, and Lacey, WA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.12 | 0.30 | 0.24 | 0.34 |
| Toms River Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.01 | 0.02 | 0.01 | 0.02 |
| Tooele County (part), UT | SO ₂ (1971 24-hour/Annual) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Trenton Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.11 | 0.28 | 0.22 | 0.32 |
| Trona, CA | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Tucson Area, AZ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 1.02 | 2.60 | 2.11 | 2.99 |
| Tuscan Buttes, CA | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Union County; LaGrande, OR | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.05 | 0.13 | 0.10 | 0.14 |
| Upper Green River Basin Area, WY | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Utah County, UT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.48 | 1.22 | 0.99 | 1.41 |
| Vancouver Area: Clark County (part), WA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.32 | 0.83 | 0.67 | 0.95 |
| Ventura County, CA | Ozone (2008 8-hour) | Nonattainment, Serious | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Vermillion County; Part of Clinton Township, IN | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Vigo County, IN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Walla Walla County; Wallula, WA | PM10 (1987 24-hour) | Maintenance, Serious | 100 | 0 | 0.00 | 0.01 | 0.01 | 0.01 |
| Waltham Area, MA | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.07 | 0.17 | 0.14 | 0.19 |
| Warren County: Conewago Twp, PA | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Warren County: Warren Boro, Pleasant Twp, Glade Twp, PA | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Warren, PA | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 93.96 | 231.16 | 192.66 | 267.57 |
| Washington Area, DC-MD-VA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.79 | 2.02 | 1.64 | 2.32 |
| Washington, DC-MD-VA | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Washoe County; Reno planning area, NV | PM10 (1987 24-hour) | Nonattainment, Serious | 70 | 0 | 0.38 | 0.96 | 0.78 | 1.11 |

Appendix A Air Quality Non-Attainment Area Results

Table A1-52

Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Cumulative Impacts

Sulfur Dioxide (SO₂) 2050

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|---|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Wayne County: Boston, Center, Franklin, Wayne & Webster Townships, IN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Wayne County; (part), MI | PM ₁₀ (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 8.35 | 20.55 | 17.12 | 23.78 |
| West Central Pinal County, AZ | PM _{2.5} (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.11 | 0.27 | 0.22 | 0.31 |
| West Silver Valley, ID | PM _{2.5} (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 0.03 | 0.08 | 0.06 | 0.09 |
| Winston-Salem Area, NC | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.44 | 1.13 | 0.92 | 1.30 |
| Worcester Area, MA | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.29 | 0.74 | 0.60 | 0.85 |
| Yakima Area, WA | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.05 | 0.14 | 0.11 | 0.16 |
| Yakima County; (part), WA | PM ₁₀ (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.14 | 0.35 | 0.29 | 0.41 |
| Yuba City-Marysville, CA | PM _{2.5} (2006 24-hour) | Maintenance, Moderate | 100 | 0 | 0.23 | 0.59 | 0.48 | 0.67 |
| Yuma County; Yuma planning area, AZ | PM ₁₀ (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.19 | 0.50 | 0.40 | 0.57 |

^a Reductions are shown as positive values. Negative values are emissions increases. Values of less than 0.005 tons per year are rounded to zero.

^b Nonattainment or maintenance status as of 5/13/2016. Source: U.S. EPA, The Green Book Nonattainment Areas for Criteria Pollutants; <http://www.epa.gov/airquality/greenbook/>. "--" indicates that no severity classification has been established for the NAAQS pollutant.

^c Emissions thresholds in tons per year. Where the threshold differs by precursor pollutant, the smallest of the precursor thresholds is shown. These thresholds are provided for information only; a general conformity determination is not required for the Proposed Action. Source: 40 CFR 93.853.

Notes: CO = carbon monoxide; NAAQS = National Ambient Air Quality Standards; NO₂ = nitrogen dioxide; PM = particulate matter; SO₂ = sulfur dioxide

Table A1-53
Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Cumulative Impacts
Nitrogen Oxides (NO_x) 2018

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Ada County; Boise, ID | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.02 | 0.05 | 0.02 | 0.10 |
| Adams, Denver, and Boulder Counties; Denver Metropolitan area, CO | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.09 | 0.21 | 0.04 | 0.44 |
| Ajo, AZ | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Albuquerque Area, NM | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.05 | 0.11 | 0.04 | 0.20 |
| Allegheny County Air Basin: Hazelwood monitor, PA | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Allegheny County, PA | PM2.5 (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 0.05 | 0.12 | 0.03 | 0.25 |
| Allegheny County; The area including Liberty, Lincoln, Port Vue, and Glassport Boroughs and the City of Clairton, PA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Allegheny, PA | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.01 | 0.01 | 0.00 | 0.02 |
| Allentown, PA | PM2.5 (2006 24-hour) | Maintenance, Moderate | 100 | 0 | 0.04 | 0.09 | 0.03 | 0.17 |
| Allentown-Bethlehem-Easton, PA | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Anchorage Area, AK | CO (1971 8-hour) | Maintenance, Serious | 100 | 0 | 0.01 | 0.02 | 0.01 | 0.04 |
| Anchorage; Eagle River, AK | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| AQCR 012: Portions of Grant County, NM | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| AQCR 109-Millinocket, ME | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| AQCR 131: Anoka, Carver, Dakota, Hennepin, Ramsey, Scott, and Washington counties (Minneapolis-St. Paul), MN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| AQCR 237: Brown County: Green Bay sub-city area, WI | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| AQCR 238: Marathon County: Rothschild Sub-city area, Rib Mountain, Weston, WI | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| AQCR 238: Oneida County: Rhinelander Sub-city area, WI | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| AQCR 239: Milwaukee County: Milwaukee sub-city area, WI | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |

Appendix A Air Quality Non-Attainment Area Results

Table A1-53

Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Cumulative Impacts

Nitrogen Oxides (NO_x) 2018

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| AQCR 240: Dane County: Madison sub-city area, WI | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Archuleta County; Pagosa Springs, CO | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.01 |
| Armstrong County: Madison Twp, Mahoning Twp, Boggs Twp, Washington Twp, Pine Twp, PA | SO ₂ (1971 24-hour/Annual) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Aroostock County; City of Presque Isle, ME | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Atlanta, GA | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Atlantic City Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.01 | 0.00 | 0.02 |
| Bakersfield Area, CA | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.15 | 0.26 | 0.23 | 0.40 |
| Baltimore Area, MD | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Baltimore, MD | Ozone (2008 8-hour) | Nonattainment, Moderate | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Baton Rouge, LA | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Beaver, PA | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Benton County; (part) TVA Johnsonville, TN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Billings Area, MT | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 1.29 | 1.96 | 2.25 | 2.71 |
| Billings, MT | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 1.28 | 1.95 | 2.24 | 2.69 |
| Birmingham, AL | PM2.5 (2006 24-hour) | Maintenance, -- | 100 | 0 | 0.10 | 0.21 | 0.07 | 0.41 |
| Boise-Northern Ada County Area, ID | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.02 | 0.05 | 0.02 | 0.10 |
| Bonner County; The Sandpoint Area, ID | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Boston Area, MA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.05 | 0.11 | 0.03 | 0.23 |
| Boyd County (part), KY | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Brooke; Follansbee area, WV | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Burlington Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Calaveras County, CA | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Campbell-Clermont Counties, KY-OH | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.01 |

Table A1-53
Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Cumulative Impacts
Nitrogen Oxides (NO_x) 2018

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|---|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Canton-Massillon, OH | PM2.5 (2006 24-hour) | Maintenance, -- | 100 | 0 | 0.38 | 0.59 | 0.63 | 0.85 |
| Central New Hampshire, NH | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.01 | 0.03 | 0.01 | 0.06 |
| Central Steptoe Valley, NV | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Charleston, WV | PM2.5 (2006 24-hour) | Maintenance, -- | 100 | 0 | 0.02 | 0.05 | 0.01 | 0.11 |
| Charlotte Area, NC | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.07 | 0.18 | 0.03 | 0.37 |
| Charlotte-Rock Hill, NC-SC | Ozone (2008 8-hour) | Maintenance, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Chicago-Naperville, IL-IN-WI | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Chico (Butte County), CA | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Chico Area, CA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.01 | 0.00 | 0.02 |
| Chico, CA | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.01 | 0.03 | 0.01 | 0.06 |
| Cincinnati, OH-KY-IN | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Clark County; Las Vegas planning area, NV | PM10 (1987 24-hour) | Maintenance, Serious | 100 | 0 | 0.09 | 0.22 | 0.04 | 0.45 |
| Cleveland Area, OH | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.06 | 0.13 | 0.02 | 0.27 |
| Cleveland, OH | PM2.5 (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 0.07 | 0.17 | 0.03 | 0.35 |
| Cleveland-Akron-Lorain, OH | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Cleveland-Akron-Lorain, OH | PM2.5 (2006 24-hour) | Maintenance, -- | 100 | 0 | 0.16 | 0.38 | 0.07 | 0.78 |
| Cochise County; Paul Spur/Douglas planning area, AZ | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.01 | 0.00 | 0.01 |
| Colorado Springs Area, CO | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.04 | 0.09 | 0.03 | 0.17 |
| Columbus, OH | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Cook County; Lyons Township, IL | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.01 | 0.02 | 0.02 | 0.04 |
| Cook County; Southeast Chicago, IL | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.01 | 0.03 | 0.02 | 0.04 |
| Coshocton County; Franklin Township, OH | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Coso Junction, CA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Cuyahoga County (part), OH | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Cuyahoga County, OH | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.06 | 0.13 | 0.02 | 0.27 |

Appendix A Air Quality Non-Attainment Area Results

Table A1-53

Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Cumulative Impacts

Nitrogen Oxides (NO_x) 2018

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Dallas-Fort Worth, TX | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Delaware County, PA | PM2.5 (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 2.79 | 4.25 | 4.85 | 5.90 |
| Denver-Boulder Area, CO | CO (1971 8-hour) | Maintenance, Serious | 100 | 0 | 1.02 | 1.67 | 1.59 | 2.55 |
| Denver-Boulder-Greeley-Ft Collins-Loveland, CO | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Detroit Area, MI | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.26 | 0.48 | 0.33 | 0.83 |
| Detroit, MI | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.18 | 0.28 | 0.29 | 0.41 |
| Detroit-Ann Arbor, MI | PM2.5 (2006 24-hour) | Maintenance, -- | 100 | 0 | 0.45 | 0.94 | 0.41 | 1.77 |
| Dona Ana County; Anthony, NM | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Douglas, AZ | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Dukes County, MA | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Duluth Area, MN | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.01 | 0.01 | 0.00 | 0.03 |
| East Chicago Area, IN | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 2.07 | 3.13 | 3.61 | 4.33 |
| East Helena Area, MT | SO ₂ (1971 24-hour/Annual) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| East Kern County Area, CA | PM10 (1987 24-hour) | Nonattainment, Serious | 70 | 0 | 0.13 | 0.19 | 0.22 | 0.27 |
| El Paso County, TX | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.52 | 0.81 | 0.88 | 1.17 |
| El Paso, TX | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.49 | 0.75 | 0.86 | 1.04 |
| Eugene-Springfield Area, OR | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.01 | 0.03 | 0.01 | 0.06 |
| Fairbanks Area, AK | CO (1971 8-hour) | Maintenance, Serious | 100 | 0 | 0.18 | 0.27 | 0.31 | 0.38 |
| Fairbanks, AK | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.18 | 0.27 | 0.31 | 0.38 |

Table A1-53
Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Cumulative Impacts
Nitrogen Oxides (NO_x) 2018

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|---|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Flathead County; Columbia Falls and vicinity, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Flathead County; Kalispell and vicinity, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.01 | 0.00 | 0.01 |
| Flathead County; Whitefish and vicinity, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Fort Collins Area, CO | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.01 | 0.02 | 0.00 | 0.03 |
| Freehold Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.01 |
| Fremont County; Canon City Area, CO | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.01 | 0.00 | 0.01 |
| Fresno Area, CA | CO (1971 8-hour) | Maintenance, Moderate > 12.7ppm | 100 | 0 | 0.04 | 0.09 | 0.02 | 0.17 |
| Grants Pass Area, OR | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.01 | 0.00 | 0.01 |
| Great Falls Area, MT | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.23 | 0.35 | 0.41 | 0.49 |
| Greater Connecticut, CT | Ozone (2008 8-hour) | Nonattainment, Moderate | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Greeley Area, CO | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.04 | 0.08 | 0.04 | 0.14 |
| Hancock and Brooke Counties (Part); The city of Weirton, WV | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.07 | 0.11 | 0.12 | 0.15 |
| Hancock County (Part) The city of Weirton, including Butler and Clay: Magisterial Districts, WV | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Harrisburg-Lebanon-Carlisle-York, PA | PM2.5 (2006 24-hour) | Maintenance, Moderate | 100 | 0 | 0.08 | 0.18 | 0.04 | 0.37 |
| Hartford-New Britain-Middletown Area, CT | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.07 | 0.16 | 0.03 | 0.32 |
| Hayden, AZ | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Hayden, AZ | SO ₂ (1971 24-hour/Annual) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Hayden, AZ | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Hillsborough County, FL | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Houston-Galveston-Brazoria, TX | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Humphreys County; (part) TVA Johnsonville, TN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Imperial Co, CA | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.01 | 0.03 | 0.01 | 0.06 |

Appendix A Air Quality Non-Attainment Area Results

Table A1-53

Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Cumulative Impacts

Nitrogen Oxides (NO_x) 2018

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Imperial County, CA | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Imperial County, CA | PM2.5 (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 0.01 | 0.03 | 0.01 | 0.06 |
| Imperial County; Imperial Valley planning area, CA | PM10 (1987 24-hour) | Nonattainment, Serious | 70 | 0 | 0.01 | 0.04 | 0.01 | 0.07 |
| Indian Wells, CA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.13 | 0.19 | 0.22 | 0.27 |
| Indiana, PA | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.01 | 0.01 | 0.00 | 0.03 |
| Indianapolis Area, IN | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Indianapolis, IN | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.03 | 0.07 | 0.01 | 0.14 |
| Inyo County; Owens Valley planning area, CA | PM10 (1987 24-hour) | Nonattainment, Serious | 70 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Jackson County, MO | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.01 | 0.00 | 0.02 |
| Jackson County; Medford-Ashland (including White City), OR | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.01 | 0.03 | 0.00 | 0.05 |
| Jamestown, NY | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Jefferson County, KY | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Jefferson County, MO | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.01 | 0.00 | 0.01 |
| Jefferson County; (part) Steubenville & Mingo Junction, OH | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Jefferson County; (part), OH | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Johnstown, PA | PM2.5 (2006 24-hour) | Maintenance, Moderate | 100 | 0 | 0.01 | 0.02 | 0.00 | 0.04 |
| Josephine County; Grants Pass, OR | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.01 | 0.00 | 0.01 |
| Juneau; Mendenhall Valley area, AK | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Kern County (Eastern Kern), CA | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| King County; Kent, WA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.01 |
| King County; Seattle, WA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Klamath County; Klamath Falls, OR | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.01 | 0.00 | 0.02 |
| Klamath Falls Area, OR | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.01 | 0.00 | 0.02 |
| Klamath Falls, OR | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.01 | 0.00 | 0.02 |

Table A1-53

Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Cumulative Impacts

Nitrogen Oxides (NO_x) 2018

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Knoxville, TN | Ozone (2008 8-hour) | Maintenance, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Knoxville-Sevierville-La Follette, TN | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.06 | 0.14 | 0.03 | 0.29 |
| La Porte County: (part), IN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lake County (part); Lakeview, OR | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lake County, OH | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.02 | 0.04 | 0.01 | 0.08 |
| Lake County: (part), IN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lake County; (part) Eastlake, Timberlake, Lakeline, Willoughby, Mentor, OH | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lake County; Cities of East Chicago, Hammond, Whiting, and Gary, IN | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 2.08 | 3.16 | 3.62 | 4.38 |
| Lake County; Polson, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lake County; Ronan, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lake Tahoe Nevada Area, NV | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.01 |
| Lake Tahoe North Shore Area, CA | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lake Tahoe South Shore Area, CA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.01 |
| Lancaster, PA | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lancaster, PA | PM2.5 (2006 24-hour) | Maintenance, Moderate | 100 | 0 | 0.03 | 0.07 | 0.01 | 0.15 |
| Lane County (part); Oakridge, OR | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lane County; Eugene/Springfield, OR | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.01 | 0.03 | 0.01 | 0.06 |
| Las Vegas Area, NV | CO (1971 8-hour) | Maintenance, Serious | 100 | 0 | 0.09 | 0.22 | 0.04 | 0.45 |
| LaSalle County; Oglesby, IL | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.01 |
| Laurel Area, MT | SO ₂ (1971 24-hour/Annual) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lebanon County, PA | PM2.5 (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 0.01 | 0.03 | 0.00 | 0.05 |
| Lemont, IL | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 2.79 | 4.23 | 4.86 | 5.86 |
| Liberty-Clairton, PA | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |

Appendix A Air Quality Non-Attainment Area Results

Table A1-53

Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Cumulative Impacts

Nitrogen Oxides (NO_x) 2018

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Lincoln County; Libby and vicinity, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Logan, UT-ID | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.01 | 0.01 | 0.00 | 0.03 |
| Longmont Area, CO | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.01 | 0.00 | 0.02 |
| Lorain County (part), OH | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Los Angeles, CA | PM2.5 (2006 24-hour) | Nonattainment, Serious | 100 | 0 | 4.15 | 7.05 | 6.11 | 11.17 |
| Los Angeles-San Bernardino Counties (West Mojave Desert), CA | Ozone (2008 8-hour) | Nonattainment, Severe 15 | 25 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Los Angeles-South Coast Air Basin Area, CA | CO (1971 8-hour) | Maintenance, Serious | 100 | 0 | 4.16 | 7.05 | 6.11 | 11.18 |
| Los Angeles-South Coast Air Basin Area, CA | NO ₂ (1971 Annual) | Maintenance, -- | 100 | 0 | 4.16 | 7.05 | 6.11 | 11.18 |
| Los Angeles-South Coast Air Basin, CA | Ozone (2008 8-hour) | Nonattainment, Extreme | 10 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Los Angeles-South Coast Air Basin, CA | PM2.5 (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 4.15 | 7.05 | 6.11 | 11.17 |
| Lowell Area, MA | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.01 | 0.01 | 0.00 | 0.03 |
| Lucas County (part), OH | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Madison County; Granite City Township and Nameoki Township, IL | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 3.05 | 4.62 | 5.32 | 6.39 |
| Manchester Area, NH | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.01 | 0.01 | 0.00 | 0.03 |
| Maricopa and Pinal Counties; Phoenix planning area, AZ | PM10 (1987 24-hour) | Nonattainment, Serious | 70 | 0 | 0.21 | 0.51 | 0.09 | 1.04 |
| Marion County; Lawrence, Washington, and Warrant Townships, IN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Mariposa County, CA | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Marshall, WV | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.60 | 0.90 | 1.04 | 1.25 |
| Medford Area, OR | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.01 | 0.01 | 0.00 | 0.03 |
| Memphis Area, TN | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.42 | 0.68 | 0.66 | 1.02 |

Table A1-53
Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Cumulative Impacts
Nitrogen Oxides (NO_x) 2018

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|---|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Memphis, TN-MS-AR | Ozone (2008 8-hour) | Nonattainment TN & Maintenance MS/AR, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Miami, AZ | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Miami, AZ | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Miami, AZ | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Milwaukee-Racine, WI | PM2.5 (2006 24-hour) | Maintenance, -- | 100 | 0 | 0.07 | 0.17 | 0.03 | 0.34 |
| Minneapolis-St. Paul Area, MN | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 2.76 | 4.33 | 4.58 | 6.28 |
| Missoula Area, MT | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.01 | 0.02 | 0.01 | 0.04 |
| Missoula county; Missoula and vicinity, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.01 | 0.02 | 0.01 | 0.04 |
| Modesto Area, CA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.01 | 0.03 | 0.01 | 0.06 |
| Mohave County (part); Bullhead City, AZ | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.01 | 0.01 | 0.00 | 0.03 |
| Mono County; Mammoth Lake planning area, CA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.01 |
| Mono County; Mono Basin, CA | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Morenci, AZ | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Morgan County, IN | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.01 | 0.00 | 0.01 |
| Morongo Band of Mission Indians | Ozone (2008 8-hour) | Nonattainment, Serious | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Morristown Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.01 | 0.00 | 0.01 |
| Muscatine County; (part), IA | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Muscatine, IA | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.01 |
| Muskingum River, OH | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Nashua Area, NH | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.01 | 0.00 | 0.02 |
| Nassau County, FL | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Nevada County (Western part), CA | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| New Haven County, CT | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.01 |

Appendix A Air Quality Non-Attainment Area Results

Table A1-53

Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Cumulative Impacts

Nitrogen Oxides (NO_x) 2018

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| New Haven-Meriden-Waterbury Area, CT | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.06 | 0.13 | 0.03 | 0.26 |
| New Manchester-Grant magisterial district in Hancock County, WV | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| New York County, NY | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.03 | 0.08 | 0.01 | 0.16 |
| New York, NY-NJ-CT | PM2.5 (2006 24-hour) | Maintenance, -- | 100 | 0 | 2.20 | 4.13 | 2.63 | 7.22 |
| New York-N. New Jersey-Long Island Area, NY-NJ-CT | CO (1971 8-hour) | Maintenance, Moderate > 12.7ppm | 100 | 0 | 1.51 | 2.73 | 1.97 | 4.61 |
| New York-N. New Jersey-Long Island, NY-NJ-CT | Ozone (2008 8-hour) | Nonattainment, Moderate | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| NJ portion of the Northeast Pennsylvania-Upper Delaware Valley Interstate AQCR: (part), NJ | SO ₂ (1971 24-hour/Annual) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Nogales, AZ | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.01 | 0.00 | 0.01 |
| Oakridge, OR | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Ogden Area, UT | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.01 | 0.00 | 0.02 |
| Ogden Area, UT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.01 | 0.00 | 0.02 |
| Olmsted County; (part), MN | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.01 |
| Olmsted; City of Rochester, MN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |

Table A1-53
Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Cumulative Impacts
Nitrogen Oxides (NO_x) 2018

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Pechanga Band of Luiseno Mission Indians of the Pechanga Reservation | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Pekin, IL | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.01 | 0.00 | 0.01 |
| Penns Grove Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Peoria County: Hollis Twp, IL | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Peoria County: Peoria, IL | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Perth Amboy Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.27 | 0.41 | 0.46 | 0.58 |
| Philadelphia-Camden County Area, PA-NJ | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 1.38 | 2.14 | 2.35 | 3.05 |
| Philadelphia-Wilmington, PA-NJ-DE | PM _{2.5} (2006 24-hour) | Maintenance, Moderate for PA and DE Subject to Former Subpart 1 for NJ | 100 | 0 | 4.87 | 7.59 | 8.18 | 10.89 |
| Philadelphia-Wilmington-Atlantic City, PA-NJ-MD-DE | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Phoenix Area, AZ | CO (1971 8-hour) | Maintenance, Serious | 100 | 0 | 0.20 | 0.48 | 0.09 | 1.00 |
| Phoenix-Mesa, AZ | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Pierce County; Tacoma, WA | PM ₁₀ (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Pima County; Ajo planning area, AZ | PM ₁₀ (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Pima County; Rillito planning area, AZ | PM ₁₀ (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.01 | 0.00 | 0.02 |
| Pinal and Gila Counties; Payson, AZ | PM ₁₀ (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.01 |
| Pinal County (part); West Pinal, AZ | PM ₁₀ (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.02 | 0.05 | 0.01 | 0.11 |
| Pitkin County; Aspen, CO | PM ₁₀ (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.01 |
| Pittsburgh Area, PA | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.01 | 0.03 | 0.01 | 0.06 |
| Pittsburgh-Beaver Valley, PA | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Pittsburgh-Beaver Valley, PA | PM _{2.5} (2006 24-hour) | Maintenance, Moderate | 100 | 0 | 0.12 | 0.28 | 0.08 | 0.55 |
| Plumas County, CA | PM _{2.5} (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Polk County, TN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |

Appendix A Air Quality Non-Attainment Area Results

Table A1-53

Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Cumulative Impacts

Nitrogen Oxides (NO_x) 2018

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|-------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Portland Area: Portland Metro Service District Boundary, OR | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.09 | 0.19 | 0.06 | 0.37 |
| Power-Bannock Counties; Fort Hall Indian Reservation, ID | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Power-Bannock Counties; Portneuf Valley Area, ID | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.01 | 0.01 | 0.00 | 0.03 |
| Provo Area, UT | CO (1971 8-hour) | Maintenance, Moderate > 12.7ppm | 100 | 0 | 0.00 | 0.01 | 0.00 | 0.02 |
| Provo, UT | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.02 | 0.06 | 0.01 | 0.11 |
| Prowers County; Lamar, CO | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Raleigh-Durham Area, NC | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.08 | 0.19 | 0.04 | 0.39 |
| Ramsey County; (part), MN | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Reading, PA | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Reno Area, NV | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.02 | 0.05 | 0.01 | 0.10 |
| Rhinelander, WI | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.01 |
| Riverside County (Coachella Valley), CA | Ozone (2008 8-hour) | Nonattainment, Severe 15 | 25 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Riverside County; Coachella Valley planning area, CA | PM10 (1987 24-hour) | Nonattainment, Serious | 70 | 0 | 0.03 | 0.08 | 0.01 | 0.16 |
| Riverside, Los Angeles, Orange, and San Bernardino Counties; South Coast Air Basin, CA | PM10 (1987 24-hour) | Maintenance, Serious | 100 | 0 | 4.15 | 7.04 | 6.11 | 11.15 |
| Rosebud County; Lame Deer, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Routt County (part); Steamboat Springs, CO | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.01 |
| Sacramento Area, CA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.08 | 0.19 | 0.04 | 0.40 |
| Sacramento County, CA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.07 | 0.18 | 0.04 | 0.36 |
| Sacramento Metro, CA | Ozone (2008 8-hour) | Nonattainment, Severe 15 | 25 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Sacramento, CA | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.66 | 1.11 | 0.97 | 1.75 |
| Salem Area, OR | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.01 | 0.03 | 0.01 | 0.07 |
| Salt Lake City Area, UT | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.53 | 0.81 | 0.92 | 1.14 |
| Salt Lake City, UT | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.95 | 1.52 | 1.54 | 2.25 |

Table A1-53
Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Cumulative Impacts
Nitrogen Oxides (NO_x) 2018

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|---|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Salt Lake County, UT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.58 | 0.92 | 0.94 | 1.36 |
| Salt Lake County, UT | SO ₂ (1971 24-hour/Annual) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| San Bernardino County (part); excluding Searles Valley Planning area and South Coast Air Basin, CA | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.04 | 0.09 | 0.02 | 0.18 |
| San Diego Area, CA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.20 | 0.47 | 0.09 | 0.96 |
| San Diego County, CA | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| San Francisco Bay Area, CA | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| San Francisco Bay Area, CA | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 2.90 | 4.73 | 4.58 | 7.15 |
| San Francisco-Oakland-San Jose Area, CA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 2.87 | 4.65 | 4.56 | 6.99 |
| San Joaquin Valley Air Basin; Fresno, Kern, Kings, Madera, Merced, San Joaquin, Stanislaus, Tulare Counties, CA | PM10 (1987 24-hour) | Maintenance, Serious | 100 | 0 | 0.39 | 0.81 | 0.35 | 1.53 |
| San Joaquin Valley, CA | Ozone (2008 8-hour) | Nonattainment, Extreme | 10 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| San Joaquin Valley, CA | PM2.5 (2006 24-hour) | Nonattainment, Serious | 100 | 0 | 0.39 | 0.81 | 0.35 | 1.53 |
| San Joaquin Valley, CA | PM2.5 (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 0.39 | 0.81 | 0.35 | 1.53 |
| San Luis Obispo (Eastern San Luis Obispo), CA | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| San Manuel, AZ | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| San Miguel County; Telluride, CO | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Sanders County (part); Thompson Falls and vicinity, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Santa Cruz County; Nogales planning area, AZ | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.01 | 0.00 | 0.01 |
| Seaford, DE | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Seattle-Tacoma Area, WA | CO (1971 8-hour) | Maintenance, Moderate > 12.7ppm | 100 | 0 | 0.16 | 0.38 | 0.07 | 0.79 |
| Seattle-Tacoma, WA | PM2.5 (2006 24-hour) | Maintenance, Moderate | 100 | 0 | 0.03 | 0.06 | 0.01 | 0.13 |
| Sheboygan County, WI | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |

Appendix A Air Quality Non-Attainment Area Results

Table A1-53

Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Cumulative Impacts

Nitrogen Oxides (NO_x) 2018

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|---|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Sheridan County; City of Sheridan, WY | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.01 |
| Shoshone County (part); excluding Pinehurst, ID | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.01 | 0.00 | 0.01 |
| Shoshone County; City of Pinehurst, ID | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Silver Bow County; Butte, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.01 | 0.00 | 0.01 |
| Somerville Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.01 |
| Southwest Indiana, IN | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Spokane Area, WA | CO (1971 8-hour) | Maintenance, Serious | 100 | 0 | 0.02 | 0.04 | 0.01 | 0.08 |
| Spokane County; (part), WA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.02 | 0.04 | 0.01 | 0.09 |
| Springfield Area, MA | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.01 | 0.02 | 0.00 | 0.05 |
| St. Bernard Parish, LA | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 2.11 | 3.20 | 3.68 | 4.42 |
| St. Louis Area, MO | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.05 | 0.12 | 0.02 | 0.25 |
| St. Louis-St. Charles-Farmington, MO-IL | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Steubenville, OH-WV | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.01 | 0.00 | 0.02 |
| Steubenville-Weirton, OH-WV | PM2.5 (2006 24-hour) | Maintenance, -- | 100 | 0 | 0.08 | 0.12 | 0.12 | 0.18 |
| Stockton Area, CA | CO (1971 8-hour) | Maintenance, Moderate ≤ 12.7ppm | 100 | 0 | 0.02 | 0.06 | 0.01 | 0.11 |
| Sullivan County, TN | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.02 | 0.03 | 0.03 | 0.04 |
| Syracuse Area; Onondaga County, NY | CO (1971 8-hour) | Maintenance, Moderate ≤ 12.7ppm | 100 | 0 | 0.03 | 0.08 | 0.01 | 0.15 |
| Tazewell County; Groveland Twp, IL | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Terre Haute, IN | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.01 | 0.00 | 0.02 |

Table A1-53

Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Cumulative Impacts

Nitrogen Oxides (NO_x) 2018

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|---|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Thurston County; Cities of Olympia, Tumwater, and Lacey, WA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.01 | 0.01 | 0.00 | 0.03 |
| Toms River Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Tooele County (part), UT | SO ₂ (1971 24-hour/Annual) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Trenton Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.01 | 0.00 | 0.02 |
| Trona, CA | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Tucson Area, AZ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.05 | 0.12 | 0.02 | 0.24 |
| Tuscan Buttes, CA | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Union County; LaGrande, OR | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.01 |
| Upper Green River Basin Area, WY | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Utah County, UT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.02 | 0.06 | 0.01 | 0.11 |
| Vancouver Area: Clark County (part), WA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.02 | 0.04 | 0.01 | 0.08 |
| Ventura County, CA | Ozone (2008 8-hour) | Nonattainment, Serious | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Vermillion County; Part of Clinton Township, IN | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.01 |
| Vigo County, IN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Walla Walla County; Wallula, WA | PM10 (1987 24-hour) | Maintenance, Serious | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Waltham Area, MA | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.01 | 0.00 | 0.02 |
| Warren County: Conewago Twp, PA | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Warren County: Warren Boro, Pleasant Twp, Glade Twp, PA | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Warren, PA | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.25 | 0.37 | 0.43 | 0.52 |
| Washington Area, DC-MD-VA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.04 | 0.09 | 0.02 | 0.19 |
| Washington, DC-MD-VA | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Washoe County; Reno planning area, NV | PM10 (1987 24-hour) | Nonattainment, Serious | 70 | 0 | 0.02 | 0.05 | 0.01 | 0.09 |

Appendix A Air Quality Non-Attainment Area Results

Table A1-53

Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Cumulative Impacts

Nitrogen Oxides (NO_x) 2018

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|---|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Wayne County: Boston, Center, Franklin, Wayne & Webster Townships, IN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Wayne County; (part), MI | PM ₁₀ (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.16 | 0.25 | 0.28 | 0.35 |
| West Central Pinal County, AZ | PM _{2.5} (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.01 | 0.00 | 0.02 |
| West Silver Valley, ID | PM _{2.5} (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.01 |
| Winston-Salem Area, NC | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.02 | 0.05 | 0.01 | 0.11 |
| Worcester Area, MA | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.01 | 0.03 | 0.01 | 0.06 |
| Yakima Area, WA | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.01 | 0.00 | 0.01 |
| Yakima County; (part), WA | PM ₁₀ (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.01 | 0.02 | 0.00 | 0.03 |
| Yuba City-Marysville, CA | PM _{2.5} (2006 24-hour) | Maintenance, Moderate | 100 | 0 | 0.01 | 0.03 | 0.00 | 0.05 |
| Yuma County; Yuma planning area, AZ | PM ₁₀ (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.01 | 0.02 | 0.00 | 0.05 |

^a Reductions are shown as positive values. Negative values are emissions increases. Values of less than 0.005 tons per year are rounded to zero.

^b Nonattainment or maintenance status as of 5/13/2016. Source: U.S. EPA, The Green Book Nonattainment Areas for Criteria Pollutants; <http://www.epa.gov/airquality/greenbook/>. "--" indicates that no severity classification has been established for the NAAQS pollutant.

^c Emissions thresholds in tons per year. Where the threshold differs by precursor pollutant, the smallest of the precursor thresholds is shown. These thresholds are provided for information only; a general conformity determination is not required for the Proposed Action. Source: 40 CFR 93.853.

Notes: CO = carbon monoxide; NAAQS = National Ambient Air Quality Standards; NO₂ = nitrogen dioxide; PM = particulate matter; SO₂ = sulfur dioxide

Table A1-54
Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Cumulative Impacts
Nitrogen Oxides (NO_x) 2025

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Ada County; Boise, ID | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 6.00 | 11.66 | 19.90 | 25.13 |
| Adams, Denver, and Boulder Counties; Denver Metropolitan area, CO | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 28.36 | 55.09 | 94.92 | 119.61 |
| Ajo, AZ | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Albuquerque Area, NM | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 12.02 | 23.37 | 39.91 | 50.41 |
| Allegheny County Air Basin: Hazelwood monitor, PA | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Allegheny County, PA | PM2.5 (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 15.58 | 30.28 | 51.97 | 65.55 |
| Allegheny County; The area including Liberty, Lincoln, Port Vue, and Glassport Boroughs and the City of Clairton, PA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.20 | 0.39 | 0.66 | 0.84 |
| Allegheny, PA | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 1.35 | 2.61 | 4.48 | 5.66 |
| Allentown, PA | PM2.5 (2006 24-hour) | Maintenance, Moderate | 100 | 0 | 10.59 | 20.58 | 35.28 | 44.51 |
| Allentown-Bethlehem-Easton, PA | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Anchorage Area, AK | CO (1971 8-hour) | Maintenance, Serious | 100 | 0 | 2.04 | 3.96 | 6.76 | 8.53 |
| Anchorage; Eagle River, AK | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.13 | 0.26 | 0.43 | 0.55 |
| AQCR 012: Portions of Grant County, NM | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| AQCR 109-Millinocket, ME | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| AQCR 131: Anoka, Carver, Dakota, Hennepin, Ramsey, Scott, and Washington counties (Minneapolis-St. Paul), MN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| AQCR 237: Brown County: Green Bay sub-city area, WI | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| AQCR 238: Marathon County: Rothschild Sub-city area, Rib Mountain, Weston, WI | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| AQCR 238: Oneida County: Rhinelander Sub-city area, WI | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| AQCR 239: Milwaukee County: Milwaukee sub-city area, WI | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |

Appendix A Air Quality Non-Attainment Area Results

Table A1-54

Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Cumulative Impacts

Nitrogen Oxides (NO_x) 2025

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| AQCR 240: Dane County: Madison sub-city area, WI | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Archuleta County; Pagosa Springs, CO | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.44 | 0.86 | 1.48 | 1.86 |
| Armstrong County: Madison Twp, Mahoning Twp, Boggs Twp, Washington Twp, Pine Twp, PA | SO ₂ (1971 24-hour/Annual) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Aroostock County; City of Presque Isle, ME | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.27 | 0.52 | 0.89 | 1.12 |
| Atlanta, GA | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Atlantic City Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 1.02 | 1.97 | 3.40 | 4.29 |
| Bakersfield Area, CA | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 12.29 | 24.06 | 37.82 | 48.83 |
| Baltimore Area, MD | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.22 | 0.44 | 0.74 | 0.93 |
| Baltimore, MD | Ozone (2008 8-hour) | Nonattainment, Moderate | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Baton Rouge, LA | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Beaver, PA | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.27 | 0.53 | 0.91 | 1.15 |
| Benton County; (part) TVA Johnsonville, TN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Billings Area, MT | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 31.44 | 62.98 | 70.54 | 101.10 |
| Billings, MT | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 29.85 | 59.90 | 65.22 | 94.41 |
| Birmingham, AL | PM2.5 (2006 24-hour) | Maintenance, -- | 100 | 0 | 24.42 | 47.46 | 81.13 | 102.44 |
| Boise-Northern Ada County Area, ID | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 6.00 | 11.66 | 19.90 | 25.13 |
| Bonner County; The Sandpoint Area, ID | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.20 | 0.38 | 0.66 | 0.83 |
| Boston Area, MA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 14.00 | 27.20 | 46.64 | 58.85 |
| Boyd County (part), KY | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Brooke; Follansbee area, WV | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.01 | 0.03 | 0.05 | 0.06 |
| Burlington Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.16 | 0.31 | 0.54 | 0.68 |
| Calaveras County, CA | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Campbell-Clermont Counties, KY-OH | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.67 | 1.30 | 2.24 | 2.83 |

Table A1-54
Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Cumulative Impacts
Nitrogen Oxides (NO_x) 2025

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|---|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Canton-Massillon, OH | PM2.5 (2006 24-hour) | Maintenance, -- | 100 | 0 | 15.42 | 30.47 | 42.08 | 56.38 |
| Central New Hampshire, NH | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 4.08 | 7.93 | 13.67 | 17.23 |
| Central Steptoe Valley, NV | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Charleston, WV | PM2.5 (2006 24-hour) | Maintenance, -- | 100 | 0 | 6.88 | 13.37 | 23.04 | 29.03 |
| Charlotte Area, NC | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 23.79 | 46.22 | 79.62 | 100.33 |
| Charlotte-Rock Hill, NC-SC | Ozone (2008 8-hour) | Maintenance, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Chicago-Naperville, IL-IN-WI | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Chico (Butte County), CA | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Chico Area, CA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 1.60 | 3.12 | 5.37 | 6.77 |
| Chico, CA | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 3.64 | 7.08 | 12.19 | 15.36 |
| Cincinnati, OH-KY-IN | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Clark County; Las Vegas planning area, NV | PM10 (1987 24-hour) | Maintenance, Serious | 100 | 0 | 29.59 | 57.47 | 99.02 | 124.78 |
| Cleveland Area, OH | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 17.73 | 34.44 | 59.33 | 74.77 |
| Cleveland, OH | PM2.5 (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 23.13 | 44.94 | 77.43 | 97.57 |
| Cleveland-Akron-Lorain, OH | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Cleveland-Akron-Lorain, OH | PM2.5 (2006 24-hour) | Maintenance, -- | 100 | 0 | 50.70 | 98.50 | 169.70 | 213.85 |
| Cochise County; Paul Spur/Douglas planning area, AZ | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.77 | 1.50 | 2.58 | 3.25 |
| Colorado Springs Area, CO | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 10.31 | 20.04 | 34.24 | 43.24 |
| Columbus, OH | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Cook County; Lyons Township, IL | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 1.54 | 3.01 | 4.92 | 6.28 |
| Cook County; Southeast Chicago, IL | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 1.84 | 3.59 | 5.93 | 7.55 |
| Coshocton County; Franklin Township, OH | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Coso Junction, CA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Cuyahoga County (part), OH | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Cuyahoga County, OH | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 17.66 | 34.30 | 59.10 | 74.47 |

Appendix A Air Quality Non-Attainment Area Results

Table A1-54

Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Cumulative Impacts

Nitrogen Oxides (NO_x) 2025

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Dallas-Fort Worth, TX | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Delaware County, PA | PM2.5 (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 70.88 | 141.81 | 162.29 | 230.90 |
| Denver-Boulder Area, CO | CO (1971 8-hour) | Maintenance, Serious | 100 | 0 | 67.77 | 132.95 | 203.26 | 264.43 |
| Denver-Boulder-Greeley-Ft Collins-Loveland, CO | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Detroit Area, MI | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 34.46 | 67.18 | 111.00 | 141.40 |
| Detroit, MI | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 9.13 | 17.97 | 26.25 | 34.60 |
| Detroit-Ann Arbor, MI | PM2.5 (2006 24-hour) | Maintenance, -- | 100 | 0 | 97.19 | 189.05 | 320.93 | 405.95 |
| Dona Ana County; Anthony, NM | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.20 | 0.38 | 0.66 | 0.83 |
| Douglas, AZ | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Dukes County, MA | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Duluth Area, MN | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 2.07 | 4.02 | 6.92 | 8.72 |
| East Chicago Area, IN | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 48.33 | 96.97 | 105.94 | 153.16 |
| East Helena Area, MT | SO ₂ (1971 24-hour/Annual) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| East Kern County Area, CA | PM10 (1987 24-hour) | Nonattainment, Serious | 70 | 0 | 3.45 | 6.89 | 8.24 | 11.55 |
| El Paso County, TX | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 19.66 | 38.93 | 52.40 | 70.75 |
| El Paso, TX | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 11.84 | 23.73 | 26.35 | 37.88 |
| Eugene-Springfield Area, OR | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 4.22 | 8.20 | 14.13 | 17.81 |
| Fairbanks Area, AK | CO (1971 8-hour) | Maintenance, Serious | 100 | 0 | 4.42 | 8.86 | 10.00 | 14.30 |
| Fairbanks, AK | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 4.86 | 9.70 | 11.45 | 16.12 |

Table A1-54
Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Cumulative Impacts
Nitrogen Oxides (NO_x) 2025

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|---|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Flathead County; Columbia Falls and vicinity, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.03 | 0.06 | 0.11 | 0.14 |
| Flathead County; Kalispell and vicinity, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.69 | 1.34 | 2.30 | 2.90 |
| Flathead County; Whitefish and vicinity, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.09 | 0.17 | 0.29 | 0.37 |
| Fort Collins Area, CO | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 2.24 | 4.35 | 7.49 | 9.44 |
| Freehold Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.45 | 0.87 | 1.49 | 1.88 |
| Fremont County; Canon City Area, CO | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.74 | 1.45 | 2.49 | 3.14 |
| Fresno Area, CA | CO (1971 8-hour) | Maintenance, Moderate > 12.7ppm | 100 | 0 | 10.58 | 20.57 | 35.27 | 44.50 |
| Grants Pass Area, OR | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.80 | 1.56 | 2.69 | 3.39 |
| Great Falls Area, MT | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 5.44 | 10.92 | 11.89 | 17.21 |
| Greater Connecticut, CT | Ozone (2008 8-hour) | Nonattainment, Moderate | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Greeley Area, CO | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 7.59 | 14.76 | 24.96 | 31.61 |
| Hancock and Brooke Counties (Part); The city of Weirton, WV | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 1.81 | 3.62 | 4.21 | 5.96 |
| Hancock County (Part) The city of Weirton, including Butler and Clay: Magisterial Districts, WV | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Harrisburg-Lebanon-Carlisle-York, PA | PM2.5 (2006 24-hour) | Maintenance, Moderate | 100 | 0 | 24.07 | 46.76 | 80.48 | 101.44 |
| Hartford-New Britain-Middletown Area, CT | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 21.13 | 41.06 | 70.73 | 89.13 |
| Hayden, AZ | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.07 | 0.13 | 0.23 | 0.29 |
| Hayden, AZ | SO ₂ (1971 24-hour/Annual) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Hayden, AZ | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.05 | 0.09 | 0.16 | 0.20 |
| Hillsborough County, FL | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.28 | 0.55 | 0.94 | 1.19 |
| Houston-Galveston-Brazoria, TX | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Humphreys County; (part) TVA Johnsonville, TN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Imperial Co, CA | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 3.91 | 7.60 | 13.09 | 16.49 |

Appendix A Air Quality Non-Attainment Area Results

Table A1-54

Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Cumulative Impacts

Nitrogen Oxides (NO_x) 2025

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Imperial County, CA | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Imperial County, CA | PM2.5 (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 3.91 | 7.60 | 13.09 | 16.49 |
| Imperial County; Imperial Valley planning area, CA | PM10 (1987 24-hour) | Nonattainment, Serious | 70 | 0 | 4.77 | 9.27 | 15.97 | 20.12 |
| Indian Wells, CA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 3.44 | 6.86 | 8.19 | 11.49 |
| Indiana, PA | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 1.75 | 3.40 | 5.85 | 7.38 |
| Indianapolis Area, IN | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.03 | 0.06 | 0.11 | 0.14 |
| Indianapolis, IN | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 9.14 | 17.76 | 30.60 | 38.56 |
| Inyo County; Owens Valley planning area, CA | PM10 (1987 24-hour) | Nonattainment, Serious | 70 | 0 | 0.15 | 0.28 | 0.49 | 0.62 |
| Jackson County, MO | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 1.01 | 1.95 | 3.36 | 4.24 |
| Jackson County; Medford-Ashland (including White City), OR | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 3.49 | 6.78 | 11.68 | 14.71 |
| Jamestown, NY | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Jefferson County, KY | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Jefferson County, MO | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.98 | 1.90 | 3.27 | 4.12 |
| Jefferson County; (part) Steubenville & Mingo Junction, OH | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Jefferson County; (part), OH | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.09 | 0.18 | 0.31 | 0.39 |
| Johnstown, PA | PM2.5 (2006 24-hour) | Maintenance, Moderate | 100 | 0 | 2.34 | 4.54 | 7.83 | 9.86 |
| Josephine County; Grants Pass, OR | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.80 | 1.56 | 2.69 | 3.39 |
| Juneau; Mendenhall Valley area, AK | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.16 | 0.31 | 0.54 | 0.68 |
| Kern County (Eastern Kern), CA | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| King County; Kent, WA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.40 | 0.77 | 1.33 | 1.68 |
| King County; Seattle, WA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.17 | 0.33 | 0.57 | 0.72 |
| Klamath County; Klamath Falls, OR | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 1.25 | 2.43 | 4.18 | 5.27 |
| Klamath Falls Area, OR | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 1.24 | 2.40 | 4.14 | 5.22 |
| Klamath Falls, OR | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 1.36 | 2.63 | 4.54 | 5.72 |

Table A1-54

Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Cumulative Impacts

Nitrogen Oxides (NO_x) 2025

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Knoxville, TN | Ozone (2008 8-hour) | Maintenance, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Knoxville-Sevierville-La Follette, TN | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 18.66 | 36.26 | 62.47 | 78.72 |
| La Porte County: (part), IN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lake County (part); Lakeview, OR | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.11 | 0.21 | 0.35 | 0.45 |
| Lake County, OH | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 5.10 | 9.91 | 17.07 | 21.52 |
| Lake County: (part), IN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lake County; (part) Eastlake, Timberlake, Lakeline, Willoughby, Mentor, OH | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lake County; Cities of East Chicago, Hammond, Whiting, and Gary, IN | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 51.42 | 102.96 | 116.23 | 166.14 |
| Lake County; Polson, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.04 | 0.08 | 0.14 | 0.17 |
| Lake County; Ronan, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lake Tahoe Nevada Area, NV | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.34 | 0.67 | 1.15 | 1.44 |
| Lake Tahoe North Shore Area, CA | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.20 | 0.39 | 0.67 | 0.84 |
| Lake Tahoe South Shore Area, CA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.56 | 1.09 | 1.88 | 2.37 |
| Lancaster, PA | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lancaster, PA | PM2.5 (2006 24-hour) | Maintenance, Moderate | 100 | 0 | 9.78 | 19.00 | 32.73 | 41.25 |
| Lane County (part); Oakridge, OR | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.04 | 0.08 | 0.14 | 0.18 |
| Lane County; Eugene/Springfield, OR | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 4.22 | 8.20 | 14.13 | 17.81 |
| Las Vegas Area, NV | CO (1971 8-hour) | Maintenance, Serious | 100 | 0 | 29.51 | 57.33 | 98.77 | 124.46 |
| LaSalle County; Oglesby, IL | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.67 | 1.30 | 2.24 | 2.82 |
| Laurel Area, MT | SO ₂ (1971 24-hour/Annual) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lebanon County, PA | PM2.5 (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 3.37 | 6.55 | 11.28 | 14.22 |
| Lemont, IL | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 67.37 | 135.01 | 150.35 | 215.93 |
| Liberty-Clairton, PA | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.20 | 0.39 | 0.66 | 0.84 |

Appendix A Air Quality Non-Attainment Area Results

Table A1-54

Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Cumulative Impacts

Nitrogen Oxides (NO_x) 2025

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|---------------------------------------|--|---|---|--------|--------------------|----------|----------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Lincoln County; Libby and vicinity, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.11 | 0.22 | 0.38 | 0.48 |
| Logan, UT-ID | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 1.73 | 3.35 | 5.78 | 7.28 |
| Longmont Area, CO | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 1.40 | 2.72 | 4.69 | 5.91 |
| Lorain County (part), OH | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Los Angeles, CA | PM2.5 (2006 24-hour) | Nonattainment, Serious | 100 | 0 | 358.45 | 701.21 | 1,111.29 | 1,431.51 |
| Los Angeles-San Bernardino Counties (West Mojave Desert), CA | Ozone (2008 8-hour) | Nonattainment, Severe 15 | 25 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Los Angeles-South Coast Air Basin Area, CA | CO (1971 8-hour) | Maintenance, Serious | 100 | 0 | 358.64 | 701.59 | 1,111.94 | 1,432.32 |
| Los Angeles-South Coast Air Basin Area, CA | NO ₂ (1971 Annual) | Maintenance, -- | 100 | 0 | 358.65 | 701.60 | 1,111.96 | 1,432.35 |
| Los Angeles-South Coast Air Basin, CA | Ozone (2008 8-hour) | Nonattainment, Extreme | 10 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Los Angeles-South Coast Air Basin, CA | PM2.5 (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 358.18 | 700.69 | 1,110.39 | 1,430.36 |
| Lowell Area, MA | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 1.92 | 3.72 | 6.41 | 8.08 |
| Lucas County (part), OH | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Madison County; Granite City Township and Nameoki Township, IL | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 71.61 | 143.65 | 157.48 | 227.40 |
| Manchester Area, NH | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 1.65 | 3.21 | 5.53 | 6.96 |
| Maricopa and Pinal Counties; Phoenix planning area, AZ | PM10 (1987 24-hour) | Nonattainment, Serious | 70 | 0 | 67.97 | 132.05 | 227.51 | 286.69 |
| Marion County; Lawrence, Washington, and Warrant Townships, IN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Mariposa County, CA | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Marshall, WV | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 14.09 | 28.26 | 31.07 | 44.82 |
| Medford Area, OR | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 1.79 | 3.48 | 5.99 | 7.55 |
| Memphis Area, TN | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 25.14 | 49.38 | 74.27 | 97.07 |

Table A1-54
Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Cumulative Impacts
Nitrogen Oxides (NO_x) 2025

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|---|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Memphis, TN-MS-AR | Ozone (2008 8-hour) | Nonattainment TN & Maintenance MS/AR, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Miami, AZ | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.25 | 0.48 | 0.82 | 1.04 |
| Miami, AZ | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Miami, AZ | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.25 | 0.48 | 0.82 | 1.04 |
| Milwaukee-Racine, WI | PM2.5 (2006 24-hour) | Maintenance, -- | 100 | 0 | 22.37 | 43.46 | 74.87 | 94.35 |
| Minneapolis-St. Paul Area, MN | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 117.64 | 232.36 | 324.09 | 432.92 |
| Missoula Area, MT | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 1.85 | 3.60 | 6.01 | 7.64 |
| Missoula county; Missoula and vicinity, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 1.77 | 3.45 | 5.77 | 7.33 |
| Modesto Area, CA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 3.70 | 7.19 | 12.38 | 15.61 |
| Mohave County (part); Bullhead City, AZ | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 1.76 | 3.42 | 5.89 | 7.42 |
| Mono County; Mammoth Lake planning area, CA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.56 | 1.09 | 1.88 | 2.37 |
| Mono County; Mono Basin, CA | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.04 | 0.08 | 0.14 | 0.18 |
| Morenci, AZ | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Morgan County, IN | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.68 | 1.32 | 2.27 | 2.86 |
| Morongo Band of Mission Indians | Ozone (2008 8-hour) | Nonattainment, Serious | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Morristown Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.75 | 1.45 | 2.49 | 3.14 |
| Muscatine County; (part), IA | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Muscatine, IA | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.38 | 0.73 | 1.26 | 1.59 |
| Muskingum River, OH | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.15 | 0.29 | 0.50 | 0.64 |
| Nashua Area, NH | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 1.42 | 2.76 | 4.76 | 6.00 |
| Nassau County, FL | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.11 | 0.20 | 0.35 | 0.44 |
| Nevada County (Western part), CA | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| New Haven County, CT | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.39 | 0.76 | 1.30 | 1.64 |

Appendix A Air Quality Non-Attainment Area Results

Table A1-54

Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Cumulative Impacts

Nitrogen Oxides (NO_x) 2025

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|---------------------------------------|--|---|---|--------|--------------------|----------|----------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| New Haven-Meriden-Waterbury Area, CT | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 16.32 | 31.72 | 54.44 | 68.67 |
| New Manchester-Grant magisterial district in Hancock County, WV | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| New York County, NY | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 10.63 | 20.65 | 35.57 | 44.82 |
| New York, NY-NJ-CT | PM2.5 (2006 24-hour) | Maintenance, -- | 100 | 0 | 326.63 | 636.42 | 1,058.89 | 1,346.42 |
| New York-N. New Jersey-Long Island Area, NY-NJ-CT | CO (1971 8-hour) | Maintenance, Moderate > 12.7ppm | 100 | 0 | 188.11 | 366.92 | 602.71 | 768.96 |
| New York-N. New Jersey-Long Island, NY-NJ-CT | Ozone (2008 8-hour) | Nonattainment, Moderate | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| NJ portion of the Northeast Pennsylvania-Upper Delaware Valley Interstate AQCR: (part), NJ | SO ₂ (1971 24-hour/Annual) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Nogales, AZ | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.85 | 1.66 | 2.85 | 3.60 |
| Oakridge, OR | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.04 | 0.08 | 0.14 | 0.18 |
| Ogden Area, UT | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 1.04 | 2.02 | 3.48 | 4.39 |
| Ogden Area, UT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 1.04 | 2.02 | 3.48 | 4.39 |
| Olmsted County; (part), MN | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.53 | 1.03 | 1.78 | 2.24 |
| Olmsted; City of Rochester, MN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |

Table A1-54
Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Cumulative Impacts
Nitrogen Oxides (NO_x) 2025

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Pechanga Band of Luiseno Mission Indians of the Pechanga Reservation | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Pekin, IL | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.75 | 1.45 | 2.50 | 3.15 |
| Penns Grove Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Peoria County: Hollis Twp, IL | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Peoria County: Peoria, IL | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Perth Amboy Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 8.02 | 15.97 | 19.69 | 27.33 |
| Philadelphia-Camden County Area, PA-NJ | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 48.31 | 95.82 | 125.76 | 171.13 |
| Philadelphia-Wilmington, PA-NJ-DE | PM2.5 (2006 24-hour) | Maintenance, Moderate for PA and DE Subject to Former Subpart 1 for NJ | 100 | 0 | 186.85 | 369.86 | 500.61 | 674.78 |
| Philadelphia-Wilmington-Atlantic City, PA-NJ-MD-DE | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Phoenix Area, AZ | CO (1971 8-hour) | Maintenance, Serious | 100 | 0 | 65.09 | 126.46 | 217.87 | 274.54 |
| Phoenix-Mesa, AZ | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Pierce County; Tacoma, WA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.04 | 0.08 | 0.14 | 0.17 |
| Pima County; Ajo planning area, AZ | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.01 | 0.03 | 0.04 | 0.05 |
| Pima County; Rillito planning area, AZ | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 1.15 | 2.23 | 3.85 | 4.85 |
| Pinal and Gila Counties; Payson, AZ | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.51 | 0.99 | 1.70 | 2.14 |
| Pinal County (part); West Pinal, AZ | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 7.48 | 14.52 | 25.02 | 31.53 |
| Pitkin County; Aspen, CO | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.47 | 0.91 | 1.57 | 1.98 |
| Pittsburgh Area, PA | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 3.68 | 7.15 | 12.27 | 15.48 |
| Pittsburgh-Beaver Valley, PA | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Pittsburgh-Beaver Valley, PA | PM2.5 (2006 24-hour) | Maintenance, Moderate | 100 | 0 | 33.70 | 65.50 | 112.24 | 141.63 |
| Plumas County, CA | PM2.5 (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 0.12 | 0.23 | 0.40 | 0.51 |
| Polk County, TN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |

Appendix A Air Quality Non-Attainment Area Results

Table A1-54

Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Cumulative Impacts

Nitrogen Oxides (NO_x) 2025

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|-------------------------------|--|---|---|--------|--------------------|----------|----------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Portland Area: Portland Metro Service District Boundary, OR | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 22.05 | 42.87 | 73.29 | 92.54 |
| Power-Bannock Counties; Fort Hall Indian Reservation, ID | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Power-Bannock Counties; Portneuf Valley Area, ID | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 1.70 | 3.29 | 5.67 | 7.15 |
| Provo Area, UT | CO (1971 8-hour) | Maintenance, Moderate > 12.7ppm | 100 | 0 | 1.37 | 2.65 | 4.57 | 5.76 |
| Provo, UT | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 7.40 | 14.38 | 24.77 | 31.21 |
| Prowers County; Lamar, CO | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.33 | 0.64 | 1.11 | 1.40 |
| Raleigh-Durham Area, NC | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 25.71 | 49.95 | 86.05 | 108.44 |
| Ramsey County; (part), MN | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.05 | 0.11 | 0.18 | 0.23 |
| Reading, PA | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Reno Area, NV | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 6.13 | 11.92 | 20.53 | 25.87 |
| Rhinelander, WI | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.67 | 1.30 | 2.23 | 2.81 |
| Riverside County (Coachella Valley), CA | Ozone (2008 8-hour) | Nonattainment, Severe 15 | 25 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Riverside County; Coachella Valley planning area, CA | PM10 (1987 24-hour) | Nonattainment, Serious | 70 | 0 | 9.86 | 19.15 | 32.99 | 41.58 |
| Riverside, Los Angeles, Orange, and San Bernardino Counties; South Coast Air Basin, CA | PM10 (1987 24-hour) | Maintenance, Serious | 100 | 0 | 357.22 | 698.82 | 1,107.18 | 1,426.32 |
| Rosebud County; Lame Deer, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.29 | 0.56 | 0.97 | 1.22 |
| Routt County (part); Steamboat Springs, CO | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.56 | 1.09 | 1.87 | 2.36 |
| Sacramento Area, CA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 25.14 | 48.85 | 84.05 | 105.95 |
| Sacramento County, CA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 23.06 | 44.80 | 77.10 | 97.18 |
| Sacramento Metro, CA | Ozone (2008 8-hour) | Nonattainment, Severe 15 | 25 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Sacramento, CA | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 55.41 | 108.41 | 171.34 | 220.88 |
| Salem Area, OR | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 4.59 | 8.92 | 15.37 | 19.37 |
| Salt Lake City Area, UT | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 15.05 | 30.02 | 36.30 | 50.70 |
| Salt Lake City, UT | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 49.38 | 97.20 | 142.07 | 187.19 |

Table A1-54
Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Cumulative Impacts
Nitrogen Oxides (NO_x) 2025

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|---|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Salt Lake County, UT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 29.52 | 58.13 | 84.73 | 111.73 |
| Salt Lake County, UT | SO ₂ (1971 24-hour/Annual) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| San Bernardino County (part); excluding Searles Valley Planning area and South Coast Air Basin, CA | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 11.39 | 22.13 | 38.11 | 48.03 |
| San Diego Area, CA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 62.33 | 121.09 | 208.50 | 262.77 |
| San Diego County, CA | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| San Francisco Bay Area, CA | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| San Francisco Bay Area, CA | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 180.43 | 354.26 | 535.74 | 699.10 |
| San Francisco-Oakland-San Jose Area, CA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 169.99 | 333.99 | 500.82 | 655.09 |
| San Joaquin Valley Air Basin; Fresno, Kern, Kings, Madera, Merced, San Joaquin, Stanislaus, Tulare Counties, CA | PM10 (1987 24-hour) | Maintenance, Serious | 100 | 0 | 84.67 | 164.69 | 279.73 | 353.78 |
| San Joaquin Valley, CA | Ozone (2008 8-hour) | Nonattainment, Extreme | 10 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| San Joaquin Valley, CA | PM2.5 (2006 24-hour) | Nonattainment, Serious | 100 | 0 | 84.65 | 164.65 | 279.66 | 353.69 |
| San Joaquin Valley, CA | PM2.5 (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 84.65 | 164.65 | 279.66 | 353.69 |
| San Luis Obispo (Eastern San Luis Obispo), CA | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| San Manuel, AZ | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| San Miguel County; Telluride, CO | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.18 | 0.36 | 0.61 | 0.77 |
| Sanders County (part); Thompson Falls and vicinity, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.01 | 0.01 | 0.01 |
| Santa Cruz County; Nogales planning area, AZ | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.85 | 1.66 | 2.85 | 3.60 |
| Seaford, DE | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Seattle-Tacoma Area, WA | CO (1971 8-hour) | Maintenance, Moderate > 12.7ppm | 100 | 0 | 51.14 | 99.36 | 171.18 | 215.71 |
| Seattle-Tacoma, WA | PM2.5 (2006 24-hour) | Maintenance, Moderate | 100 | 0 | 8.30 | 16.12 | 27.77 | 34.99 |
| Sheboygan County, WI | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |

Appendix A Air Quality Non-Attainment Area Results

Table A1-54

Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Cumulative Impacts

Nitrogen Oxides (NO_x) 2025

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|---|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Sheridan County; City of Sheridan, WY | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.48 | 0.92 | 1.59 | 2.01 |
| Shoshone County (part); excluding Pinehurst, ID | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.80 | 1.55 | 2.68 | 3.38 |
| Shoshone County; City of Pinehurst, ID | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Silver Bow County; Butte, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.76 | 1.48 | 2.55 | 3.21 |
| Somerville Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.33 | 0.64 | 1.10 | 1.39 |
| Southwest Indiana, IN | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.21 | 0.41 | 0.71 | 0.90 |
| Spokane Area, WA | CO (1971 8-hour) | Maintenance, Serious | 100 | 0 | 5.40 | 10.50 | 18.09 | 22.79 |
| Spokane County; (part), WA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 5.57 | 10.81 | 18.63 | 23.47 |
| Springfield Area, MA | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 3.01 | 5.84 | 10.07 | 12.69 |
| St. Bernard Parish, LA | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 49.37 | 99.04 | 108.28 | 156.51 |
| St. Louis Area, MO | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 16.38 | 31.82 | 54.80 | 69.07 |
| St. Louis-St. Charles-Farmington, MO-IL | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Steubenville, OH-WV | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 1.19 | 2.32 | 3.99 | 5.03 |
| Steubenville-Weirton, OH-WV | PM2.5 (2006 24-hour) | Maintenance, -- | 100 | 0 | 3.85 | 7.59 | 11.04 | 14.57 |
| Stockton Area, CA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 6.91 | 13.42 | 23.05 | 29.07 |
| Sullivan County, TN | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.72 | 1.43 | 2.03 | 2.69 |
| Syracuse Area; Onondaga County, NY | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 10.09 | 19.61 | 33.78 | 42.57 |
| Tazewell County; Groveland Twp, IL | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Terre Haute, IN | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 1.06 | 2.07 | 3.56 | 4.49 |

Table A1-54
Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Cumulative Impacts
Nitrogen Oxides (NO_x) 2025

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|---|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Thurston County; Cities of Olympia, Tumwater, and Lacey, WA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 1.89 | 3.67 | 6.33 | 7.97 |
| Toms River Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.09 | 0.18 | 0.31 | 0.39 |
| Tooele County (part), UT | SO ₂ (1971 24-hour/Annual) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Trenton Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 1.60 | 3.10 | 5.35 | 6.74 |
| Trona, CA | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.02 | 0.03 | 0.05 | 0.07 |
| Tucson Area, AZ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 15.71 | 30.52 | 52.58 | 66.26 |
| Tuscan Buttes, CA | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Union County; LaGrande, OR | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.51 | 1.00 | 1.72 | 2.16 |
| Upper Green River Basin Area, WY | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Utah County, UT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 7.40 | 14.38 | 24.77 | 31.22 |
| Vancouver Area: Clark County (part), WA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 5.01 | 9.73 | 16.77 | 21.13 |
| Ventura County, CA | Ozone (2008 8-hour) | Nonattainment, Serious | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Vermillion County; Part of Clinton Township, IN | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.38 | 0.75 | 1.29 | 1.62 |
| Vigo County, IN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Walla Walla County; Wallula, WA | PM10 (1987 24-hour) | Maintenance, Serious | 100 | 0 | 0.08 | 0.15 | 0.26 | 0.33 |
| Waltham Area, MA | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 1.04 | 2.02 | 3.48 | 4.39 |
| Warren County: Conewago Twp, PA | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Warren County: Warren Boro, Pleasant Twp, Glade Twp, PA | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Warren, PA | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 6.08 | 12.18 | 13.78 | 19.68 |
| Washington Area, DC-MD-VA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 12.22 | 23.74 | 40.90 | 51.54 |
| Washington, DC-MD-VA | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Washoe County; Reno planning area, NV | PM10 (1987 24-hour) | Nonattainment, Serious | 70 | 0 | 6.09 | 11.83 | 20.38 | 25.68 |

Appendix A Air Quality Non-Attainment Area Results

Table A1-54

Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Cumulative Impacts

Nitrogen Oxides (NO_x) 2025

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|---|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Wayne County: Boston, Center, Franklin, Wayne & Webster Townships, IN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Wayne County; (part), MI | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 5.03 | 10.00 | 12.52 | 17.29 |
| West Central Pinal County, AZ | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 1.53 | 2.97 | 5.12 | 6.45 |
| West Silver Valley, ID | PM2.5 (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 0.41 | 0.79 | 1.36 | 1.71 |
| Winston-Salem Area, NC | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 6.86 | 13.34 | 22.98 | 28.95 |
| Worcester Area, MA | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 4.16 | 8.07 | 13.91 | 17.52 |
| Yakima Area, WA | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.73 | 1.41 | 2.43 | 3.06 |
| Yakima County; (part), WA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 2.12 | 4.11 | 7.08 | 8.93 |
| Yuba City-Marysville, CA | PM2.5 (2006 24-hour) | Maintenance, Moderate | 100 | 0 | 3.52 | 6.84 | 11.79 | 14.85 |
| Yuma County; Yuma planning area, AZ | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 3.05 | 5.92 | 10.20 | 12.86 |

^a Reductions are shown as positive values. Negative values are emissions increases. Values of less than 0.005 tons per year are rounded to zero.

^b Nonattainment or maintenance status as of 5/13/2016. Source: U.S. EPA, The Green Book Nonattainment Areas for Criteria Pollutants; <http://www.epa.gov/airquality/greenbook/>. "--" indicates that no severity classification has been established for the NAAQS pollutant.

^c Emissions thresholds in tons per year. Where the threshold differs by precursor pollutant, the smallest of the precursor thresholds is shown. These thresholds are provided for information only; a general conformity determination is not required for the Proposed Action. Source: 40 CFR 93.853.

Notes: CO = carbon monoxide; NAAQS = National Ambient Air Quality Standards; NO₂ = nitrogen dioxide; PM = particulate matter; SO₂ = sulfur dioxide

Table A1-55
Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Cumulative Impacts
Nitrogen Oxides (NO_x) 2040

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Ada County; Boise, ID | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 24.02 | 52.93 | 70.45 | 82.12 |
| Adams, Denver, and Boulder Counties; Denver Metropolitan area, CO | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 113.52 | 249.59 | 335.00 | 389.40 |
| Ajo, AZ | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Albuquerque Area, NM | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 47.92 | 105.55 | 140.59 | 163.85 |
| Allegheny County Air Basin: Hazelwood monitor, PA | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Allegheny County, PA | PM2.5 (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 62.25 | 136.98 | 183.26 | 213.25 |
| Allegheny County; The area including Liberty, Lincoln, Port Vue, and Glassport Boroughs and the City of Clairton, PA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.60 | 1.33 | 1.76 | 2.05 |
| Allegheny, PA | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 4.11 | 9.06 | 12.10 | 14.08 |
| Allentown, PA | PM2.5 (2006 24-hour) | Maintenance, Moderate | 100 | 0 | 42.29 | 93.07 | 124.35 | 144.77 |
| Allentown-Bethlehem-Easton, PA | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Anchorage Area, AK | CO (1971 8-hour) | Maintenance, Serious | 100 | 0 | 7.89 | 17.38 | 23.12 | 26.96 |
| Anchorage; Eagle River, AK | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.51 | 1.12 | 1.45 | 1.70 |
| AQCR 012: Portions of Grant County, NM | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| AQCR 109-Millinocket, ME | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| AQCR 131: Anoka, Carver, Dakota, Hennepin, Ramsey, Scott, and Washington counties (Minneapolis-St. Paul), MN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| AQCR 237: Brown County: Green Bay sub-city area, WI | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| AQCR 238: Marathon County: Rothschild Sub-city area, Rib Mountain, Weston, WI | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| AQCR 238: Oneida County: Rhinelander Sub-city area, WI | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| AQCR 239: Milwaukee County: Milwaukee sub-city area, WI | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |

Appendix A Air Quality Non-Attainment Area Results

Table A1-55

Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Cumulative Impacts

Nitrogen Oxides (NO_x) 2040

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| AQCR 240: Dane County: Madison sub-city area, WI | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Archuleta County; Pagosa Springs, CO | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 1.76 | 3.88 | 5.21 | 6.05 |
| Armstrong County: Madison Twp, Mahoning Twp, Boggs Twp, Washington Twp, Pine Twp, PA | SO ₂ (1971 24-hour/Annual) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Aroostock County; City of Presque Isle, ME | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 1.18 | 2.59 | 3.47 | 4.03 |
| Atlanta, GA | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Atlantic City Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 4.04 | 8.88 | 11.92 | 13.86 |
| Bakersfield Area, CA | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 47.41 | 106.29 | 131.42 | 157.18 |
| Baltimore Area, MD | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.96 | 2.12 | 2.78 | 3.26 |
| Baltimore, MD | Ozone (2008 8-hour) | Nonattainment, Moderate | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Baton Rouge, LA | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Beaver, PA | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 1.15 | 2.53 | 3.40 | 3.95 |
| Benton County; (part) TVA Johnsonville, TN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Billings Area, MT | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 104.94 | 252.33 | 221.15 | 303.28 |
| Billings, MT | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 98.76 | 238.73 | 202.90 | 282.06 |
| Birmingham, AL | PM2.5 (2006 24-hour) | Maintenance, -- | 100 | 0 | 97.30 | 214.29 | 285.63 | 332.80 |
| Boise-Northern Ada County Area, ID | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 24.02 | 52.93 | 70.45 | 82.12 |
| Bonner County; The Sandpoint Area, ID | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.87 | 1.92 | 2.57 | 2.99 |
| Boston Area, MA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 56.63 | 124.63 | 166.59 | 193.91 |
| Boyd County (part), KY | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Brooke; Follansbee area, WV | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.04 | 0.09 | 0.12 | 0.14 |
| Burlington Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.51 | 1.13 | 1.52 | 1.76 |
| Calaveras County, CA | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Campbell-Clermont Counties, KY-OH | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 2.76 | 6.07 | 8.14 | 9.46 |

Table A1-55
Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Cumulative Impacts
Nitrogen Oxides (NO_x) 2040

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|---|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Canton-Massillon, OH | PM2.5 (2006 24-hour) | Maintenance, -- | 100 | 0 | 56.02 | 129.09 | 141.00 | 176.59 |
| Central New Hampshire, NH | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 16.34 | 35.93 | 48.23 | 56.06 |
| Central Steptoe Valley, NV | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Charleston, WV | PM2.5 (2006 24-hour) | Maintenance, -- | 100 | 0 | 27.55 | 60.57 | 81.30 | 94.50 |
| Charlotte Area, NC | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 95.23 | 209.36 | 281.01 | 326.64 |
| Charlotte-Rock Hill, NC-SC | Ozone (2008 8-hour) | Maintenance, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Chicago-Naperville, IL-IN-WI | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Chico (Butte County), CA | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Chico Area, CA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 7.04 | 15.47 | 20.76 | 24.13 |
| Chico, CA | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 14.65 | 32.21 | 43.23 | 50.25 |
| Cincinnati, OH-KY-IN | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Clark County; Las Vegas planning area, NV | PM10 (1987 24-hour) | Maintenance, Serious | 100 | 0 | 118.75 | 261.09 | 350.44 | 407.34 |
| Cleveland Area, OH | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 71.08 | 156.28 | 209.76 | 243.82 |
| Cleveland, OH | PM2.5 (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 92.70 | 203.81 | 273.56 | 317.98 |
| Cleveland-Akron-Lorain, OH | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Cleveland-Akron-Lorain, OH | PM2.5 (2006 24-hour) | Maintenance, -- | 100 | 0 | 203.04 | 446.41 | 599.17 | 696.47 |
| Cochise County; Paul Spur/Douglas planning area, AZ | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 3.05 | 6.70 | 9.00 | 10.46 |
| Colorado Springs Area, CO | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 41.30 | 90.95 | 121.20 | 141.22 |
| Columbus, OH | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Cook County; Lyons Township, IL | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 6.03 | 13.41 | 17.20 | 20.31 |
| Cook County; Southeast Chicago, IL | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 6.45 | 14.32 | 18.43 | 21.73 |
| Coshocton County; Franklin Township, OH | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Coso Junction, CA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Cuyahoga County (part), OH | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Cuyahoga County, OH | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 70.75 | 155.56 | 208.79 | 242.70 |

Appendix A Air Quality Non-Attainment Area Results

Table A1-55

Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Cumulative Impacts

Nitrogen Oxides (NO_x) 2040

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|---------------------------------------|--|---|---|--------|--------------------|----------|----------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Dallas-Fort Worth, TX | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Delaware County, PA | PM2.5 (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 238.92 | 571.96 | 513.82 | 697.09 |
| Denver-Boulder Area, CO | CO (1971 8-hour) | Maintenance, Serious | 100 | 0 | 257.31 | 580.39 | 699.14 | 844.08 |
| Denver-Boulder-Greeley-Ft Collins-Loveland, CO | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Detroit Area, MI | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 122.18 | 271.32 | 349.49 | 412.02 |
| Detroit, MI | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 38.29 | 86.87 | 102.01 | 124.31 |
| Detroit-Ann Arbor, MI | PM2.5 (2006 24-hour) | Maintenance, -- | 100 | 0 | 386.46 | 852.39 | 1,129.27 | 1,318.47 |
| Dona Ana County; Anthony, NM | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.81 | 1.79 | 2.40 | 2.79 |
| Douglas, AZ | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Dukes County, MA | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Duluth Area, MN | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 9.23 | 20.30 | 27.25 | 31.67 |
| East Chicago Area, IN | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 160.22 | 387.02 | 330.28 | 458.31 |
| East Helena Area, MT | SO ₂ (1971 24-hour/Annual) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| East Kern County Area, CA | PM10 (1987 24-hour) | Nonattainment, Serious | 70 | 0 | 11.33 | 26.97 | 24.95 | 33.43 |
| El Paso County, TX | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 69.53 | 161.22 | 171.02 | 216.63 |
| El Paso, TX | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 39.20 | 94.45 | 81.82 | 112.78 |
| Eugene-Springfield Area, OR | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 17.52 | 38.52 | 51.70 | 60.09 |
| Fairbanks Area, AK | CO (1971 8-hour) | Maintenance, Serious | 100 | 0 | 14.66 | 35.22 | 31.00 | 42.44 |
| Fairbanks, AK | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 16.49 | 39.24 | 36.39 | 48.70 |

Table A1-55

Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Cumulative Impacts

Nitrogen Oxides (NO_x) 2040

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|---|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Flathead County; Columbia Falls and vicinity, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.11 | 0.25 | 0.33 | 0.39 |
| Flathead County; Kalispell and vicinity, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 2.81 | 6.17 | 8.29 | 9.63 |
| Flathead County; Whitefish and vicinity, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.32 | 0.71 | 0.95 | 1.10 |
| Fort Collins Area, CO | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 8.84 | 19.44 | 26.09 | 30.33 |
| Freehold Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 2.02 | 4.43 | 5.95 | 6.92 |
| Fremont County; Canon City Area, CO | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 2.98 | 6.55 | 8.80 | 10.23 |
| Fresno Area, CA | CO (1971 8-hour) | Maintenance, Moderate > 12.7ppm | 100 | 0 | 41.66 | 91.70 | 122.56 | 142.66 |
| Grants Pass Area, OR | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 3.44 | 7.57 | 10.16 | 11.81 |
| Great Falls Area, MT | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 18.01 | 43.53 | 36.99 | 51.43 |
| Greater Connecticut, CT | Ozone (2008 8-hour) | Nonattainment, Moderate | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Greeley Area, CO | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 30.11 | 66.46 | 87.75 | 102.57 |
| Hancock and Brooke Counties (Part); The city of Weirton, WV | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 6.08 | 14.52 | 13.19 | 17.81 |
| Hancock County (Part) The city of Weirton, including Butler and Clay: Magisterial Districts, WV | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Harrisburg-Lebanon-Carlisle-York, PA | PM2.5 (2006 24-hour) | Maintenance, Moderate | 100 | 0 | 96.28 | 211.72 | 283.93 | 330.13 |
| Hartford-New Britain-Middletown Area, CT | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 84.76 | 186.36 | 250.13 | 290.75 |
| Hayden, AZ | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.19 | 0.42 | 0.56 | 0.65 |
| Hayden, AZ | SO ₂ (1971 24-hour/Annual) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Hayden, AZ | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.17 | 0.38 | 0.51 | 0.59 |
| Hillsborough County, FL | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 1.20 | 2.64 | 3.51 | 4.09 |
| Houston-Galveston-Brazoria, TX | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Humphreys County; (part) TVA Johnsonville, TN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Imperial Co, CA | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 15.83 | 34.80 | 46.71 | 54.29 |

Appendix A Air Quality Non-Attainment Area Results

Table A1-55

Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Cumulative Impacts

Nitrogen Oxides (NO_x) 2040

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Imperial County, CA | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Imperial County, CA | PM2.5 (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 15.83 | 34.80 | 46.71 | 54.29 |
| Imperial County; Imperial Valley planning area, CA | PM10 (1987 24-hour) | Nonattainment, Serious | 70 | 0 | 19.19 | 42.19 | 56.63 | 65.83 |
| Indian Wells, CA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 11.20 | 26.70 | 24.59 | 33.00 |
| Indiana, PA | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 7.01 | 15.40 | 20.68 | 24.03 |
| Indianapolis Area, IN | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.10 | 0.23 | 0.31 | 0.36 |
| Indianapolis, IN | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 35.29 | 77.59 | 104.15 | 121.06 |
| Inyo County; Owens Valley planning area, CA | PM10 (1987 24-hour) | Nonattainment, Serious | 70 | 0 | 0.61 | 1.34 | 1.79 | 2.08 |
| Jackson County, MO | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 4.08 | 8.98 | 12.02 | 13.99 |
| Jackson County; Medford-Ashland (including White City), OR | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 14.46 | 31.78 | 42.66 | 49.59 |
| Jamestown, NY | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Jefferson County, KY | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Jefferson County, MO | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 3.93 | 8.64 | 11.60 | 13.49 |
| Jefferson County; (part) Steubenville & Mingo Junction, OH | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Jefferson County; (part), OH | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.34 | 0.75 | 1.00 | 1.16 |
| Johnstown, PA | PM2.5 (2006 24-hour) | Maintenance, Moderate | 100 | 0 | 9.29 | 20.42 | 27.40 | 31.85 |
| Josephine County; Grants Pass, OR | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 3.44 | 7.57 | 10.16 | 11.81 |
| Juneau; Mendenhall Valley area, AK | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.65 | 1.43 | 1.92 | 2.23 |
| Kern County (Eastern Kern), CA | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| King County; Kent, WA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 1.78 | 3.91 | 5.24 | 6.10 |
| King County; Seattle, WA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.62 | 1.37 | 1.84 | 2.14 |
| Klamath County; Klamath Falls, OR | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 5.96 | 13.11 | 17.60 | 20.46 |
| Klamath Falls Area, OR | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 5.94 | 13.06 | 17.53 | 20.38 |
| Klamath Falls, OR | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 6.41 | 14.10 | 18.93 | 22.00 |

Table A1-55
Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Cumulative Impacts
Nitrogen Oxides (NO_x) 2040

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Knoxville, TN | Ozone (2008 8-hour) | Maintenance, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Knoxville-Sevierville-La Follette, TN | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 74.68 | 164.18 | 220.36 | 256.15 |
| La Porte County: (part), IN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lake County (part); Lakeview, OR | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.52 | 1.15 | 1.55 | 1.80 |
| Lake County, OH | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 20.42 | 44.89 | 60.25 | 70.03 |
| Lake County: (part), IN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lake County; (part) Eastlake, Timberlake, Lakeline, Willoughby, Mentor, OH | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lake County; Cities of East Chicago, Hammond, Whiting, and Gary, IN | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 170.79 | 410.30 | 361.43 | 494.56 |
| Lake County; Polson, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.15 | 0.33 | 0.45 | 0.52 |
| Lake County; Ronan, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lake Tahoe Nevada Area, NV | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 1.17 | 2.58 | 3.47 | 4.03 |
| Lake Tahoe North Shore Area, CA | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.65 | 1.44 | 1.93 | 2.25 |
| Lake Tahoe South Shore Area, CA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 1.73 | 3.80 | 5.10 | 5.93 |
| Lancaster, PA | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lancaster, PA | PM2.5 (2006 24-hour) | Maintenance, Moderate | 100 | 0 | 39.14 | 86.06 | 115.49 | 134.25 |
| Lane County (part); Oakridge, OR | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.11 | 0.25 | 0.34 | 0.39 |
| Lane County; Eugene/Springfield, OR | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 17.52 | 38.52 | 51.70 | 60.09 |
| Las Vegas Area, NV | CO (1971 8-hour) | Maintenance, Serious | 100 | 0 | 118.43 | 260.37 | 349.47 | 406.22 |
| LaSalle County; Oglesby, IL | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 2.73 | 6.01 | 8.06 | 9.37 |
| Laurel Area, MT | SO ₂ (1971 24-hour/Annual) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lebanon County, PA | PM2.5 (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 13.49 | 29.67 | 39.82 | 46.28 |
| Lemont, IL | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 225.09 | 541.67 | 472.45 | 649.28 |
| Liberty-Clairton, PA | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.60 | 1.33 | 1.76 | 2.05 |

Appendix A Air Quality Non-Attainment Area Results

Table A1-55

Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Cumulative Impacts

Nitrogen Oxides (NO_x) 2040

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|---------------------------------------|--|---|---|----------|--------------------|----------|----------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Lincoln County; Libby and vicinity, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.39 | 0.85 | 1.14 | 1.33 |
| Logan, UT-ID | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 6.93 | 15.24 | 20.46 | 23.78 |
| Longmont Area, CO | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 5.78 | 12.70 | 17.05 | 19.81 |
| Lorain County (part), OH | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Los Angeles, CA | PM2.5 (2006 24-hour) | Nonattainment, Serious | 100 | 0 | 1,386.20 | 3,102.73 | 3,864.90 | 4,610.33 |
| Los Angeles-San Bernardino Counties (West Mojave Desert), CA | Ozone (2008 8-hour) | Nonattainment, Severe 15 | 25 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Los Angeles-South Coast Air Basin Area, CA | CO (1971 8-hour) | Maintenance, Serious | 100 | 0 | 1,386.75 | 3,103.96 | 3,866.55 | 4,612.24 |
| Los Angeles-South Coast Air Basin Area, CA | NO ₂ (1971 Annual) | Maintenance, -- | 100 | 0 | 1,386.82 | 3,104.10 | 3,866.74 | 4,612.46 |
| Los Angeles-South Coast Air Basin, CA | Ozone (2008 8-hour) | Nonattainment, Extreme | 10 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Los Angeles-South Coast Air Basin, CA | PM2.5 (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 1,384.56 | 3,099.14 | 3,860.08 | 4,604.72 |
| Lowell Area, MA | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 7.89 | 17.35 | 23.29 | 27.08 |
| Lucas County (part), OH | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Madison County; Granite City Township and Nameoki Township, IL | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 237.31 | 572.95 | 490.46 | 679.65 |
| Manchester Area, NH | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 6.32 | 13.90 | 18.66 | 21.69 |
| Maricopa and Pinal Counties; Phoenix planning area, AZ | PM10 (1987 24-hour) | Nonattainment, Serious | 70 | 0 | 271.84 | 597.66 | 802.19 | 932.45 |
| Marion County; Lawrence, Washington, and Warrant Townships, IN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Mariposa County, CA | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Marshall, WV | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 46.83 | 112.98 | 97.10 | 134.32 |
| Medford Area, OR | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 7.59 | 16.69 | 22.40 | 26.04 |
| Memphis Area, TN | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 94.72 | 214.41 | 254.31 | 308.77 |

Table A1-55
Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Cumulative Impacts
Nitrogen Oxides (NO_x) 2040

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|---|---------------------------------------|--|---|---|--------|--------------------|----------|----------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Memphis, TN-MS-AR | Ozone (2008 8-hour) | Nonattainment TN & Maintenance MS/AR, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Miami, AZ | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.67 | 1.48 | 1.98 | 2.30 |
| Miami, AZ | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Miami, AZ | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.67 | 1.48 | 1.98 | 2.30 |
| Milwaukee-Racine, WI | PM2.5 (2006 24-hour) | Maintenance, -- | 100 | 0 | 89.59 | 196.96 | 264.35 | 307.28 |
| Minneapolis-St. Paul Area, MN | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 429.56 | 987.80 | 1,089.90 | 1,359.67 |
| Missoula Area, MT | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 7.33 | 16.22 | 21.16 | 24.84 |
| Missoula county; Missoula and vicinity, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 7.00 | 15.48 | 20.21 | 23.72 |
| Modesto Area, CA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 13.78 | 30.31 | 40.64 | 47.26 |
| Mohave County (part); Bullhead City, AZ | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 7.47 | 16.42 | 22.03 | 25.61 |
| Mono County; Mammoth Lake planning area, CA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 2.64 | 5.79 | 7.78 | 9.04 |
| Mono County; Mono Basin, CA | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.01 | 0.02 | 0.03 | 0.04 |
| Morenci, AZ | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Morgan County, IN | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 2.54 | 5.58 | 7.49 | 8.70 |
| Morongo Band of Mission Indians | Ozone (2008 8-hour) | Nonattainment, Serious | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Morristown Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 3.17 | 6.98 | 9.32 | 10.86 |
| Muscatine County; (part), IA | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Muscatine, IA | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 1.57 | 3.46 | 4.64 | 5.40 |
| Muskingum River, OH | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.66 | 1.44 | 1.94 | 2.25 |
| Nashua Area, NH | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 5.88 | 12.92 | 17.34 | 20.15 |
| Nassau County, FL | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.31 | 0.68 | 0.91 | 1.06 |
| Nevada County (Western part), CA | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| New Haven County, CT | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 1.44 | 3.18 | 4.25 | 4.94 |

Appendix A Air Quality Non-Attainment Area Results

Table A1-55

Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Cumulative Impacts

Nitrogen Oxides (NO_x) 2040

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|---------------------------------------|--|---|---|----------|--------------------|----------|----------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| New Haven-Meriden-Waterbury Area, CT | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 65.17 | 143.40 | 191.86 | 223.26 |
| New Manchester-Grant magisterial district in Hancock County, WV | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| New York County, NY | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 42.54 | 93.53 | 125.54 | 145.92 |
| New York, NY-NJ-CT | PM2.5 (2006 24-hour) | Maintenance, -- | 100 | 0 | 1,287.13 | 2,851.22 | 3,710.65 | 4,358.93 |
| New York-N. New Jersey-Long Island Area, NY-NJ-CT | CO (1971 8-hour) | Maintenance, Moderate > 12.7ppm | 100 | 0 | 737.99 | 1,639.29 | 2,109.12 | 2,487.45 |
| New York-N. New Jersey-Long Island, NY-NJ-CT | Ozone (2008 8-hour) | Nonattainment, Moderate | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| NJ portion of the Northeast Pennsylvania-Upper Delaware Valley Interstate AQCR: (part), NJ | SO ₂ (1971 24-hour/Annual) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Nogales, AZ | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 3.56 | 7.84 | 10.52 | 12.23 |
| Oakridge, OR | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.11 | 0.25 | 0.34 | 0.39 |
| Ogden Area, UT | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 4.09 | 9.00 | 12.07 | 14.04 |
| Ogden Area, UT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 4.09 | 9.00 | 12.07 | 14.04 |
| Olmsted County; (part), MN | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 1.94 | 4.27 | 5.72 | 6.65 |
| Olmsted; City of Rochester, MN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |

Table A1-55

Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Cumulative Impacts

Nitrogen Oxides (NO_x) 2040

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|---------------------------------------|--|---|---|--------|--------------------|----------|----------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Pechanga Band of Luiseno Mission Indians of the Pechanga Reservation | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Pekin, IL | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 3.05 | 6.70 | 8.99 | 10.45 |
| Penns Grove Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Peoria County: Hollis Twp, IL | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Peoria County: Peoria, IL | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Perth Amboy Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 28.95 | 68.09 | 67.20 | 87.63 |
| Philadelphia-Camden County Area, PA-NJ | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 171.89 | 400.28 | 415.55 | 530.89 |
| Philadelphia-Wilmington, PA-NJ-DE | PM _{2.5} (2006 24-hour) | Maintenance, Moderate for PA and DE Subject to Former Subpart 1 for NJ | 100 | 0 | 673.32 | 1,558.08 | 1,668.45 | 2,105.65 |
| Philadelphia-Wilmington-Atlantic City, PA-NJ-MD-DE | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Phoenix Area, AZ | CO (1971 8-hour) | Maintenance, Serious | 100 | 0 | 259.92 | 571.46 | 767.02 | 891.57 |
| Phoenix-Mesa, AZ | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Pierce County; Tacoma, WA | PM ₁₀ (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.13 | 0.28 | 0.38 | 0.44 |
| Pima County; Ajo planning area, AZ | PM ₁₀ (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Pima County; Rillito planning area, AZ | PM ₁₀ (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 4.97 | 10.92 | 14.65 | 17.03 |
| Pinal and Gila Counties; Payson, AZ | PM ₁₀ (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 2.37 | 5.21 | 7.00 | 8.13 |
| Pinal County (part); West Pinal, AZ | PM ₁₀ (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 30.85 | 67.83 | 91.04 | 105.83 |
| Pitkin County; Aspen, CO | PM ₁₀ (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 1.88 | 4.14 | 5.55 | 6.45 |
| Pittsburgh Area, PA | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 13.47 | 29.65 | 39.65 | 46.15 |
| Pittsburgh-Beaver Valley, PA | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Pittsburgh-Beaver Valley, PA | PM _{2.5} (2006 24-hour) | Maintenance, Moderate | 100 | 0 | 134.67 | 296.42 | 396.00 | 461.04 |
| Plumas County, CA | PM _{2.5} (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Polk County, TN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |

Appendix A Air Quality Non-Attainment Area Results

Table A1-55

Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Cumulative Impacts

Nitrogen Oxides (NO_x) 2040

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|-------------------------------|--|---|---|----------|--------------------|----------|----------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Portland Area: Portland Metro Service District Boundary, OR | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 88.40 | 194.67 | 259.54 | 302.37 |
| Power-Bannock Counties; Fort Hall Indian Reservation, ID | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Power-Bannock Counties; Portneuf Valley Area, ID | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 7.03 | 15.45 | 20.74 | 24.11 |
| Provo Area, UT | CO (1971 8-hour) | Maintenance, Moderate > 12.7ppm | 100 | 0 | 5.24 | 11.52 | 15.45 | 17.97 |
| Provo, UT | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 29.63 | 65.14 | 87.42 | 101.62 |
| Prowers County; Lamar, CO | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Raleigh-Durham Area, NC | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 102.90 | 226.24 | 303.66 | 352.97 |
| Ramsey County; (part), MN | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.21 | 0.47 | 0.61 | 0.72 |
| Reading, PA | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Reno Area, NV | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 23.92 | 52.60 | 70.60 | 82.07 |
| Rhinelander, WI | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 3.14 | 6.90 | 9.26 | 10.76 |
| Riverside County (Coachella Valley), CA | Ozone (2008 8-hour) | Nonattainment, Severe 15 | 25 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Riverside County; Coachella Valley planning area, CA | PM10 (1987 24-hour) | Nonattainment, Serious | 70 | 0 | 37.93 | 83.38 | 111.92 | 130.09 |
| Riverside, Los Angeles, Orange, and San Bernardino Counties; South Coast Air Basin, CA | PM10 (1987 24-hour) | Maintenance, Serious | 100 | 0 | 1,381.41 | 3,092.20 | 3,850.77 | 4,593.90 |
| Rosebud County; Lame Deer, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 2.13 | 4.68 | 6.28 | 7.30 |
| Routt County (part); Steamboat Springs, CO | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 2.24 | 4.92 | 6.60 | 7.68 |
| Sacramento Area, CA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 97.49 | 214.41 | 287.43 | 334.24 |
| Sacramento County, CA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 92.24 | 202.85 | 272.01 | 316.28 |
| Sacramento Metro, CA | Ozone (2008 8-hour) | Nonattainment, Severe 15 | 25 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Sacramento, CA | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 214.30 | 479.94 | 596.40 | 712.04 |
| Salem Area, OR | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 18.89 | 41.52 | 55.73 | 64.78 |
| Salt Lake City Area, UT | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 51.08 | 121.07 | 114.78 | 152.18 |
| Salt Lake City, UT | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 184.03 | 419.05 | 483.88 | 593.36 |

Table A1-55

Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Cumulative Impacts

Nitrogen Oxides (NO_x) 2040

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|---|---------------------------------------|--|---|---|--------|--------------------|----------|----------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Salt Lake County, UT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 109.75 | 250.07 | 287.92 | 353.44 |
| Salt Lake County, UT | SO ₂ (1971 24-hour/Annual) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| San Bernardino County (part); excluding Searles Valley Planning area and South Coast Air Basin, CA | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 41.58 | 91.43 | 122.68 | 142.61 |
| San Diego Area, CA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 249.54 | 548.69 | 736.08 | 855.75 |
| San Diego County, CA | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| San Francisco Bay Area, CA | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| San Francisco Bay Area, CA | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 682.10 | 1,542.10 | 1,838.92 | 2,228.33 |
| San Francisco-Oakland-San Jose Area, CA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 639.98 | 1,449.49 | 1,714.63 | 2,083.86 |
| San Joaquin Valley Air Basin; Fresno, Kern, Kings, Madera, Merced, San Joaquin, Stanislaus, Tulare Counties, CA | PM10 (1987 24-hour) | Maintenance, Serious | 100 | 0 | 338.52 | 746.54 | 989.60 | 1,155.18 |
| San Joaquin Valley, CA | Ozone (2008 8-hour) | Nonattainment, Extreme | 10 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| San Joaquin Valley, CA | PM2.5 (2006 24-hour) | Nonattainment, Serious | 100 | 0 | 338.46 | 746.41 | 989.42 | 1,154.97 |
| San Joaquin Valley, CA | PM2.5 (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 338.46 | 746.41 | 989.42 | 1,154.97 |
| San Luis Obispo (Eastern San Luis Obispo), CA | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| San Manuel, AZ | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| San Miguel County; Telluride, CO | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.73 | 1.61 | 2.16 | 2.51 |
| Sanders County (part); Thompson Falls and vicinity, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Santa Cruz County; Nogales planning area, AZ | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 3.56 | 7.84 | 10.52 | 12.23 |
| Seaford, DE | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Seattle-Tacoma Area, WA | CO (1971 8-hour) | Maintenance, Moderate > 12.7ppm | 100 | 0 | 204.47 | 449.54 | 603.38 | 701.36 |
| Seattle-Tacoma, WA | PM2.5 (2006 24-hour) | Maintenance, Moderate | 100 | 0 | 32.71 | 71.93 | 96.54 | 112.22 |
| Sheboygan County, WI | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |

Appendix A Air Quality Non-Attainment Area Results

Table A1-55

Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Cumulative Impacts

Nitrogen Oxides (NO_x) 2040

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|---|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Sheridan County; City of Sheridan, WY | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 1.94 | 4.28 | 5.74 | 6.67 |
| Shoshone County (part); excluding Pinehurst, ID | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 3.20 | 7.04 | 9.45 | 10.99 |
| Shoshone County; City of Pinehurst, ID | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Silver Bow County; Butte, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 3.12 | 6.86 | 9.21 | 10.71 |
| Somerville Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 1.22 | 2.68 | 3.59 | 4.18 |
| Southwest Indiana, IN | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.88 | 1.94 | 2.60 | 3.02 |
| Spokane Area, WA | CO (1971 8-hour) | Maintenance, Serious | 100 | 0 | 21.24 | 46.69 | 62.67 | 72.85 |
| Spokane County; (part), WA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 21.90 | 48.14 | 64.61 | 75.10 |
| Springfield Area, MA | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 12.54 | 27.57 | 37.01 | 43.02 |
| St. Bernard Parish, LA | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 163.58 | 395.12 | 337.34 | 468.01 |
| St. Louis Area, MO | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 64.12 | 140.98 | 189.17 | 219.91 |
| St. Louis-St. Charles-Farmington, MO-IL | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Steubenville, OH-WV | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 4.96 | 10.90 | 14.63 | 17.01 |
| Steubenville-Weirton, OH-WV | PM2.5 (2006 24-hour) | Maintenance, -- | 100 | 0 | 14.32 | 32.63 | 37.50 | 46.07 |
| Stockton Area, CA | CO (1971 8-hour) | Maintenance, Moderate ≤ 12.7ppm | 100 | 0 | 26.74 | 58.82 | 78.75 | 91.61 |
| Sullivan County, TN | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 2.41 | 5.55 | 6.11 | 7.63 |
| Syracuse Area; Onondaga County, NY | CO (1971 8-hour) | Maintenance, Moderate ≤ 12.7ppm | 100 | 0 | 40.39 | 88.81 | 119.20 | 138.56 |
| Tazewell County; Groveland Twp, IL | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Terre Haute, IN | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 3.29 | 7.24 | 9.72 | 11.29 |

Table A1-55
Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Cumulative Impacts
Nitrogen Oxides (NO_x) 2040

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|---|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Thurston County; Cities of Olympia, Tumwater, and Lacey, WA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 7.36 | 16.18 | 21.71 | 25.24 |
| Toms River Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.38 | 0.83 | 1.11 | 1.29 |
| Tooele County (part), UT | SO ₂ (1971 24-hour/Annual) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Trenton Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 6.56 | 14.42 | 19.36 | 22.50 |
| Trona, CA | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Tucson Area, AZ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 63.00 | 138.51 | 185.91 | 216.10 |
| Tuscan Buttes, CA | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Union County; LaGrande, OR | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 2.59 | 5.69 | 7.64 | 8.88 |
| Upper Green River Basin Area, WY | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Utah County, UT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 29.63 | 65.14 | 87.42 | 101.62 |
| Vancouver Area: Clark County (part), WA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 20.02 | 44.01 | 59.07 | 68.67 |
| Ventura County, CA | Ozone (2008 8-hour) | Nonattainment, Serious | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Vermillion County; Part of Clinton Township, IN | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 3.00 | 6.60 | 8.86 | 10.29 |
| Vigo County, IN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Walla Walla County; Wallula, WA | PM10 (1987 24-hour) | Maintenance, Serious | 100 | 0 | 0.30 | 0.66 | 0.88 | 1.03 |
| Waltham Area, MA | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 4.12 | 9.06 | 12.16 | 14.14 |
| Warren County: Conewago Twp, PA | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Warren County: Warren Boro, Pleasant Twp, Glade Twp, PA | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Warren, PA | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 20.33 | 48.80 | 43.19 | 58.98 |
| Washington Area, DC-MD-VA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 48.91 | 107.54 | 144.34 | 167.78 |
| Washington, DC-MD-VA | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Washoe County; Reno planning area, NV | PM10 (1987 24-hour) | Nonattainment, Serious | 70 | 0 | 23.70 | 52.10 | 69.93 | 81.28 |

Appendix A Air Quality Non-Attainment Area Results

Table A1-55

Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Cumulative Impacts

Nitrogen Oxides (NO_x) 2040

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|---|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Wayne County: Boston, Center, Franklin, Wayne & Webster Townships, IN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Wayne County; (part), MI | PM ₁₀ (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 18.95 | 44.34 | 44.95 | 57.98 |
| West Central Pinal County, AZ | PM _{2.5} (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 6.44 | 14.17 | 19.02 | 22.11 |
| West Silver Valley, ID | PM _{2.5} (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 1.76 | 3.86 | 5.19 | 6.03 |
| Winston-Salem Area, NC | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 27.42 | 60.29 | 80.93 | 94.07 |
| Worcester Area, MA | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 17.47 | 38.40 | 51.54 | 59.91 |
| Yakima Area, WA | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 3.15 | 6.92 | 9.28 | 10.79 |
| Yakima County; (part), WA | PM ₁₀ (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 8.52 | 18.74 | 25.15 | 29.24 |
| Yuba City-Marysville, CA | PM _{2.5} (2006 24-hour) | Maintenance, Moderate | 100 | 0 | 14.16 | 31.14 | 41.80 | 48.59 |
| Yuma County; Yuma planning area, AZ | PM ₁₀ (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 12.08 | 26.56 | 35.65 | 41.44 |

^a Reductions are shown as positive values. Negative values are emissions increases. Values of less than 0.005 tons per year are rounded to zero.

^b Nonattainment or maintenance status as of 5/13/2016. Source: U.S. EPA, The Green Book Nonattainment Areas for Criteria Pollutants; <http://www.epa.gov/airquality/greenbook/>. "--" indicates that no severity classification has been established for the NAAQS pollutant.

^c Emissions thresholds in tons per year. Where the threshold differs by precursor pollutant, the smallest of the precursor thresholds is shown. These thresholds are provided for information only; a general conformity determination is not required for the Proposed Action. Source: 40 CFR 93.853.

Notes: CO = carbon monoxide; NAAQS = National Ambient Air Quality Standards; NO₂ = nitrogen dioxide; PM = particulate matter; SO₂ = sulfur dioxide

Table A1-56
Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Cumulative Impacts
Nitrogen Oxides (NO_x) 2050

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Ada County; Boise, ID | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 29.07 | 64.94 | 84.68 | 98.33 |
| Adams, Denver, and Boulder Counties; Denver Metropolitan area, CO | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 137.12 | 305.67 | 401.86 | 465.31 |
| Ajo, AZ | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Albuquerque Area, NM | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 57.85 | 129.20 | 168.60 | 195.72 |
| Allegheny County Air Basin: Hazelwood monitor, PA | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Allegheny County, PA | PM2.5 (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 75.17 | 167.71 | 219.79 | 254.77 |
| Allegheny County; The area including Liberty, Lincoln, Port Vue, and Glassport Boroughs and the City of Clairton, PA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.55 | 1.23 | 1.59 | 1.86 |
| Allegheny, PA | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 3.83 | 8.55 | 11.18 | 12.97 |
| Allentown, PA | PM2.5 (2006 24-hour) | Maintenance, Moderate | 100 | 0 | 51.06 | 113.95 | 149.14 | 172.95 |
| Allentown-Bethlehem-Easton, PA | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Anchorage Area, AK | CO (1971 8-hour) | Maintenance, Serious | 100 | 0 | 9.38 | 20.95 | 27.31 | 31.71 |
| Anchorage; Eagle River, AK | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.60 | 1.34 | 1.70 | 1.99 |
| AQCR 012: Portions of Grant County, NM | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| AQCR 109-Millinocket, ME | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| AQCR 131: Anoka, Carver, Dakota, Hennepin, Ramsey, Scott, and Washington counties (Minneapolis-St. Paul), MN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| AQCR 237: Brown County: Green Bay sub-city area, WI | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| AQCR 238: Marathon County: Rothschild Sub-city area, Rib Mountain, Weston, WI | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| AQCR 238: Oneida County: Rhinelander Sub-city area, WI | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| AQCR 239: Milwaukee County: Milwaukee sub-city area, WI | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |

Appendix A Air Quality Non-Attainment Area Results

Table A1-56

Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Cumulative Impacts

Nitrogen Oxides (NO_x) 2050

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| AQCR 240: Dane County: Madison sub-city area, WI | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Archuleta County; Pagosa Springs, CO | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 2.13 | 4.75 | 6.24 | 7.23 |
| Armstrong County: Madison Twp, Mahoning Twp, Boggs Twp, Washington Twp, Pine Twp, PA | SO ₂ (1971 24-hour/Annual) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Aroostock County; City of Presque Isle, ME | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 1.55 | 3.46 | 4.55 | 5.27 |
| Atlanta, GA | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Atlantic City Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 4.86 | 10.83 | 14.24 | 16.49 |
| Bakersfield Area, CA | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 57.11 | 129.88 | 157.54 | 187.69 |
| Baltimore Area, MD | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 1.21 | 2.71 | 3.49 | 4.07 |
| Baltimore, MD | Ozone (2008 8-hour) | Nonattainment, Moderate | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Baton Rouge, LA | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Beaver, PA | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 1.45 | 3.24 | 4.25 | 4.93 |
| Benton County; (part) TVA Johnsonville, TN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Billings Area, MT | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 124.01 | 303.36 | 260.74 | 357.06 |
| Billings, MT | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 116.64 | 286.92 | 239.12 | 332.03 |
| Birmingham, AL | PM2.5 (2006 24-hour) | Maintenance, -- | 100 | 0 | 117.40 | 262.16 | 342.32 | 397.30 |
| Boise-Northern Ada County Area, ID | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 29.07 | 64.94 | 84.68 | 98.33 |
| Bonner County; The Sandpoint Area, ID | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 1.12 | 2.50 | 3.29 | 3.80 |
| Boston Area, MA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 68.91 | 153.77 | 201.36 | 233.47 |
| Boyd County (part), KY | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Brooke; Follansbee area, WV | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.04 | 0.08 | 0.10 | 0.12 |
| Burlington Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.51 | 1.13 | 1.49 | 1.73 |
| Calaveras County, CA | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Campbell-Clermont Counties, KY-OH | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 3.38 | 7.54 | 9.92 | 11.48 |

Table A1-56
Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Cumulative Impacts
Nitrogen Oxides (NO_x) 2050

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|---|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Canton-Massillon, OH | PM2.5 (2006 24-hour) | Maintenance, -- | 100 | 0 | 66.93 | 156.59 | 167.96 | 209.62 |
| Central New Hampshire, NH | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 19.74 | 44.00 | 57.84 | 66.97 |
| Central Steptoe Valley, NV | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Charleston, WV | PM2.5 (2006 24-hour) | Maintenance, -- | 100 | 0 | 33.27 | 74.17 | 97.51 | 112.91 |
| Charlotte Area, NC | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 115.02 | 256.39 | 337.08 | 390.30 |
| Charlotte-Rock Hill, NC-SC | Ozone (2008 8-hour) | Maintenance, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Chicago-Naperville, IL-IN-WI | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Chico (Butte County), CA | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Chico Area, CA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 8.99 | 20.03 | 26.33 | 30.49 |
| Chico, CA | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 17.75 | 39.57 | 52.02 | 60.24 |
| Cincinnati, OH-KY-IN | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Clark County; Las Vegas planning area, NV | PM10 (1987 24-hour) | Maintenance, Serious | 100 | 0 | 143.62 | 320.15 | 420.89 | 487.34 |
| Cleveland Area, OH | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 85.98 | 191.66 | 251.97 | 291.76 |
| Cleveland, OH | PM2.5 (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 112.06 | 249.81 | 328.42 | 380.28 |
| Cleveland-Akron-Lorain, OH | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Cleveland-Akron-Lorain, OH | PM2.5 (2006 24-hour) | Maintenance, -- | 100 | 0 | 245.33 | 546.88 | 718.99 | 832.50 |
| Cochise County; Paul Spur/Douglas planning area, AZ | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 3.65 | 8.14 | 10.70 | 12.39 |
| Colorado Springs Area, CO | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 49.96 | 111.58 | 145.66 | 169.07 |
| Columbus, OH | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Cook County; Lyons Township, IL | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 7.28 | 16.40 | 20.62 | 24.25 |
| Cook County; Southeast Chicago, IL | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 7.19 | 16.21 | 20.37 | 23.96 |
| Coshocton County; Franklin Township, OH | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Coso Junction, CA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Cuyahoga County (part), OH | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Cuyahoga County, OH | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 85.54 | 190.68 | 250.68 | 290.26 |

Appendix A Air Quality Non-Attainment Area Results

Table A1-56

Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Cumulative Impacts

Nitrogen Oxides (NO_x) 2050

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|---------------------------------------|--|---|---|--------|--------------------|----------|----------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Dallas-Fort Worth, TX | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Delaware County, PA | PM2.5 (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 282.86 | 688.69 | 607.14 | 822.13 |
| Denver-Boulder Area, CO | CO (1971 8-hour) | Maintenance, Serious | 100 | 0 | 309.06 | 707.25 | 835.98 | 1,005.45 |
| Denver-Boulder-Greeley-Ft Collins-Loveland, CO | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Detroit Area, MI | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 132.71 | 299.20 | 376.13 | 442.39 |
| Detroit, MI | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 51.04 | 117.13 | 136.84 | 165.29 |
| Detroit-Ann Arbor, MI | PM2.5 (2006 24-hour) | Maintenance, -- | 100 | 0 | 466.44 | 1,043.16 | 1,354.04 | 1,574.77 |
| Dona Ana County; Anthony, NM | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.99 | 2.22 | 2.92 | 3.38 |
| Douglas, AZ | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Dukes County, MA | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Duluth Area, MN | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 11.94 | 26.62 | 34.99 | 40.52 |
| East Chicago Area, IN | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 189.34 | 465.39 | 389.56 | 539.85 |
| East Helena Area, MT | SO ₂ (1971 24-hour/Annual) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| East Kern County Area, CA | PM10 (1987 24-hour) | Nonattainment, Serious | 70 | 0 | 13.14 | 31.87 | 28.68 | 38.49 |
| El Paso County, TX | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 82.29 | 193.83 | 201.54 | 254.65 |
| El Paso, TX | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 46.19 | 113.26 | 96.09 | 132.35 |
| Eugene-Springfield Area, OR | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 21.59 | 48.13 | 63.28 | 73.27 |
| Fairbanks Area, AK | CO (1971 8-hour) | Maintenance, Serious | 100 | 0 | 17.23 | 42.13 | 36.27 | 49.64 |
| Fairbanks, AK | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 19.49 | 47.18 | 42.91 | 57.32 |

Table A1-56
Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Cumulative Impacts
Nitrogen Oxides (NO_x) 2050

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|---|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Flathead County; Columbia Falls and vicinity, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.12 | 0.28 | 0.37 | 0.42 |
| Flathead County; Kalispell and vicinity, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 3.42 | 7.63 | 10.03 | 11.61 |
| Flathead County; Whitefish and vicinity, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.37 | 0.83 | 1.09 | 1.27 |
| Fort Collins Area, CO | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 10.61 | 23.64 | 31.08 | 35.99 |
| Freehold Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 2.63 | 5.86 | 7.70 | 8.92 |
| Fremont County; Canon City Area, CO | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 3.60 | 8.03 | 10.55 | 12.22 |
| Fresno Area, CA | CO (1971 8-hour) | Maintenance, Moderate > 12.7ppm | 100 | 0 | 49.94 | 111.45 | 145.91 | 169.19 |
| Grants Pass Area, OR | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 4.33 | 9.66 | 12.70 | 14.70 |
| Great Falls Area, MT | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 21.27 | 52.32 | 43.60 | 60.54 |
| Greater Connecticut, CT | Ozone (2008 8-hour) | Nonattainment, Moderate | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Greeley Area, CO | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 36.33 | 81.32 | 105.20 | 122.49 |
| Hancock and Brooke Counties (Part); The city of Weirton, WV | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 7.13 | 17.33 | 15.39 | 20.78 |
| Hancock County (Part) The city of Weirton, including Butler and Clay: Magisterial Districts, WV | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Harrisburg-Lebanon-Carlisle-York, PA | PM2.5 (2006 24-hour) | Maintenance, Moderate | 100 | 0 | 116.28 | 259.25 | 340.55 | 394.43 |
| Hartford-New Britain-Middletown Area, CT | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 102.51 | 228.51 | 300.42 | 347.85 |
| Hayden, AZ | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.22 | 0.49 | 0.64 | 0.74 |
| Hayden, AZ | SO ₂ (1971 24-hour/Annual) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Hayden, AZ | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.21 | 0.46 | 0.61 | 0.70 |
| Hillsborough County, FL | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 1.48 | 3.31 | 4.31 | 5.01 |
| Houston-Galveston-Brazoria, TX | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Humphreys County; (part) TVA Johnsonville, TN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Imperial Co, CA | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 19.21 | 42.83 | 56.31 | 65.20 |

Appendix A Air Quality Non-Attainment Area Results

Table A1-56

Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Cumulative Impacts

Nitrogen Oxides (NO_x) 2050

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Imperial County, CA | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Imperial County, CA | PM2.5 (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 19.21 | 42.83 | 56.31 | 65.20 |
| Imperial County; Imperial Valley planning area, CA | PM10 (1987 24-hour) | Nonattainment, Serious | 70 | 0 | 23.23 | 51.79 | 68.08 | 78.83 |
| Indian Wells, CA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 12.96 | 31.46 | 28.14 | 37.86 |
| Indiana, PA | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 8.47 | 18.88 | 24.83 | 28.74 |
| Indianapolis Area, IN | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.11 | 0.24 | 0.32 | 0.37 |
| Indianapolis, IN | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 41.78 | 93.14 | 122.45 | 141.78 |
| Inyo County; Owens Valley planning area, CA | PM10 (1987 24-hour) | Nonattainment, Serious | 70 | 0 | 0.89 | 1.99 | 2.61 | 3.02 |
| Jackson County, MO | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 4.97 | 11.08 | 14.54 | 16.85 |
| Jackson County; Medford-Ashland (including White City), OR | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 17.79 | 39.66 | 52.14 | 60.37 |
| Jamestown, NY | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Jefferson County, KY | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Jefferson County, MO | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 4.76 | 10.62 | 13.96 | 16.16 |
| Jefferson County; (part) Steubenville & Mingo Junction, OH | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Jefferson County; (part), OH | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.38 | 0.84 | 1.10 | 1.28 |
| Johnstown, PA | PM2.5 (2006 24-hour) | Maintenance, Moderate | 100 | 0 | 11.14 | 24.84 | 32.66 | 37.81 |
| Josephine County; Grants Pass, OR | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 4.33 | 9.66 | 12.70 | 14.70 |
| Juneau; Mendenhall Valley area, AK | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.79 | 1.77 | 2.32 | 2.69 |
| Kern County (Eastern Kern), CA | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| King County; Kent, WA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 2.26 | 5.05 | 6.64 | 7.68 |
| King County; Seattle, WA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.72 | 1.59 | 2.10 | 2.43 |
| Klamath County; Klamath Falls, OR | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 8.24 | 18.36 | 24.14 | 27.95 |
| Klamath Falls Area, OR | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 8.24 | 18.37 | 24.15 | 27.96 |
| Klamath Falls, OR | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 8.69 | 19.38 | 25.47 | 29.50 |

Table A1-56
Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Cumulative Impacts
Nitrogen Oxides (NO_x) 2050

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Knoxville, TN | Ozone (2008 8-hour) | Maintenance, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Knoxville-Sevierville-La Follette, TN | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 90.17 | 201.01 | 264.26 | 305.99 |
| La Porte County: (part), IN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lake County (part); Lakeview, OR | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 1.74 | 3.87 | 5.09 | 5.89 |
| Lake County, OH | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 24.66 | 54.97 | 72.27 | 83.68 |
| Lake County: (part), IN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lake County; (part) Eastlake, Timberlake, Lakeline, Willoughby, Mentor, OH | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lake County; Cities of East Chicago, Hammond, Whiting, and Gary, IN | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 200.88 | 491.14 | 423.33 | 578.98 |
| Lake County; Polson, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.17 | 0.38 | 0.50 | 0.58 |
| Lake County; Ronan, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lake Tahoe Nevada Area, NV | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 1.25 | 2.80 | 3.68 | 4.26 |
| Lake Tahoe North Shore Area, CA | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.70 | 1.57 | 2.06 | 2.39 |
| Lake Tahoe South Shore Area, CA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 1.65 | 3.68 | 4.84 | 5.60 |
| Lancaster, PA | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lancaster, PA | PM2.5 (2006 24-hour) | Maintenance, Moderate | 100 | 0 | 47.27 | 105.38 | 138.53 | 160.41 |
| Lane County (part); Oakridge, OR | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.10 | 0.22 | 0.29 | 0.33 |
| Lane County; Eugene/Springfield, OR | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 21.59 | 48.13 | 63.28 | 73.27 |
| Las Vegas Area, NV | CO (1971 8-hour) | Maintenance, Serious | 100 | 0 | 143.21 | 319.24 | 419.69 | 485.96 |
| LaSalle County; Oglesby, IL | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 3.35 | 7.47 | 9.82 | 11.37 |
| Laurel Area, MT | SO ₂ (1971 24-hour/Annual) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lebanon County, PA | PM2.5 (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 16.30 | 36.33 | 47.76 | 55.30 |
| Lemont, IL | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 266.33 | 652.01 | 558.08 | 765.66 |
| Liberty-Clairton, PA | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.55 | 1.23 | 1.59 | 1.86 |

Appendix A Air Quality Non-Attainment Area Results

Table A1-56

Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Cumulative Impacts

Nitrogen Oxides (NO_x) 2050

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|---------------------------------------|--|---|---|----------|--------------------|----------|----------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Lincoln County; Libby and vicinity, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.40 | 0.90 | 1.18 | 1.37 |
| Logan, UT-ID | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 8.39 | 18.70 | 24.59 | 28.47 |
| Longmont Area, CO | CO (1971 8-hour) | Maintenance, Moderate ≤ 12.7ppm | 100 | 0 | 7.09 | 15.80 | 20.77 | 24.05 |
| Lorain County (part), OH | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Los Angeles, CA | PM2.5 (2006 24-hour) | Nonattainment, Serious | 100 | 0 | 1,669.82 | 3,790.94 | 4,631.92 | 5,503.83 |
| Los Angeles-San Bernardino Counties (West Mojave Desert), CA | Ozone (2008 8-hour) | Nonattainment, Severe 15 | 25 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Los Angeles-South Coast Air Basin Area, CA | CO (1971 8-hour) | Maintenance, Serious | 100 | 0 | 1,670.56 | 3,792.59 | 4,634.09 | 5,506.34 |
| Los Angeles-South Coast Air Basin Area, CA | NO ₂ (1971 Annual) | Maintenance, -- | 100 | 0 | 1,670.63 | 3,792.74 | 4,634.29 | 5,506.57 |
| Los Angeles-South Coast Air Basin, CA | Ozone (2008 8-hour) | Nonattainment, Extreme | 10 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Los Angeles-South Coast Air Basin, CA | PM2.5 (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 1,667.68 | 3,786.17 | 4,625.65 | 5,496.57 |
| Lowell Area, MA | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 9.70 | 21.62 | 28.42 | 32.91 |
| Lucas County (part), OH | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Madison County; Granite City Township and Nameoki Township, IL | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 280.19 | 688.39 | 577.77 | 799.69 |
| Manchester Area, NH | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 7.43 | 16.57 | 21.78 | 25.22 |
| Maricopa and Pinal Counties; Phoenix planning area, AZ | PM10 (1987 24-hour) | Nonattainment, Serious | 70 | 0 | 328.23 | 731.68 | 961.94 | 1,113.82 |
| Marion County; Lawrence, Washington, and Warrant Townships, IN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Mariposa County, CA | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Marshall, WV | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 55.38 | 135.94 | 114.63 | 158.33 |
| Medford Area, OR | CO (1971 8-hour) | Maintenance, Moderate ≤ 12.7ppm | 100 | 0 | 9.45 | 21.08 | 27.71 | 32.08 |
| Memphis Area, TN | CO (1971 8-hour) | Maintenance, Moderate ≤ 12.7ppm | 100 | 0 | 113.65 | 261.01 | 303.83 | 367.51 |

Table A1-56
Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Cumulative Impacts
Nitrogen Oxides (NO_x) 2050

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|---|---------------------------------------|--|---|---|--------|--------------------|----------|----------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Memphis, TN-MS-AR | Ozone (2008 8-hour) | Nonattainment TN & Maintenance MS/AR, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Miami, AZ | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.52 | 1.16 | 1.53 | 1.77 |
| Miami, AZ | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Miami, AZ | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.52 | 1.16 | 1.53 | 1.77 |
| Milwaukee-Racine, WI | PM2.5 (2006 24-hour) | Maintenance, -- | 100 | 0 | 108.23 | 241.27 | 317.17 | 367.26 |
| Minneapolis-St. Paul Area, MN | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 513.69 | 1,199.14 | 1,299.31 | 1,615.16 |
| Missoula Area, MT | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 8.85 | 19.87 | 25.41 | 29.71 |
| Missoula county; Missoula and vicinity, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 8.43 | 18.93 | 24.22 | 28.31 |
| Modesto Area, CA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 15.90 | 35.45 | 46.56 | 53.93 |
| Mohave County (part); Bullhead City, AZ | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 9.31 | 20.75 | 27.28 | 31.59 |
| Mono County; Mammoth Lake planning area, CA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 3.51 | 7.84 | 10.30 | 11.93 |
| Mono County; Mono Basin, CA | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Morenci, AZ | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Morgan County, IN | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 2.94 | 6.55 | 8.61 | 9.97 |
| Morongo Band of Mission Indians | Ozone (2008 8-hour) | Nonattainment, Serious | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Morristown Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 3.97 | 8.85 | 11.59 | 13.44 |
| Muscatine County; (part), IA | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Muscatine, IA | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 1.94 | 4.33 | 5.69 | 6.59 |
| Muskingum River, OH | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.88 | 1.96 | 2.57 | 2.98 |
| Nashua Area, NH | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 7.22 | 16.10 | 21.17 | 24.51 |
| Nassau County, FL | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.31 | 0.70 | 0.91 | 1.06 |
| Nevada County (Western part), CA | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| New Haven County, CT | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 1.66 | 3.70 | 4.85 | 5.62 |

Appendix A Air Quality Non-Attainment Area Results

Table A1-56

Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Cumulative Impacts

Nitrogen Oxides (NO_x) 2050

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|---------------------------------------|--|---|---|----------|--------------------|----------|----------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| New Haven-Meriden-Waterbury Area, CT | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 78.68 | 175.53 | 230.04 | 266.65 |
| New Manchester-Grant magisterial district in Hancock County, WV | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| New York County, NY | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 51.38 | 114.53 | 150.58 | 174.35 |
| New York, NY-NJ-CT | PM2.5 (2006 24-hour) | Maintenance, -- | 100 | 0 | 1,552.32 | 3,487.01 | 4,447.74 | 5,204.54 |
| New York-N. New Jersey-Long Island Area, NY-NJ-CT | CO (1971 8-hour) | Maintenance, Moderate > 12.7ppm | 100 | 0 | 890.17 | 2,005.22 | 2,529.16 | 2,971.25 |
| New York-N. New Jersey-Long Island, NY-NJ-CT | Ozone (2008 8-hour) | Nonattainment, Moderate | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| NJ portion of the Northeast Pennsylvania-Upper Delaware Valley Interstate AQCR: (part), NJ | SO ₂ (1971 24-hour/Annual) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Nogales, AZ | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 4.40 | 9.80 | 12.88 | 14.92 |
| Oakridge, OR | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.10 | 0.22 | 0.29 | 0.33 |
| Ogden Area, UT | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 4.90 | 10.92 | 14.35 | 16.62 |
| Ogden Area, UT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 4.90 | 10.92 | 14.35 | 16.62 |
| Olmsted County; (part), MN | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 2.24 | 4.98 | 6.55 | 7.59 |
| Olmsted; City of Rochester, MN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |

Table A1-56
Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Cumulative Impacts
Nitrogen Oxides (NO_x) 2050

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|---------------------------------------|--|---|---|--------|--------------------|----------|----------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Pechanga Band of Luiseno Mission Indians of the Pechanga Reservation | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Pekin, IL | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 3.72 | 8.29 | 10.89 | 12.62 |
| Penns Grove Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Peoria County: Hollis Twp, IL | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Peoria County: Peoria, IL | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Perth Amboy Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 35.22 | 84.06 | 82.09 | 106.40 |
| Philadelphia-Camden County Area, PA-NJ | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 204.87 | 484.55 | 494.05 | 629.16 |
| Philadelphia-Wilmington, PA-NJ-DE | PM2.5 (2006 24-hour) | Maintenance, Moderate for PA and DE Subject to Former Subpart 1 for NJ | 100 | 0 | 803.72 | 1,888.46 | 1,985.98 | 2,497.95 |
| Philadelphia-Wilmington-Atlantic City, PA-NJ-MD-DE | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Phoenix Area, AZ | CO (1971 8-hour) | Maintenance, Serious | 100 | 0 | 313.57 | 699.01 | 918.99 | 1,064.08 |
| Phoenix-Mesa, AZ | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Pierce County; Tacoma, WA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.13 | 0.29 | 0.39 | 0.45 |
| Pima County; Ajo planning area, AZ | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Pima County; Rillito planning area, AZ | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 6.22 | 13.87 | 18.23 | 21.11 |
| Pinal and Gila Counties; Payson, AZ | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 3.17 | 7.07 | 9.30 | 10.76 |
| Pinal County (part); West Pinal, AZ | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 37.71 | 84.05 | 110.50 | 127.95 |
| Pitkin County; Aspen, CO | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 2.27 | 5.06 | 6.66 | 7.71 |
| Pittsburgh Area, PA | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 15.16 | 33.83 | 44.32 | 51.38 |
| Pittsburgh-Beaver Valley, PA | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Pittsburgh-Beaver Valley, PA | PM2.5 (2006 24-hour) | Maintenance, Moderate | 100 | 0 | 162.69 | 363.09 | 475.17 | 551.07 |
| Plumas County, CA | PM2.5 (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Polk County, TN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |

Appendix A Air Quality Non-Attainment Area Results

Table A1-56

Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Cumulative Impacts

Nitrogen Oxides (NO_x) 2050

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|-------------------------------|--|---|---|----------|--------------------|----------|----------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Portland Area: Portland Metro Service District Boundary, OR | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 107.00 | 238.92 | 312.06 | 362.15 |
| Power-Bannock Counties; Fort Hall Indian Reservation, ID | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Power-Bannock Counties; Portneuf Valley Area, ID | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 8.67 | 19.32 | 25.40 | 29.41 |
| Provo Area, UT | CO (1971 8-hour) | Maintenance, Moderate > 12.7ppm | 100 | 0 | 6.22 | 13.87 | 18.21 | 21.09 |
| Provo, UT | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 35.78 | 79.77 | 104.85 | 121.41 |
| Prowers County; Lamar, CO | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Raleigh-Durham Area, NC | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 124.28 | 277.04 | 364.23 | 421.73 |
| Ramsey County; (part), MN | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.25 | 0.56 | 0.72 | 0.84 |
| Reading, PA | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Reno Area, NV | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 28.51 | 63.56 | 83.56 | 96.75 |
| Rhinelander, WI | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 4.42 | 9.86 | 12.96 | 15.01 |
| Riverside County (Coachella Valley), CA | Ozone (2008 8-hour) | Nonattainment, Severe 15 | 25 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Riverside County; Coachella Valley planning area, CA | PM10 (1987 24-hour) | Nonattainment, Serious | 70 | 0 | 44.98 | 100.27 | 131.83 | 152.64 |
| Riverside, Los Angeles, Orange, and San Bernardino Counties; South Coast Air Basin, CA | PM10 (1987 24-hour) | Maintenance, Serious | 100 | 0 | 1,664.19 | 3,778.38 | 4,615.41 | 5,484.70 |
| Rosebud County; Lame Deer, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 2.88 | 6.43 | 8.45 | 9.79 |
| Routt County (part); Steamboat Springs, CO | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 2.70 | 6.03 | 7.92 | 9.17 |
| Sacramento Area, CA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 115.41 | 257.35 | 337.93 | 391.45 |
| Sacramento County, CA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 111.40 | 248.39 | 326.25 | 377.88 |
| Sacramento Metro, CA | Ozone (2008 8-hour) | Nonattainment, Severe 15 | 25 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Sacramento, CA | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 258.42 | 587.00 | 715.58 | 850.99 |
| Salem Area, OR | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 23.12 | 51.54 | 67.76 | 78.45 |
| Salt Lake City Area, UT | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 60.12 | 144.96 | 134.50 | 178.13 |
| Salt Lake City, UT | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 220.66 | 509.89 | 578.04 | 706.17 |

Table A1-56

Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Cumulative Impacts

Nitrogen Oxides (NO_x) 2050

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|---|---------------------------------------|--|---|---|--------|--------------------|----------|----------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Salt Lake County, UT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 131.48 | 304.02 | 343.62 | 420.27 |
| Salt Lake County, UT | SO ₂ (1971 24-hour/Annual) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| San Bernardino County (part); excluding Searles Valley Planning area and South Coast Air Basin, CA | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 47.66 | 106.26 | 139.65 | 161.71 |
| San Diego Area, CA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 301.47 | 672.12 | 883.18 | 1,022.80 |
| San Diego County, CA | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| San Francisco Bay Area, CA | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| San Francisco Bay Area, CA | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 819.22 | 1,879.07 | 2,199.13 | 2,654.69 |
| San Francisco-Oakland-San Jose Area, CA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 768.12 | 1,765.16 | 2,049.37 | 2,481.28 |
| San Joaquin Valley Air Basin; Fresno, Kern, Kings, Madera, Merced, San Joaquin, Stanislaus, Tulare Counties, CA | PM10 (1987 24-hour) | Maintenance, Serious | 100 | 0 | 409.59 | 915.89 | 1,189.55 | 1,383.18 |
| San Joaquin Valley, CA | Ozone (2008 8-hour) | Nonattainment, Extreme | 10 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| San Joaquin Valley, CA | PM2.5 (2006 24-hour) | Nonattainment, Serious | 100 | 0 | 409.53 | 915.76 | 1,189.37 | 1,382.98 |
| San Joaquin Valley, CA | PM2.5 (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 409.53 | 915.76 | 1,189.37 | 1,382.98 |
| San Luis Obispo (Eastern San Luis Obispo), CA | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| San Manuel, AZ | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| San Miguel County; Telluride, CO | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.88 | 1.97 | 2.59 | 3.00 |
| Sanders County (part); Thompson Falls and vicinity, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Santa Cruz County; Nogales planning area, AZ | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 4.40 | 9.80 | 12.88 | 14.92 |
| Seaford, DE | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Seattle-Tacoma Area, WA | CO (1971 8-hour) | Maintenance, Moderate > 12.7ppm | 100 | 0 | 246.80 | 550.15 | 723.28 | 837.48 |
| Seattle-Tacoma, WA | PM2.5 (2006 24-hour) | Maintenance, Moderate | 100 | 0 | 39.19 | 87.37 | 114.86 | 132.99 |
| Sheboygan County, WI | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |

Appendix A Air Quality Non-Attainment Area Results

Table A1-56

Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Cumulative Impacts

Nitrogen Oxides (NO_x) 2050

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|---|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Sheridan County; City of Sheridan, WY | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 2.38 | 5.30 | 6.96 | 8.06 |
| Shoshone County (part); excluding Pinehurst, ID | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 3.87 | 8.62 | 11.34 | 13.13 |
| Shoshone County; City of Pinehurst, ID | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Silver Bow County; Butte, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 3.82 | 8.52 | 11.21 | 12.98 |
| Somerville Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 1.40 | 3.13 | 4.11 | 4.76 |
| Southwest Indiana, IN | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 1.12 | 2.49 | 3.28 | 3.80 |
| Spokane Area, WA | CO (1971 8-hour) | Maintenance, Serious | 100 | 0 | 25.40 | 56.61 | 74.43 | 86.18 |
| Spokane County; (part), WA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 26.20 | 58.39 | 76.77 | 88.89 |
| Springfield Area, MA | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 15.53 | 34.62 | 45.51 | 52.70 |
| St. Bernard Parish, LA | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 193.23 | 474.95 | 397.66 | 551.01 |
| St. Louis Area, MO | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 76.35 | 170.21 | 223.72 | 259.07 |
| St. Louis-St. Charles-Farmington, MO-IL | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Steubenville, OH-WV | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 6.22 | 13.86 | 18.23 | 21.10 |
| Steubenville-Weirton, OH-WV | PM2.5 (2006 24-hour) | Maintenance, -- | 100 | 0 | 17.15 | 39.67 | 44.76 | 54.78 |
| Stockton Area, CA | CO (1971 8-hour) | Maintenance, Moderate ≤ 12.7ppm | 100 | 0 | 31.69 | 70.70 | 92.71 | 107.44 |
| Sullivan County, TN | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 2.70 | 6.32 | 6.75 | 8.44 |
| Syracuse Area; Onondaga County, NY | CO (1971 8-hour) | Maintenance, Moderate ≤ 12.7ppm | 100 | 0 | 48.79 | 108.76 | 142.98 | 165.55 |
| Tazewell County; Groveland Twp, IL | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Terre Haute, IN | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 3.00 | 6.69 | 8.80 | 10.18 |

Table A1-56
Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Cumulative Impacts
Nitrogen Oxides (NO_x) 2050

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|---|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Thurston County; Cities of Olympia, Tumwater, and Lacey, WA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 8.77 | 19.54 | 25.69 | 29.75 |
| Toms River Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.46 | 1.03 | 1.35 | 1.56 |
| Tooele County (part), UT | SO ₂ (1971 24-hour/Annual) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Trenton Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 8.05 | 17.94 | 23.59 | 27.31 |
| Trona, CA | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Tucson Area, AZ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 76.17 | 169.79 | 223.22 | 258.47 |
| Tuscan Buttes, CA | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Union County; LaGrande, OR | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 3.66 | 8.16 | 10.72 | 12.42 |
| Upper Green River Basin Area, WY | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Utah County, UT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 35.78 | 79.77 | 104.85 | 121.41 |
| Vancouver Area: Clark County (part), WA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 24.16 | 53.85 | 70.80 | 81.97 |
| Ventura County, CA | Ozone (2008 8-hour) | Nonattainment, Serious | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Vermillion County; Part of Clinton Township, IN | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Vigo County, IN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Walla Walla County; Wallula, WA | PM10 (1987 24-hour) | Maintenance, Serious | 100 | 0 | 0.35 | 0.78 | 1.03 | 1.19 |
| Waltham Area, MA | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 4.95 | 11.02 | 14.49 | 16.78 |
| Warren County: Conewago Twp, PA | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Warren County: Warren Boro, Pleasant Twp, Glade Twp, PA | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Warren, PA | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 23.95 | 58.51 | 50.71 | 69.19 |
| Washington Area, DC-MD-VA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 59.07 | 131.69 | 173.13 | 200.46 |
| Washington, DC-MD-VA | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Washoe County; Reno planning area, NV | PM10 (1987 24-hour) | Nonattainment, Serious | 70 | 0 | 28.21 | 62.88 | 82.67 | 95.72 |

Appendix A Air Quality Non-Attainment Area Results

Table A1-56

Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Cumulative Impacts

Nitrogen Oxides (NO_x) 2050

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|---|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Wayne County: Boston, Center, Franklin, Wayne & Webster Townships, IN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Wayne County; (part), MI | PM ₁₀ (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 24.22 | 57.33 | 58.27 | 74.30 |
| West Central Pinal County, AZ | PM _{2.5} (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 7.94 | 17.70 | 23.27 | 26.94 |
| West Silver Valley, ID | PM _{2.5} (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 2.27 | 5.07 | 6.66 | 7.72 |
| Winston-Salem Area, NC | CO (1971 8-hour) | Maintenance, Moderate ≤ 12.7ppm | 100 | 0 | 33.09 | 73.77 | 96.98 | 112.29 |
| Worcester Area, MA | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 21.73 | 48.44 | 63.68 | 73.73 |
| Yakima Area, WA | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 3.95 | 8.81 | 11.58 | 13.41 |
| Yakima County; (part), WA | PM ₁₀ (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 10.33 | 23.02 | 30.26 | 35.04 |
| Yuba City-Marysville, CA | PM _{2.5} (2006 24-hour) | Maintenance, Moderate | 100 | 0 | 17.15 | 38.22 | 50.25 | 58.18 |
| Yuma County; Yuma planning area, AZ | PM ₁₀ (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 14.52 | 32.38 | 42.56 | 49.29 |

^a Reductions are shown as positive values. Negative values are emissions increases. Values of less than 0.005 tons per year are rounded to zero.

^b Nonattainment or maintenance status as of 5/13/2016. Source: U.S. EPA, The Green Book Nonattainment Areas for Criteria Pollutants; <http://www.epa.gov/airquality/greenbook/>. "--" indicates that no severity classification has been established for the NAAQS pollutant.

^c Emissions thresholds in tons per year. Where the threshold differs by precursor pollutant, the smallest of the precursor thresholds is shown. These thresholds are provided for information only; a general conformity determination is not required for the Proposed Action. Source: 40 CFR 93.853.

Notes: CO = carbon monoxide; NAAQS = National Ambient Air Quality Standards; NO₂ = nitrogen dioxide; PM = particulate matter; SO₂ = sulfur dioxide

Table A1-57

Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Cumulative Impacts
Volatile Organic Compounds (VOC) 2018

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Ada County; Boise, ID | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.17 | 0.23 | 0.27 | 0.32 |
| Adams, Denver, and Boulder Counties; Denver Metropolitan area, CO | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.67 | 0.91 | 1.08 | 1.27 |
| Ajo, AZ | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Albuquerque Area, NM | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.17 | 0.24 | 0.28 | 0.33 |
| Allegheny County Air Basin: Hazelwood monitor, PA | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Allegheny County, PA | PM2.5 (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 0.17 | 0.24 | 0.28 | 0.33 |
| Allegheny County; The area including Liberty, Lincoln, Port Vue, and Glassport Boroughs and the City of Clairton, PA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.01 | 0.01 |
| Allegheny, PA | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.02 | 0.02 | 0.03 | 0.03 |
| Allentown, PA | PM2.5 (2006 24-hour) | Maintenance, Moderate | 100 | 0 | 0.10 | 0.13 | 0.16 | 0.19 |
| Allentown-Bethlehem-Easton, PA | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Anchorage Area, AK | CO (1971 8-hour) | Maintenance, Serious | 100 | 0 | 0.11 | 0.14 | 0.17 | 0.20 |
| Anchorage; Eagle River, AK | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.01 | 0.01 | 0.01 | 0.01 |
| AQCR 012: Portions of Grant County, NM | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| AQCR 109-Millinocket, ME | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| AQCR 131: Anoka, Carver, Dakota, Hennepin, Ramsey, Scott, and Washington counties (Minneapolis-St. Paul), MN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| AQCR 237: Brown County: Green Bay sub-city area, WI | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| AQCR 238: Marathon County: Rothschild Sub-city area, Rib Mountain, Weston, WI | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| AQCR 238: Oneida County: Rhinelander Sub-city area, WI | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| AQCR 239: Milwaukee County: Milwaukee sub-city area, WI | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |

Appendix A Air Quality Non-Attainment Area Results

Table A1-57

Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Cumulative Impacts

Volatile Organic Compounds (VOC) 2018

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| AQCR 240: Dane County: Madison sub-city area, WI | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Archuleta County; Pagosa Springs, CO | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.01 | 0.01 | 0.01 |
| Armstrong County: Madison Twp, Mahoning Twp, Boggs Twp, Washington Twp, Pine Twp, PA | SO ₂ (1971 24-hour/Annual) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Aroostock County; City of Presque Isle, ME | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Atlanta, GA | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Atlantic City Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.01 | 0.01 | 0.01 |
| Bakersfield Area, CA | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.10 | 0.14 | 0.16 | 0.19 |
| Baltimore Area, MD | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.01 |
| Baltimore, MD | Ozone (2008 8-hour) | Nonattainment, Moderate | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Baton Rouge, LA | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Beaver, PA | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Benton County; (part) TVA Johnsonville, TN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Billings Area, MT | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.42 | 0.56 | 0.67 | 0.79 |
| Billings, MT | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.32 | 0.42 | 0.51 | 0.60 |
| Birmingham, AL | PM2.5 (2006 24-hour) | Maintenance, -- | 100 | 0 | 0.40 | 0.55 | 0.65 | 0.77 |
| Boise-Northern Ada County Area, ID | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.17 | 0.23 | 0.27 | 0.32 |
| Bonner County; The Sandpoint Area, ID | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.01 | 0.01 | 0.01 | 0.01 |
| Boston Area, MA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.24 | 0.32 | 0.39 | 0.45 |
| Boyd County (part), KY | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Brooke; Follansbee area, WV | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Burlington Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Calaveras County, CA | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Campbell-Clermont Counties, KY-OH | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.01 | 0.01 | 0.01 | 0.01 |

Table A1-57

Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Cumulative Impacts
Volatile Organic Compounds (VOC) 2018

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|---|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Canton-Massillon, OH | PM2.5 (2006 24-hour) | Maintenance, -- | 100 | 0 | 0.08 | 0.11 | 0.13 | 0.15 |
| Central New Hampshire, NH | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.01 | 0.01 | 0.01 | 0.01 |
| Central Steptoe Valley, NV | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Charleston, WV | PM2.5 (2006 24-hour) | Maintenance, -- | 100 | 0 | 0.06 | 0.08 | 0.10 | 0.12 |
| Charlotte Area, NC | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.11 | 0.17 | 0.19 | 0.23 |
| Charlotte-Rock Hill, NC-SC | Ozone (2008 8-hour) | Maintenance, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Chicago-Naperville, IL-IN-WI | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Chico (Butte County), CA | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Chico Area, CA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.01 | 0.01 | 0.01 | 0.02 |
| Chico, CA | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.02 | 0.03 | 0.03 | 0.04 |
| Cincinnati, OH-KY-IN | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Clark County; Las Vegas planning area, NV | PM10 (1987 24-hour) | Maintenance, Serious | 100 | 0 | 0.15 | 0.22 | 0.26 | 0.30 |
| Cleveland Area, OH | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.20 | 0.27 | 0.32 | 0.38 |
| Cleveland, OH | PM2.5 (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 0.24 | 0.34 | 0.40 | 0.47 |
| Cleveland-Akron-Lorain, OH | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Cleveland-Akron-Lorain, OH | PM2.5 (2006 24-hour) | Maintenance, -- | 100 | 0 | 0.38 | 0.54 | 0.63 | 0.75 |
| Cochise County; Paul Spur/Douglas planning area, AZ | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.01 | 0.01 | 0.02 | 0.02 |
| Colorado Springs Area, CO | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.25 | 0.34 | 0.41 | 0.48 |
| Columbus, OH | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Cook County; Lyons Township, IL | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.01 | 0.01 | 0.01 | 0.02 |
| Cook County; Southeast Chicago, IL | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.01 | 0.02 | 0.02 | 0.02 |
| Coshocton County; Franklin Township, OH | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Coso Junction, CA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Cuyahoga County (part), OH | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Cuyahoga County, OH | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.20 | 0.27 | 0.32 | 0.38 |

Appendix A Air Quality Non-Attainment Area Results

Table A1-57

**Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Cumulative Impacts
Volatile Organic Compounds (VOC) 2018**

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Dallas-Fort Worth, TX | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Delaware County, PA | PM2.5 (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 0.11 | 0.15 | 0.18 | 0.21 |
| Denver-Boulder Area, CO | CO (1971 8-hour) | Maintenance, Serious | 100 | 0 | 1.35 | 1.81 | 2.16 | 2.55 |
| Denver-Boulder-Greeley-Ft Collins-Loveland, CO | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Detroit Area, MI | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.35 | 0.48 | 0.57 | 0.67 |
| Detroit, MI | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.13 | 0.17 | 0.20 | 0.24 |
| Detroit-Ann Arbor, MI | PM2.5 (2006 24-hour) | Maintenance, -- | 100 | 0 | 0.91 | 1.28 | 1.50 | 1.77 |
| Dona Ana County; Anthony, NM | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.01 | 0.01 | 0.01 | 0.01 |
| Douglas, AZ | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Dukes County, MA | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Duluth Area, MN | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.08 | 0.11 | 0.13 | 0.16 |
| East Chicago Area, IN | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.24 | 0.32 | 0.38 | 0.45 |
| East Helena Area, MT | SO ₂ (1971 24-hour/Annual) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| East Kern County Area, CA | PM10 (1987 24-hour) | Nonattainment, Serious | 70 | 0 | 0.07 | 0.09 | 0.11 | 0.13 |
| El Paso County, TX | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.15 | 0.21 | 0.25 | 0.29 |
| El Paso, TX | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.06 | 0.08 | 0.09 | 0.11 |
| Eugene-Springfield Area, OR | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.04 | 0.06 | 0.07 | 0.08 |
| Fairbanks Area, AK | CO (1971 8-hour) | Maintenance, Serious | 100 | 0 | 0.03 | 0.04 | 0.05 | 0.06 |
| Fairbanks, AK | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.05 | 0.06 | 0.07 | 0.09 |

Table A1-57
Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Cumulative Impacts
Volatile Organic Compounds (VOC) 2018

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|---|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Flathead County; Columbia Falls and vicinity, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Flathead County; Kalispell and vicinity, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.02 | 0.03 | 0.03 | 0.04 |
| Flathead County; Whitefish and vicinity, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.01 |
| Fort Collins Area, CO | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.05 | 0.06 | 0.08 | 0.09 |
| Freehold Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Fremont County; Canon City Area, CO | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.01 | 0.01 | 0.01 | 0.02 |
| Fresno Area, CA | CO (1971 8-hour) | Maintenance, Moderate > 12.7ppm | 100 | 0 | 0.03 | 0.05 | 0.06 | 0.07 |
| Grants Pass Area, OR | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.01 | 0.01 | 0.02 | 0.02 |
| Great Falls Area, MT | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.05 | 0.07 | 0.08 | 0.09 |
| Greater Connecticut, CT | Ozone (2008 8-hour) | Nonattainment, Moderate | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Greeley Area, CO | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.17 | 0.22 | 0.27 | 0.32 |
| Hancock and Brooke Counties (Part); The city of Weirton, WV | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.02 | 0.02 | 0.03 | 0.03 |
| Hancock County (Part) The city of Weirton, including Butler and Clay: Magisterial Districts, WV | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Harrisburg-Lebanon-Carlisle-York, PA | PM2.5 (2006 24-hour) | Maintenance, Moderate | 100 | 0 | 0.32 | 0.44 | 0.52 | 0.61 |
| Hartford-New Britain-Middletown Area, CT | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.16 | 0.23 | 0.27 | 0.32 |
| Hayden, AZ | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Hayden, AZ | SO ₂ (1971 24-hour/Annual) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Hayden, AZ | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Hillsborough County, FL | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.01 | 0.02 | 0.02 | 0.02 |
| Houston-Galveston-Brazoria, TX | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Humphreys County; (part) TVA Johnsonville, TN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Imperial Co, CA | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.02 | 0.03 | 0.03 | 0.03 |

Appendix A Air Quality Non-Attainment Area Results

Table A1-57

Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Cumulative Impacts

Volatile Organic Compounds (VOC) 2018

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Imperial County, CA | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Imperial County, CA | PM2.5 (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 0.02 | 0.03 | 0.03 | 0.03 |
| Imperial County; Imperial Valley planning area, CA | PM10 (1987 24-hour) | Nonattainment, Serious | 70 | 0 | 0.02 | 0.03 | 0.04 | 0.04 |
| Indian Wells, CA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.07 | 0.09 | 0.11 | 0.13 |
| Indiana, PA | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.01 | 0.01 | 0.01 | 0.01 |
| Indianapolis Area, IN | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Indianapolis, IN | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.09 | 0.12 | 0.14 | 0.17 |
| Inyo County; Owens Valley planning area, CA | PM10 (1987 24-hour) | Nonattainment, Serious | 70 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Jackson County, MO | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.02 | 0.03 | 0.04 | 0.05 |
| Jackson County; Medford-Ashland (including White City), OR | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.05 | 0.07 | 0.09 | 0.10 |
| Jamestown, NY | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Jefferson County, KY | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Jefferson County, MO | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.03 | 0.05 | 0.06 | 0.07 |
| Jefferson County; (part) Steubenville & Mingo Junction, OH | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Jefferson County; (part), OH | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.01 |
| Johnstown, PA | PM2.5 (2006 24-hour) | Maintenance, Moderate | 100 | 0 | 0.02 | 0.03 | 0.03 | 0.04 |
| Josephine County; Grants Pass, OR | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.01 | 0.01 | 0.02 | 0.02 |
| Juneau; Mendenhall Valley area, AK | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.01 | 0.01 | 0.01 | 0.01 |
| Kern County (Eastern Kern), CA | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| King County; Kent, WA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.01 | 0.01 | 0.01 | 0.01 |
| King County; Seattle, WA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.01 |
| Klamath County; Klamath Falls, OR | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.02 | 0.02 | 0.03 | 0.03 |
| Klamath Falls Area, OR | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.02 | 0.02 | 0.03 | 0.03 |
| Klamath Falls, OR | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.02 | 0.02 | 0.03 | 0.03 |

Table A1-57
Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Cumulative Impacts
Volatile Organic Compounds (VOC) 2018

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Knoxville, TN | Ozone (2008 8-hour) | Maintenance, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Knoxville-Sevierville-La Follette, TN | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.30 | 0.41 | 0.49 | 0.57 |
| La Porte County: (part), IN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lake County (part); Lakeview, OR | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lake County, OH | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.02 | 0.03 | 0.04 | 0.05 |
| Lake County: (part), IN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lake County; (part) Eastlake, Timberlake, Lakeline, Willoughby, Mentor, OH | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lake County; Cities of East Chicago, Hammond, Whiting, and Gary, IN | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.30 | 0.40 | 0.48 | 0.56 |
| Lake County; Polson, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lake County; Ronan, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lake Tahoe Nevada Area, NV | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.01 | 0.01 | 0.01 |
| Lake Tahoe North Shore Area, CA | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lake Tahoe South Shore Area, CA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lancaster, PA | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lancaster, PA | PM2.5 (2006 24-hour) | Maintenance, Moderate | 100 | 0 | 0.04 | 0.07 | 0.08 | 0.09 |
| Lane County (part); Oakridge, OR | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lane County; Eugene/Springfield, OR | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.04 | 0.06 | 0.07 | 0.08 |
| Las Vegas Area, NV | CO (1971 8-hour) | Maintenance, Serious | 100 | 0 | 0.15 | 0.22 | 0.25 | 0.30 |
| LaSalle County; Oglesby, IL | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.01 | 0.01 | 0.01 |
| Laurel Area, MT | SO ₂ (1971 24-hour/Annual) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lebanon County, PA | PM2.5 (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 0.07 | 0.09 | 0.11 | 0.13 |
| Lemont, IL | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.07 | 0.09 | 0.11 | 0.13 |
| Liberty-Clairton, PA | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.01 | 0.01 |

Appendix A Air Quality Non-Attainment Area Results

Table A1-57

Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Cumulative Impacts

Volatile Organic Compounds (VOC) 2018

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Lincoln County; Libby and vicinity, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Logan, UT-ID | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.02 | 0.03 | 0.04 | 0.05 |
| Longmont Area, CO | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.04 | 0.05 | 0.06 | 0.07 |
| Lorain County (part), OH | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Los Angeles, CA | PM2.5 (2006 24-hour) | Nonattainment, Serious | 100 | 0 | 1.14 | 1.72 | 1.99 | 2.34 |
| Los Angeles-San Bernardino Counties (West Mojave Desert), CA | Ozone (2008 8-hour) | Nonattainment, Severe 15 | 25 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Los Angeles-South Coast Air Basin Area, CA | CO (1971 8-hour) | Maintenance, Serious | 100 | 0 | 1.14 | 1.72 | 1.99 | 2.34 |
| Los Angeles-South Coast Air Basin Area, CA | NO ₂ (1971 Annual) | Maintenance, -- | 100 | 0 | 1.14 | 1.72 | 1.99 | 2.34 |
| Los Angeles-South Coast Air Basin, CA | Ozone (2008 8-hour) | Nonattainment, Extreme | 10 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Los Angeles-South Coast Air Basin, CA | PM2.5 (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 1.14 | 1.72 | 1.99 | 2.34 |
| Lowell Area, MA | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.03 | 0.04 | 0.05 | 0.05 |
| Lucas County (part), OH | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Madison County; Granite City Township and Nameoki Township, IL | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.17 | 0.22 | 0.27 | 0.32 |
| Manchester Area, NH | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.01 | 0.01 |
| Maricopa and Pinal Counties; Phoenix planning area, AZ | PM10 (1987 24-hour) | Nonattainment, Serious | 70 | 0 | 0.28 | 0.42 | 0.48 | 0.56 |
| Marion County; Lawrence, Washington, and Warrant Townships, IN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Mariposa County, CA | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Marshall, WV | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.01 | 0.02 | 0.02 | 0.03 |
| Medford Area, OR | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.03 | 0.04 | 0.04 | 0.05 |
| Memphis Area, TN | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.23 | 0.32 | 0.38 | 0.44 |

Table A1-57
Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Cumulative Impacts
Volatile Organic Compounds (VOC) 2018

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|---|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Memphis, TN-MS-AR | Ozone (2008 8-hour) | Nonattainment TN & Maintenance MS/AR, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Miami, AZ | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.01 | 0.01 | 0.01 |
| Miami, AZ | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Miami, AZ | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.01 | 0.01 | 0.01 |
| Milwaukee-Racine, WI | PM2.5 (2006 24-hour) | Maintenance, -- | 100 | 0 | 0.17 | 0.24 | 0.28 | 0.33 |
| Minneapolis-St. Paul Area, MN | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 1.14 | 1.55 | 1.84 | 2.17 |
| Missoula Area, MT | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.05 | 0.06 | 0.08 | 0.09 |
| Missoula county; Missoula and vicinity, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.05 | 0.06 | 0.07 | 0.09 |
| Modesto Area, CA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.02 | 0.03 | 0.04 | 0.04 |
| Mohave County (part); Bullhead City, AZ | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.02 | 0.03 | 0.03 | 0.04 |
| Mono County; Mammoth Lake planning area, CA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Mono County; Mono Basin, CA | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Morenci, AZ | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Morgan County, IN | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.01 | 0.01 |
| Morongo Band of Mission Indians | Ozone (2008 8-hour) | Nonattainment, Serious | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Morristown Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.01 |
| Muscatine County; (part), IA | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Muscatine, IA | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.02 | 0.03 | 0.03 | 0.04 |
| Muskingum River, OH | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.01 |
| Nashua Area, NH | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Nassau County, FL | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.01 | 0.01 | 0.01 |
| Nevada County (Western part), CA | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| New Haven County, CT | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.01 | 0.01 | 0.01 |

Appendix A Air Quality Non-Attainment Area Results

Table A1-57

**Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Cumulative Impacts
Volatile Organic Compounds (VOC) 2018**

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| New Haven-Meriden-Waterbury Area, CT | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.15 | 0.22 | 0.25 | 0.30 |
| New Manchester-Grant magisterial district in Hancock County, WV | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| New York County, NY | PM ₁₀ (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.11 | 0.15 | 0.17 | 0.21 |
| New York, NY-NJ-CT | PM _{2.5} (2006 24-hour) | Maintenance, -- | 100 | 0 | 2.47 | 3.49 | 4.10 | 4.83 |
| New York-N. New Jersey-Long Island Area, NY-NJ-CT | CO (1971 8-hour) | Maintenance, Moderate > 12.7ppm | 100 | 0 | 1.40 | 1.97 | 2.31 | 2.72 |
| New York-N. New Jersey-Long Island, NY-NJ-CT | Ozone (2008 8-hour) | Nonattainment, Moderate | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| NJ portion of the Northeast Pennsylvania-Upper Delaware Valley Interstate AQCR: (part), NJ | SO ₂ (1971 24-hour/Annual) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Nogales, AZ | PM _{2.5} (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.01 | 0.01 | 0.02 | 0.02 |
| Oakridge, OR | PM _{2.5} (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Ogden Area, UT | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.01 | 0.01 | 0.02 | 0.02 |
| Ogden Area, UT | PM ₁₀ (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.01 | 0.01 | 0.02 | 0.02 |
| Olmsted County; (part), MN | PM ₁₀ (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.01 | 0.02 | 0.02 | 0.03 |
| Olmsted; City of Rochester, MN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |

Table A1-57
Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Cumulative Impacts
Volatile Organic Compounds (VOC) 2018

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Pechanga Band of Luiseno Mission Indians of the Pechanga Reservation | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Pekin, IL | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Penns Grove Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Peoria County: Hollis Twp, IL | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Peoria County: Peoria, IL | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Perth Amboy Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.02 | 0.03 | 0.04 | 0.05 |
| Philadelphia-Camden County Area, PA-NJ | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.26 | 0.36 | 0.43 | 0.51 |
| Philadelphia-Wilmington, PA-NJ-DE | PM _{2.5} (2006 24-hour) | Maintenance, Moderate for PA and DE Subject to Former Subpart 1 for NJ | 100 | 0 | 1.06 | 1.46 | 1.72 | 2.03 |
| Philadelphia-Wilmington-Atlantic City, PA-NJ-MD-DE | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Phoenix Area, AZ | CO (1971 8-hour) | Maintenance, Serious | 100 | 0 | 0.25 | 0.38 | 0.44 | 0.51 |
| Phoenix-Mesa, AZ | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Pierce County; Tacoma, WA | PM ₁₀ (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.01 | 0.02 | 0.02 | 0.02 |
| Pima County; Ajo planning area, AZ | PM ₁₀ (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Pima County; Rillito planning area, AZ | PM ₁₀ (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.02 | 0.02 | 0.03 | 0.03 |
| Pinal and Gila Counties; Payson, AZ | PM ₁₀ (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.01 | 0.01 | 0.01 | 0.01 |
| Pinal County (part); West Pinal, AZ | PM ₁₀ (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.13 | 0.18 | 0.21 | 0.25 |
| Pitkin County; Aspen, CO | PM ₁₀ (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.01 | 0.01 | 0.01 | 0.01 |
| Pittsburgh Area, PA | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.04 | 0.06 | 0.07 | 0.08 |
| Pittsburgh-Beaver Valley, PA | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Pittsburgh-Beaver Valley, PA | PM _{2.5} (2006 24-hour) | Maintenance, Moderate | 100 | 0 | 0.36 | 0.50 | 0.59 | 0.69 |
| Plumas County, CA | PM _{2.5} (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Polk County, TN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |

Appendix A Air Quality Non-Attainment Area Results

Table A1-57

**Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Cumulative Impacts
Volatile Organic Compounds (VOC) 2018**

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|-------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Portland Area: Portland Metro Service District Boundary, OR | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.14 | 0.20 | 0.24 | 0.28 |
| Power-Bannock Counties; Fort Hall Indian Reservation, ID | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Power-Bannock Counties; Portneuf Valley Area, ID | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.04 | 0.05 | 0.06 | 0.08 |
| Provo Area, UT | CO (1971 8-hour) | Maintenance, Moderate > 12.7ppm | 100 | 0 | 0.01 | 0.01 | 0.01 | 0.01 |
| Provo, UT | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.03 | 0.05 | 0.05 | 0.06 |
| Prowers County; Lamar, CO | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.01 | 0.01 |
| Raleigh-Durham Area, NC | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.28 | 0.39 | 0.46 | 0.55 |
| Ramsey County; (part), MN | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Reading, PA | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Reno Area, NV | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.08 | 0.11 | 0.13 | 0.15 |
| Rhinelander, WI | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.03 | 0.04 | 0.04 | 0.05 |
| Riverside County (Coachella Valley), CA | Ozone (2008 8-hour) | Nonattainment, Severe 15 | 25 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Riverside County; Coachella Valley planning area, CA | PM10 (1987 24-hour) | Nonattainment, Serious | 70 | 0 | 0.02 | 0.03 | 0.04 | 0.04 |
| Riverside, Los Angeles, Orange, and San Bernardino Counties; South Coast Air Basin, CA | PM10 (1987 24-hour) | Maintenance, Serious | 100 | 0 | 1.14 | 1.72 | 1.99 | 2.33 |
| Rosebud County; Lame Deer, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.01 | 0.01 | 0.01 |
| Routt County (part); Steamboat Springs, CO | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.01 | 0.01 | 0.01 | 0.02 |
| Sacramento Area, CA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.10 | 0.15 | 0.17 | 0.20 |
| Sacramento County, CA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.06 | 0.10 | 0.11 | 0.13 |
| Sacramento Metro, CA | Ozone (2008 8-hour) | Nonattainment, Severe 15 | 25 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Sacramento, CA | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.19 | 0.29 | 0.33 | 0.39 |
| Salem Area, OR | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.05 | 0.07 | 0.08 | 0.10 |
| Salt Lake City Area, UT | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.09 | 0.12 | 0.14 | 0.17 |
| Salt Lake City, UT | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.38 | 0.53 | 0.62 | 0.74 |

Table A1-57

Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Cumulative Impacts
Volatile Organic Compounds (VOC) 2018

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|---|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Salt Lake County, UT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.20 | 0.27 | 0.32 | 0.38 |
| Salt Lake County, UT | SO ₂ (1971 24-hour/Annual) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| San Bernardino County (part); excluding Searles Valley Planning area and South Coast Air Basin, CA | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.03 | 0.05 | 0.06 | 0.07 |
| San Diego Area, CA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.48 | 0.68 | 0.80 | 0.95 |
| San Diego County, CA | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| San Francisco Bay Area, CA | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| San Francisco Bay Area, CA | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.65 | 0.94 | 1.10 | 1.29 |
| San Francisco-Oakland-San Jose Area, CA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.61 | 0.88 | 1.03 | 1.21 |
| San Joaquin Valley Air Basin; Fresno, Kern, Kings, Madera, Merced, San Joaquin, Stanislaus, Tulare Counties, CA | PM10 (1987 24-hour) | Maintenance, Serious | 100 | 0 | 0.36 | 0.53 | 0.62 | 0.73 |
| San Joaquin Valley, CA | Ozone (2008 8-hour) | Nonattainment, Extreme | 10 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| San Joaquin Valley, CA | PM2.5 (2006 24-hour) | Nonattainment, Serious | 100 | 0 | 0.36 | 0.53 | 0.62 | 0.73 |
| San Joaquin Valley, CA | PM2.5 (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 0.36 | 0.53 | 0.62 | 0.73 |
| San Luis Obispo (Eastern San Luis Obispo), CA | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| San Manuel, AZ | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| San Miguel County; Telluride, CO | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Sanders County (part); Thompson Falls and vicinity, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Santa Cruz County; Nogales planning area, AZ | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.01 | 0.01 | 0.02 | 0.02 |
| Seaford, DE | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Seattle-Tacoma Area, WA | CO (1971 8-hour) | Maintenance, Moderate > 12.7ppm | 100 | 0 | 0.72 | 0.99 | 1.18 | 1.39 |
| Seattle-Tacoma, WA | PM2.5 (2006 24-hour) | Maintenance, Moderate | 100 | 0 | 0.12 | 0.16 | 0.19 | 0.23 |
| Sheboygan County, WI | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |

Appendix A Air Quality Non-Attainment Area Results

Table A1-57

**Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Cumulative Impacts
Volatile Organic Compounds (VOC) 2018**

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|---|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Sheridan County; City of Sheridan, WY | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.02 | 0.02 | 0.03 | 0.03 |
| Shoshone County (part); excluding Pinehurst, ID | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.01 | 0.01 | 0.01 | 0.01 |
| Shoshone County; City of Pinehurst, ID | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Silver Bow County; Butte, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.01 | 0.01 | 0.01 | 0.01 |
| Somerville Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.01 | 0.01 |
| Southwest Indiana, IN | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.01 | 0.01 | 0.01 | 0.01 |
| Spokane Area, WA | CO (1971 8-hour) | Maintenance, Serious | 100 | 0 | 0.06 | 0.08 | 0.09 | 0.11 |
| Spokane County; (part), WA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.06 | 0.08 | 0.09 | 0.11 |
| Springfield Area, MA | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.03 | 0.04 | 0.05 | 0.06 |
| St. Bernard Parish, LA | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.05 | 0.06 | 0.07 | 0.09 |
| St. Louis Area, MO | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.68 | 0.91 | 1.09 | 1.28 |
| St. Louis-St. Charles-Farmington, MO-IL | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Steubenville, OH-WV | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.04 | 0.05 | 0.06 | 0.07 |
| Steubenville-Weirton, OH-WV | PM2.5 (2006 24-hour) | Maintenance, -- | 100 | 0 | 0.09 | 0.12 | 0.14 | 0.16 |
| Stockton Area, CA | CO (1971 8-hour) | Maintenance, Moderate ≤ 12.7ppm | 100 | 0 | 0.02 | 0.04 | 0.04 | 0.05 |
| Sullivan County, TN | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.02 | 0.02 | 0.02 | 0.03 |
| Syracuse Area; Onondaga County, NY | CO (1971 8-hour) | Maintenance, Moderate ≤ 12.7ppm | 100 | 0 | 0.14 | 0.20 | 0.23 | 0.27 |
| Tazewell County; Groveland Twp, IL | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Terre Haute, IN | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.04 | 0.05 | 0.06 | 0.07 |

Table A1-57
Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Cumulative Impacts
Volatile Organic Compounds (VOC) 2018

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|---|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Thurston County; Cities of Olympia, Tumwater, and Lacey, WA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.02 | 0.02 | 0.03 | 0.03 |
| Toms River Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Tooele County (part), UT | SO ₂ (1971 24-hour/Annual) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Trenton Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.01 | 0.01 | 0.02 | 0.02 |
| Trona, CA | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.01 | 0.01 | 0.01 | 0.01 |
| Tucson Area, AZ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.24 | 0.33 | 0.39 | 0.46 |
| Tuscan Buttes, CA | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Union County; LaGrande, OR | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.01 | 0.01 | 0.01 | 0.02 |
| Upper Green River Basin Area, WY | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Utah County, UT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.03 | 0.05 | 0.05 | 0.06 |
| Vancouver Area: Clark County (part), WA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.05 | 0.07 | 0.08 | 0.10 |
| Ventura County, CA | Ozone (2008 8-hour) | Nonattainment, Serious | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Vermillion County; Part of Clinton Township, IN | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.01 | 0.01 | 0.01 | 0.01 |
| Vigo County, IN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Walla Walla County; Wallula, WA | PM10 (1987 24-hour) | Maintenance, Serious | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.01 |
| Waltham Area, MA | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.02 | 0.02 | 0.03 | 0.03 |
| Warren County: Conewago Twp, PA | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Warren County: Warren Boro, Pleasant Twp, Glade Twp, PA | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Warren, PA | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.01 | 0.01 | 0.01 | 0.01 |
| Washington Area, DC-MD-VA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.06 | 0.09 | 0.11 | 0.12 |
| Washington, DC-MD-VA | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Washoe County; Reno planning area, NV | PM10 (1987 24-hour) | Nonattainment, Serious | 70 | 0 | 0.08 | 0.11 | 0.13 | 0.15 |

Appendix A Air Quality Non-Attainment Area Results

Table A1-57

**Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Cumulative Impacts
Volatile Organic Compounds (VOC) 2018**

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|---|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Wayne County: Boston, Center, Franklin, Wayne & Webster Townships, IN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Wayne County; (part), MI | PM ₁₀ (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.09 | 0.12 | 0.14 | 0.17 |
| West Central Pinal County, AZ | PM _{2.5} (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.03 | 0.04 | 0.04 | 0.05 |
| West Silver Valley, ID | PM _{2.5} (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.01 | 0.01 |
| Winston-Salem Area, NC | CO (1971 8-hour) | Maintenance, Moderate ≤ 12.7ppm | 100 | 0 | 0.05 | 0.07 | 0.08 | 0.10 |
| Worcester Area, MA | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.04 | 0.06 | 0.07 | 0.08 |
| Yakima Area, WA | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.02 | 0.02 | 0.03 | 0.03 |
| Yakima County; (part), WA | PM ₁₀ (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.05 | 0.06 | 0.08 | 0.09 |
| Yuba City-Marysville, CA | PM _{2.5} (2006 24-hour) | Maintenance, Moderate | 100 | 0 | 0.02 | 0.02 | 0.03 | 0.03 |
| Yuma County; Yuma planning area, AZ | PM ₁₀ (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.05 | 0.07 | 0.08 | 0.10 |

^a Reductions are shown as positive values. Negative values are emissions increases. Values of less than 0.005 tons per year are rounded to zero.

^b Nonattainment or maintenance status as of 5/13/2016. Source: U.S. EPA, The Green Book Nonattainment Areas for Criteria Pollutants; <http://www.epa.gov/airquality/greenbook/>. "--" indicates that no severity classification has been established for the NAAQS pollutant.

^c Emissions thresholds in tons per year. Where the threshold differs by precursor pollutant, the smallest of the precursor thresholds is shown. These thresholds are provided for information only; a general conformity determination is not required for the Proposed Action. Source: 40 CFR 93.853.

Notes: CO = carbon monoxide; NAAQS = National Ambient Air Quality Standards; NO₂ = nitrogen dioxide; PM = particulate matter; SO₂ = sulfur dioxide

Table A1-58
Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Cumulative Impacts
Volatile Organic Compounds (VOC) 2025

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Ada County; Boise, ID | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 2.35 | 4.60 | 4.61 | 6.53 |
| Adams, Denver, and Boulder Counties; Denver Metropolitan area, CO | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 9.47 | 18.76 | 18.60 | 26.51 |
| Ajo, AZ | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Albuquerque Area, NM | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 2.60 | 5.35 | 5.11 | 7.44 |
| Allegheny County Air Basin: Hazelwood monitor, PA | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Allegheny County, PA | PM2.5 (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 2.70 | 5.73 | 5.31 | 7.88 |
| Allegheny County; The area including Liberty, Lincoln, Port Vue, and Glassport Boroughs and the City of Clairton, PA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.05 | 0.10 | 0.09 | 0.13 |
| Allegheny, PA | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.24 | 0.52 | 0.48 | 0.71 |
| Allentown, PA | PM2.5 (2006 24-hour) | Maintenance, Moderate | 100 | 0 | 1.58 | 3.42 | 3.10 | 4.66 |
| Allentown-Bethlehem-Easton, PA | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Anchorage Area, AK | CO (1971 8-hour) | Maintenance, Serious | 100 | 0 | 1.39 | 2.64 | 2.73 | 3.80 |
| Anchorage; Eagle River, AK | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.09 | 0.17 | 0.17 | 0.24 |
| AQCR 012: Portions of Grant County, NM | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| AQCR 109-Millinocket, ME | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| AQCR 131: Anoka, Carver, Dakota, Hennepin, Ramsey, Scott, and Washington counties (Minneapolis-St. Paul), MN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| AQCR 237: Brown County: Green Bay sub-city area, WI | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| AQCR 238: Marathon County: Rothschild Sub-city area, Rib Mountain, Weston, WI | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| AQCR 238: Oneida County: Rhinelander Sub-city area, WI | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| AQCR 239: Milwaukee County: Milwaukee sub-city area, WI | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |

Appendix A Air Quality Non-Attainment Area Results

Table A1-58

**Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Cumulative Impacts
Volatile Organic Compounds (VOC) 2025**

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| AQCR 240: Dane County: Madison sub-city area, WI | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Archuleta County; Pagosa Springs, CO | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.08 | 0.16 | 0.15 | 0.22 |
| Armstrong County: Madison Twp, Mahoning Twp, Boggs Twp, Washington Twp, Pine Twp, PA | SO ₂ (1971 24-hour/Annual) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Aroostock County; City of Presque Isle, ME | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.02 | 0.05 | 0.04 | 0.06 |
| Atlanta, GA | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Atlantic City Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.09 | 0.22 | 0.18 | 0.28 |
| Bakersfield Area, CA | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 1.60 | 3.40 | 3.14 | 4.67 |
| Baltimore Area, MD | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.05 | 0.10 | 0.09 | 0.13 |
| Baltimore, MD | Ozone (2008 8-hour) | Nonattainment, Moderate | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Baton Rouge, LA | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Beaver, PA | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.04 | 0.08 | 0.07 | 0.11 |
| Benton County; (part) TVA Johnsonville, TN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Billings Area, MT | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 5.37 | 9.90 | 10.53 | 14.41 |
| Billings, MT | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 4.05 | 7.41 | 7.95 | 10.82 |
| Birmingham, AL | PM2.5 (2006 24-hour) | Maintenance, -- | 100 | 0 | 5.90 | 12.01 | 11.59 | 16.79 |
| Boise-Northern Ada County Area, ID | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 2.35 | 4.60 | 4.61 | 6.53 |
| Bonner County; The Sandpoint Area, ID | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.09 | 0.17 | 0.17 | 0.24 |
| Boston Area, MA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 3.51 | 7.12 | 6.89 | 9.96 |
| Boyd County (part), KY | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Brooke; Follansbee area, WV | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.01 | 0.01 | 0.01 | 0.02 |
| Burlington Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.02 | 0.04 | 0.03 | 0.05 |
| Calaveras County, CA | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Campbell-Clermont Counties, KY-OH | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.11 | 0.23 | 0.21 | 0.32 |

Table A1-58
Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Cumulative Impacts
Volatile Organic Compounds (VOC) 2025

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|---|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Canton-Massillon, OH | PM2.5 (2006 24-hour) | Maintenance, -- | 100 | 0 | 1.25 | 2.65 | 2.46 | 3.65 |
| Central New Hampshire, NH | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.21 | 0.59 | 0.42 | 0.74 |
| Central Steptoe Valley, NV | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Charleston, WV | PM2.5 (2006 24-hour) | Maintenance, -- | 100 | 0 | 1.00 | 2.17 | 1.96 | 2.96 |
| Charlotte Area, NC | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 2.24 | 5.31 | 4.41 | 7.00 |
| Charlotte-Rock Hill, NC-SC | Ozone (2008 8-hour) | Maintenance, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Chicago-Naperville, IL-IN-WI | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Chico (Butte County), CA | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Chico Area, CA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.16 | 0.37 | 0.31 | 0.49 |
| Chico, CA | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.36 | 0.84 | 0.70 | 1.11 |
| Cincinnati, OH-KY-IN | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Clark County; Las Vegas planning area, NV | PM10 (1987 24-hour) | Maintenance, Serious | 100 | 0 | 2.92 | 6.85 | 5.75 | 9.06 |
| Cleveland Area, OH | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 3.12 | 6.60 | 6.13 | 9.08 |
| Cleveland, OH | PM2.5 (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 3.89 | 8.28 | 7.64 | 11.36 |
| Cleveland-Akron-Lorain, OH | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Cleveland-Akron-Lorain, OH | PM2.5 (2006 24-hour) | Maintenance, -- | 100 | 0 | 6.58 | 14.60 | 12.93 | 19.72 |
| Cochise County; Paul Spur/Douglas planning area, AZ | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.15 | 0.31 | 0.29 | 0.43 |
| Colorado Springs Area, CO | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 3.55 | 7.01 | 6.97 | 9.91 |
| Columbus, OH | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Cook County; Lyons Township, IL | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.16 | 0.36 | 0.31 | 0.48 |
| Cook County; Southeast Chicago, IL | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.19 | 0.43 | 0.38 | 0.58 |
| Coshocton County; Franklin Township, OH | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Coso Junction, CA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Cuyahoga County (part), OH | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Cuyahoga County, OH | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 3.11 | 6.58 | 6.10 | 9.05 |

Appendix A Air Quality Non-Attainment Area Results

Table A1-58

Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Cumulative Impacts

Volatile Organic Compounds (VOC) 2025

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Dallas-Fort Worth, TX | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Delaware County, PA | PM2.5 (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 1.64 | 3.32 | 3.21 | 4.64 |
| Denver-Boulder Area, CO | CO (1971 8-hour) | Maintenance, Serious | 100 | 0 | 18.65 | 36.53 | 36.62 | 51.86 |
| Denver-Boulder-Greeley-Ft Collins-Loveland, CO | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Detroit Area, MI | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 5.34 | 11.34 | 10.50 | 15.58 |
| Detroit, MI | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 1.82 | 3.61 | 3.58 | 5.11 |
| Detroit-Ann Arbor, MI | PM2.5 (2006 24-hour) | Maintenance, -- | 100 | 0 | 14.79 | 31.79 | 29.06 | 43.46 |
| Dona Ana County; Anthony, NM | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.09 | 0.17 | 0.17 | 0.24 |
| Douglas, AZ | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Dukes County, MA | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Duluth Area, MN | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 1.19 | 2.29 | 2.34 | 3.27 |
| East Chicago Area, IN | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 3.05 | 5.60 | 5.99 | 8.17 |
| East Helena Area, MT | SO ₂ (1971 24-hour/Annual) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| East Kern County Area, CA | PM10 (1987 24-hour) | Nonattainment, Serious | 70 | 0 | 0.92 | 1.71 | 1.80 | 2.47 |
| El Paso County, TX | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 2.21 | 4.45 | 4.34 | 6.25 |
| El Paso, TX | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.75 | 1.39 | 1.47 | 2.02 |
| Eugene-Springfield Area, OR | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.66 | 1.42 | 1.29 | 1.94 |
| Fairbanks Area, AK | CO (1971 8-hour) | Maintenance, Serious | 100 | 0 | 0.42 | 0.79 | 0.83 | 1.15 |
| Fairbanks, AK | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.60 | 1.13 | 1.17 | 1.63 |

Table A1-58
Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Cumulative Impacts
Volatile Organic Compounds (VOC) 2025

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|---|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Flathead County; Columbia Falls and vicinity, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.01 | 0.03 | 0.03 | 0.04 |
| Flathead County; Kalispell and vicinity, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.30 | 0.58 | 0.58 | 0.82 |
| Flathead County; Whitefish and vicinity, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.04 | 0.07 | 0.07 | 0.10 |
| Fort Collins Area, CO | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.68 | 1.35 | 1.33 | 1.90 |
| Freehold Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.03 | 0.08 | 0.06 | 0.10 |
| Fremont County; Canon City Area, CO | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.13 | 0.27 | 0.25 | 0.38 |
| Fresno Area, CA | CO (1971 8-hour) | Maintenance, Moderate > 12.7ppm | 100 | 0 | 0.78 | 1.96 | 1.53 | 2.52 |
| Grants Pass Area, OR | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.16 | 0.34 | 0.32 | 0.47 |
| Great Falls Area, MT | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.62 | 1.14 | 1.22 | 1.66 |
| Greater Connecticut, CT | Ozone (2008 8-hour) | Nonattainment, Moderate | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Greeley Area, CO | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 2.35 | 4.66 | 4.61 | 6.58 |
| Hancock and Brooke Counties (Part); The city of Weirton, WV | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.20 | 0.38 | 0.40 | 0.55 |
| Hancock County (Part) The city of Weirton, including Butler and Clay: Magisterial Districts, WV | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Harrisburg-Lebanon-Carlisle-York, PA | PM2.5 (2006 24-hour) | Maintenance, Moderate | 100 | 0 | 4.87 | 10.12 | 9.56 | 14.02 |
| Hartford-New Britain-Middletown Area, CT | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 2.80 | 6.19 | 5.50 | 8.37 |
| Hayden, AZ | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.03 | 0.06 | 0.06 | 0.08 |
| Hayden, AZ | SO ₂ (1971 24-hour/Annual) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Hayden, AZ | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.02 | 0.05 | 0.05 | 0.07 |
| Hillsborough County, FL | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.17 | 0.33 | 0.34 | 0.47 |
| Houston-Galveston-Brazoria, TX | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Humphreys County; (part) TVA Johnsonville, TN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Imperial Co, CA | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.35 | 0.84 | 0.69 | 1.11 |

Appendix A Air Quality Non-Attainment Area Results

Table A1-58

**Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Cumulative Impacts
Volatile Organic Compounds (VOC) 2025**

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Imperial County, CA | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Imperial County, CA | PM2.5 (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 0.35 | 0.84 | 0.69 | 1.11 |
| Imperial County; Imperial Valley planning area, CA | PM10 (1987 24-hour) | Nonattainment, Serious | 70 | 0 | 0.43 | 1.03 | 0.84 | 1.35 |
| Indian Wells, CA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.92 | 1.70 | 1.80 | 2.47 |
| Indiana, PA | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.15 | 0.37 | 0.30 | 0.48 |
| Indianapolis Area, IN | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.01 | 0.01 | 0.01 |
| Indianapolis, IN | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 1.38 | 2.98 | 2.70 | 4.06 |
| Inyo County; Owens Valley planning area, CA | PM10 (1987 24-hour) | Nonattainment, Serious | 70 | 0 | 0.01 | 0.02 | 0.02 | 0.03 |
| Jackson County, MO | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.34 | 0.67 | 0.66 | 0.94 |
| Jackson County; Medford-Ashland (including White City), OR | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.82 | 1.67 | 1.61 | 2.33 |
| Jamestown, NY | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Jefferson County, KY | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Jefferson County, MO | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.47 | 0.91 | 0.92 | 1.30 |
| Jefferson County; (part) Steubenville & Mingo Junction, OH | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Jefferson County; (part), OH | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.04 | 0.08 | 0.08 | 0.11 |
| Johnstown, PA | PM2.5 (2006 24-hour) | Maintenance, Moderate | 100 | 0 | 0.33 | 0.73 | 0.66 | 0.99 |
| Josephine County; Grants Pass, OR | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.16 | 0.34 | 0.32 | 0.47 |
| Juneau; Mendenhall Valley area, AK | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.08 | 0.16 | 0.16 | 0.23 |
| Kern County (Eastern Kern), CA | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| King County; Kent, WA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.09 | 0.18 | 0.18 | 0.26 |
| King County; Seattle, WA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.04 | 0.08 | 0.08 | 0.11 |
| Klamath County; Klamath Falls, OR | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.26 | 0.55 | 0.52 | 0.76 |
| Klamath Falls Area, OR | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.26 | 0.54 | 0.52 | 0.75 |
| Klamath Falls, OR | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.29 | 0.59 | 0.56 | 0.83 |

Table A1-58
Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Cumulative Impacts
Volatile Organic Compounds (VOC) 2025

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Knoxville, TN | Ozone (2008 8-hour) | Maintenance, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Knoxville-Sevierville-La Follette, TN | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 4.44 | 9.07 | 8.72 | 12.65 |
| La Porte County: (part), IN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lake County (part); Lakeview, OR | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.02 | 0.04 | 0.03 | 0.05 |
| Lake County, OH | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.46 | 1.10 | 0.90 | 1.44 |
| Lake County: (part), IN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lake County; (part) Eastlake, Timberlake, Lakeline, Willoughby, Mentor, OH | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lake County; Cities of East Chicago, Hammond, Whiting, and Gary, IN | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 3.87 | 7.24 | 7.59 | 10.48 |
| Lake County; Polson, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.01 | 0.02 | 0.02 | 0.03 |
| Lake County; Ronan, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lake Tahoe Nevada Area, NV | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.06 | 0.12 | 0.11 | 0.17 |
| Lake Tahoe North Shore Area, CA | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.02 | 0.05 | 0.04 | 0.06 |
| Lake Tahoe South Shore Area, CA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.03 | 0.09 | 0.07 | 0.12 |
| Lancaster, PA | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lancaster, PA | PM2.5 (2006 24-hour) | Maintenance, Moderate | 100 | 0 | 0.89 | 2.13 | 1.76 | 2.80 |
| Lane County (part); Oakridge, OR | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.01 | 0.01 | 0.01 | 0.02 |
| Lane County; Eugene/Springfield, OR | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.66 | 1.42 | 1.29 | 1.94 |
| Las Vegas Area, NV | CO (1971 8-hour) | Maintenance, Serious | 100 | 0 | 2.92 | 6.83 | 5.74 | 9.04 |
| LaSalle County; Oglesby, IL | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.07 | 0.16 | 0.14 | 0.22 |
| Laurel Area, MT | SO ₂ (1971 24-hour/Annual) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lebanon County, PA | PM2.5 (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 0.97 | 1.94 | 1.90 | 2.73 |
| Lemont, IL | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.94 | 1.86 | 1.84 | 2.63 |
| Liberty-Clairton, PA | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.05 | 0.10 | 0.09 | 0.13 |

Appendix A Air Quality Non-Attainment Area Results

Table A1-58

Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Cumulative Impacts

Volatile Organic Compounds (VOC) 2025

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Lincoln County; Libby and vicinity, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.03 | 0.07 | 0.07 | 0.10 |
| Logan, UT-ID | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.38 | 0.78 | 0.74 | 1.08 |
| Longmont Area, CO | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.55 | 1.08 | 1.08 | 1.53 |
| Lorain County (part), OH | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Los Angeles, CA | PM2.5 (2006 24-hour) | Nonattainment, Serious | 100 | 0 | 24.32 | 58.83 | 47.85 | 76.92 |
| Los Angeles-San Bernardino Counties (West Mojave Desert), CA | Ozone (2008 8-hour) | Nonattainment, Severe 15 | 25 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Los Angeles-South Coast Air Basin Area, CA | CO (1971 8-hour) | Maintenance, Serious | 100 | 0 | 24.33 | 58.86 | 47.88 | 76.97 |
| Los Angeles-South Coast Air Basin Area, CA | NO ₂ (1971 Annual) | Maintenance, -- | 100 | 0 | 24.33 | 58.86 | 47.88 | 76.97 |
| Los Angeles-South Coast Air Basin, CA | Ozone (2008 8-hour) | Nonattainment, Extreme | 10 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Los Angeles-South Coast Air Basin, CA | PM2.5 (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 24.30 | 58.78 | 47.82 | 76.86 |
| Lowell Area, MA | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.43 | 0.88 | 0.84 | 1.23 |
| Lucas County (part), OH | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Madison County; Granite City Township and Nameoki Township, IL | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 2.16 | 4.00 | 4.25 | 5.82 |
| Manchester Area, NH | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.09 | 0.25 | 0.18 | 0.31 |
| Maricopa and Pinal Counties; Phoenix planning area, AZ | PM10 (1987 24-hour) | Nonattainment, Serious | 70 | 0 | 5.84 | 14.13 | 11.49 | 18.47 |
| Marion County; Lawrence, Washington, and Warrant Townships, IN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Mariposa County, CA | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Marshall, WV | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.18 | 0.34 | 0.35 | 0.49 |
| Medford Area, OR | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.42 | 0.86 | 0.82 | 1.20 |
| Memphis Area, TN | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 3.50 | 7.26 | 6.88 | 10.07 |

Table A1-58

Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Cumulative Impacts
 Volatile Organic Compounds (VOC) 2025

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|---|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Memphis, TN-MS-AR | Ozone (2008 8-hour) | Nonattainment TN & Maintenance MS/AR, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Miami, AZ | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.06 | 0.12 | 0.12 | 0.17 |
| Miami, AZ | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Miami, AZ | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.06 | 0.12 | 0.12 | 0.17 |
| Milwaukee-Racine, WI | PM2.5 (2006 24-hour) | Maintenance, -- | 100 | 0 | 2.88 | 6.41 | 5.67 | 8.65 |
| Minneapolis-St. Paul Area, MN | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 16.39 | 32.91 | 32.19 | 46.24 |
| Missoula Area, MT | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.66 | 1.29 | 1.29 | 1.83 |
| Missoula county; Missoula and vicinity, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.63 | 1.24 | 1.24 | 1.76 |
| Modesto Area, CA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.39 | 0.90 | 0.77 | 1.20 |
| Mohave County (part); Bullhead City, AZ | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.33 | 0.70 | 0.65 | 0.96 |
| Mono County; Mammoth Lake planning area, CA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.03 | 0.08 | 0.05 | 0.10 |
| Mono County; Mono Basin, CA | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.01 | 0.00 | 0.01 |
| Morenci, AZ | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Morgan County, IN | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.06 | 0.15 | 0.13 | 0.20 |
| Morongo Band of Mission Indians | Ozone (2008 8-hour) | Nonattainment, Serious | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Morristown Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.06 | 0.15 | 0.12 | 0.19 |
| Muscatine County; (part), IA | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Muscatine, IA | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.27 | 0.52 | 0.54 | 0.75 |
| Muskingum River, OH | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.04 | 0.09 | 0.08 | 0.12 |
| Nashua Area, NH | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.08 | 0.21 | 0.15 | 0.27 |
| Nassau County, FL | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.05 | 0.11 | 0.11 | 0.15 |
| Nevada County (Western part), CA | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| New Haven County, CT | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.06 | 0.13 | 0.12 | 0.18 |

Appendix A Air Quality Non-Attainment Area Results

Table A1-58

**Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Cumulative Impacts
Volatile Organic Compounds (VOC) 2025**

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| New Haven-Meriden-Waterbury Area, CT | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 2.51 | 5.41 | 4.93 | 7.38 |
| New Manchester-Grant magisterial district in Hancock County, WV | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| New York County, NY | PM ₁₀ (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 1.71 | 3.68 | 3.37 | 5.03 |
| New York, NY-NJ-CT | PM _{2.5} (2006 24-hour) | Maintenance, -- | 100 | 0 | 41.58 | 91.15 | 81.73 | 123.68 |
| New York-N. New Jersey-Long Island Area, NY-NJ-CT | CO (1971 8-hour) | Maintenance, Moderate > 12.7ppm | 100 | 0 | 23.39 | 51.16 | 45.97 | 69.47 |
| New York-N. New Jersey-Long Island, NY-NJ-CT | Ozone (2008 8-hour) | Nonattainment, Moderate | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| NJ portion of the Northeast Pennsylvania-Upper Delaware Valley Interstate AQCR: (part), NJ | SO ₂ (1971 24-hour/Annual) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Nogales, AZ | PM _{2.5} (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.16 | 0.33 | 0.31 | 0.45 |
| Oakridge, OR | PM _{2.5} (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.01 | 0.01 | 0.01 | 0.02 |
| Ogden Area, UT | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.16 | 0.34 | 0.31 | 0.47 |
| Ogden Area, UT | PM ₁₀ (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.16 | 0.34 | 0.31 | 0.47 |
| Olmsted County; (part), MN | PM ₁₀ (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.18 | 0.35 | 0.35 | 0.49 |
| Olmsted; City of Rochester, MN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |

Table A1-58
Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Cumulative Impacts
Volatile Organic Compounds (VOC) 2025

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Pechanga Band of Luiseno Mission Indians of the Pechanga Reservation | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Pekin, IL | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.04 | 0.11 | 0.08 | 0.14 |
| Penns Grove Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Peoria County: Hollis Twp, IL | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Peoria County: Peoria, IL | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Perth Amboy Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.39 | 0.82 | 0.78 | 1.13 |
| Philadelphia-Camden County Area, PA-NJ | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 3.95 | 8.11 | 7.76 | 11.29 |
| Philadelphia-Wilmington, PA-NJ-DE | PM _{2.5} (2006 24-hour) | Maintenance, Moderate for PA and DE Subject to Former Subpart 1 for NJ | 100 | 0 | 16.12 | 33.53 | 31.68 | 46.45 |
| Philadelphia-Wilmington-Atlantic City, PA-NJ-MD-DE | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Phoenix Area, AZ | CO (1971 8-hour) | Maintenance, Serious | 100 | 0 | 5.43 | 13.24 | 10.68 | 17.26 |
| Phoenix-Mesa, AZ | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Pierce County; Tacoma, WA | PM ₁₀ (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.17 | 0.31 | 0.33 | 0.44 |
| Pima County; Ajo planning area, AZ | PM ₁₀ (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.01 | 0.01 | 0.01 |
| Pima County; Rillito planning area, AZ | PM ₁₀ (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.26 | 0.54 | 0.52 | 0.75 |
| Pinal and Gila Counties; Payson, AZ | PM ₁₀ (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.12 | 0.25 | 0.24 | 0.35 |
| Pinal County (part); West Pinal, AZ | PM ₁₀ (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 1.94 | 3.92 | 3.80 | 5.49 |
| Pitkin County; Aspen, CO | PM ₁₀ (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.10 | 0.20 | 0.19 | 0.28 |
| Pittsburgh Area, PA | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.65 | 1.37 | 1.27 | 1.89 |
| Pittsburgh-Beaver Valley, PA | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Pittsburgh-Beaver Valley, PA | PM _{2.5} (2006 24-hour) | Maintenance, Moderate | 100 | 0 | 5.67 | 12.06 | 11.15 | 16.56 |
| Plumas County, CA | PM _{2.5} (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 0.01 | 0.03 | 0.03 | 0.04 |
| Polk County, TN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |

Appendix A Air Quality Non-Attainment Area Results

Table A1-58

Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Cumulative Impacts

Volatile Organic Compounds (VOC) 2025

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|-------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Portland Area: Portland Metro Service District Boundary, OR | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 2.55 | 5.77 | 5.02 | 7.73 |
| Power-Bannock Counties; Fort Hall Indian Reservation, ID | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Power-Bannock Counties; Portneuf Valley Area, ID | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.57 | 1.14 | 1.13 | 1.61 |
| Provo Area, UT | CO (1971 8-hour) | Maintenance, Moderate > 12.7ppm | 100 | 0 | 0.12 | 0.29 | 0.23 | 0.38 |
| Provo, UT | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.65 | 1.56 | 1.27 | 2.04 |
| Prowers County; Lamar, CO | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.06 | 0.13 | 0.12 | 0.18 |
| Raleigh-Durham Area, NC | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 4.46 | 9.46 | 8.76 | 13.00 |
| Ramsey County; (part), MN | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.01 | 0.03 | 0.03 | 0.04 |
| Reading, PA | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Reno Area, NV | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 1.19 | 2.49 | 2.34 | 3.44 |
| Rhinelander, WI | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.40 | 0.76 | 0.78 | 1.09 |
| Riverside County (Coachella Valley), CA | Ozone (2008 8-hour) | Nonattainment, Severe 15 | 25 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Riverside County; Coachella Valley planning area, CA | PM10 (1987 24-hour) | Nonattainment, Serious | 70 | 0 | 0.58 | 1.56 | 1.14 | 1.96 |
| Riverside, Los Angeles, Orange, and San Bernardino Counties; South Coast Air Basin, CA | PM10 (1987 24-hour) | Maintenance, Serious | 100 | 0 | 24.25 | 58.64 | 47.72 | 76.69 |
| Rosebud County; Lame Deer, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.08 | 0.16 | 0.16 | 0.23 |
| Routt County (part); Steamboat Springs, CO | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.13 | 0.26 | 0.25 | 0.36 |
| Sacramento Area, CA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 2.10 | 5.11 | 4.12 | 6.66 |
| Sacramento County, CA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 1.60 | 4.10 | 3.15 | 5.25 |
| Sacramento Metro, CA | Ozone (2008 8-hour) | Nonattainment, Severe 15 | 25 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Sacramento, CA | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 3.97 | 9.45 | 7.80 | 12.43 |
| Salem Area, OR | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.79 | 1.69 | 1.56 | 2.32 |
| Salt Lake City Area, UT | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 1.22 | 2.38 | 2.39 | 3.38 |
| Salt Lake City, UT | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 5.86 | 12.22 | 11.52 | 16.91 |

Table A1-58
Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Cumulative Impacts
Volatile Organic Compounds (VOC) 2025

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|---|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Salt Lake County, UT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 3.10 | 6.55 | 6.09 | 9.02 |
| Salt Lake County, UT | SO ₂ (1971 24-hour/Annual) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| San Bernardino County (part); excluding Searles Valley Planning area and South Coast Air Basin, CA | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.80 | 2.03 | 1.57 | 2.61 |
| San Diego Area, CA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 8.27 | 18.28 | 16.25 | 24.72 |
| San Diego County, CA | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| San Francisco Bay Area, CA | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| San Francisco Bay Area, CA | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 12.40 | 28.87 | 24.39 | 38.29 |
| San Francisco-Oakland-San Jose Area, CA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 11.52 | 26.72 | 22.65 | 35.48 |
| San Joaquin Valley Air Basin; Fresno, Kern, Kings, Madera, Merced, San Joaquin, Stanislaus, Tulare Counties, CA | PM10 (1987 24-hour) | Maintenance, Serious | 100 | 0 | 7.38 | 17.63 | 14.51 | 23.15 |
| San Joaquin Valley, CA | Ozone (2008 8-hour) | Nonattainment, Extreme | 10 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| San Joaquin Valley, CA | PM2.5 (2006 24-hour) | Nonattainment, Serious | 100 | 0 | 7.37 | 17.63 | 14.51 | 23.15 |
| San Joaquin Valley, CA | PM2.5 (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 7.37 | 17.63 | 14.51 | 23.15 |
| San Luis Obispo (Eastern San Luis Obispo), CA | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| San Manuel, AZ | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| San Miguel County; Telluride, CO | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.02 | 0.04 | 0.03 | 0.05 |
| Sanders County (part); Thompson Falls and vicinity, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Santa Cruz County; Nogales planning area, AZ | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.16 | 0.33 | 0.31 | 0.45 |
| Seaford, DE | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Seattle-Tacoma Area, WA | CO (1971 8-hour) | Maintenance, Moderate > 12.7ppm | 100 | 0 | 10.92 | 22.58 | 21.46 | 31.35 |
| Seattle-Tacoma, WA | PM2.5 (2006 24-hour) | Maintenance, Moderate | 100 | 0 | 1.78 | 3.69 | 3.51 | 5.12 |
| Sheboygan County, WI | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |

Appendix A Air Quality Non-Attainment Area Results

Table A1-58

**Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Cumulative Impacts
Volatile Organic Compounds (VOC) 2025**

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|---|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Sheridan County; City of Sheridan, WY | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.22 | 0.43 | 0.44 | 0.62 |
| Shoshone County (part); excluding Pinehurst, ID | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.12 | 0.25 | 0.23 | 0.34 |
| Shoshone County; City of Pinehurst, ID | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Silver Bow County; Butte, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.10 | 0.22 | 0.19 | 0.30 |
| Somerville Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.05 | 0.11 | 0.10 | 0.15 |
| Southwest Indiana, IN | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.08 | 0.15 | 0.15 | 0.21 |
| Spokane Area, WA | CO (1971 8-hour) | Maintenance, Serious | 100 | 0 | 0.88 | 1.89 | 1.74 | 2.59 |
| Spokane County; (part), WA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.91 | 1.95 | 1.79 | 2.67 |
| Springfield Area, MA | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.49 | 1.05 | 0.97 | 1.44 |
| St. Bernard Parish, LA | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.60 | 1.12 | 1.19 | 1.63 |
| St. Louis Area, MO | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 9.08 | 17.43 | 17.82 | 24.95 |
| St. Louis-St. Charles-Farmington, MO-IL | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Steubenville, OH-WV | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.54 | 1.05 | 1.07 | 1.50 |
| Steubenville-Weirton, OH-WV | PM2.5 (2006 24-hour) | Maintenance, -- | 100 | 0 | 1.16 | 2.24 | 2.29 | 3.21 |
| Stockton Area, CA | CO (1971 8-hour) | Maintenance, Moderate ≤ 12.7ppm | 100 | 0 | 0.52 | 1.30 | 1.02 | 1.68 |
| Sullivan County, TN | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.19 | 0.37 | 0.38 | 0.53 |
| Syracuse Area; Onondaga County, NY | CO (1971 8-hour) | Maintenance, Moderate ≤ 12.7ppm | 100 | 0 | 2.15 | 4.44 | 4.22 | 6.17 |
| Tazewell County; Groveland Twp, IL | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Terre Haute, IN | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.45 | 0.87 | 0.88 | 1.24 |

Table A1-58
Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Cumulative Impacts
Volatile Organic Compounds (VOC) 2025

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|---|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Thurston County; Cities of Olympia, Tumwater, and Lacey, WA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.26 | 0.58 | 0.52 | 0.78 |
| Toms River Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.01 | 0.02 | 0.01 | 0.02 |
| Tooele County (part), UT | SO ₂ (1971 24-hour/Annual) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Trenton Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.19 | 0.43 | 0.37 | 0.57 |
| Trona, CA | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.09 | 0.16 | 0.17 | 0.23 |
| Tucson Area, AZ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 3.61 | 7.40 | 7.09 | 10.31 |
| Tuscan Buttes, CA | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Union County; LaGrande, OR | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.14 | 0.28 | 0.27 | 0.39 |
| Upper Green River Basin Area, WY | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Utah County, UT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.65 | 1.56 | 1.27 | 2.04 |
| Vancouver Area: Clark County (part), WA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.80 | 1.72 | 1.58 | 2.36 |
| Ventura County, CA | Ozone (2008 8-hour) | Nonattainment, Serious | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Vermillion County; Part of Clinton Township, IN | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.11 | 0.22 | 0.21 | 0.31 |
| Vigo County, IN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Walla Walla County; Wallula, WA | PM10 (1987 24-hour) | Maintenance, Serious | 100 | 0 | 0.04 | 0.07 | 0.07 | 0.10 |
| Waltham Area, MA | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.23 | 0.48 | 0.46 | 0.67 |
| Warren County: Conewago Twp, PA | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Warren County: Warren Boro, Pleasant Twp, Glade Twp, PA | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Warren, PA | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.11 | 0.22 | 0.21 | 0.30 |
| Washington Area, DC-MD-VA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 1.21 | 2.83 | 2.38 | 3.75 |
| Washington, DC-MD-VA | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Washoe County; Reno planning area, NV | PM10 (1987 24-hour) | Nonattainment, Serious | 70 | 0 | 1.18 | 2.47 | 2.32 | 3.42 |

Appendix A Air Quality Non-Attainment Area Results

Table A1-58

**Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Cumulative Impacts
Volatile Organic Compounds (VOC) 2025**

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|---|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Wayne County: Boston, Center, Franklin, Wayne & Webster Townships, IN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Wayne County; (part), MI | PM ₁₀ (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 1.20 | 2.26 | 2.35 | 3.26 |
| West Central Pinal County, AZ | PM _{2.5} (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.41 | 0.82 | 0.80 | 1.15 |
| West Silver Valley, ID | PM _{2.5} (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 0.06 | 0.13 | 0.12 | 0.17 |
| Winston-Salem Area, NC | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.87 | 1.94 | 1.71 | 2.62 |
| Worcester Area, MA | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.66 | 1.41 | 1.29 | 1.93 |
| Yakima Area, WA | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.23 | 0.46 | 0.46 | 0.65 |
| Yakima County; (part), WA | PM ₁₀ (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.68 | 1.35 | 1.33 | 1.90 |
| Yuba City-Marysville, CA | PM _{2.5} (2006 24-hour) | Maintenance, Moderate | 100 | 0 | 0.32 | 0.76 | 0.63 | 1.00 |
| Yuma County; Yuma planning area, AZ | PM ₁₀ (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.75 | 1.53 | 1.47 | 2.13 |

^a Reductions are shown as positive values. Negative values are emissions increases. Values of less than 0.005 tons per year are rounded to zero.

^b Nonattainment or maintenance status as of 5/13/2016. Source: U.S. EPA, The Green Book Nonattainment Areas for Criteria Pollutants; <http://www.epa.gov/airquality/greenbook/>. "--" indicates that no severity classification has been established for the NAAQS pollutant.

^c Emissions thresholds in tons per year. Where the threshold differs by precursor pollutant, the smallest of the precursor thresholds is shown. These thresholds are provided for information only; a general conformity determination is not required for the Proposed Action. Source: 40 CFR 93.853.

Notes: CO = carbon monoxide; NAAQS = National Ambient Air Quality Standards; NO₂ = nitrogen dioxide; PM = particulate matter; SO₂ = sulfur dioxide

Table A1-59
Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Cumulative Impacts
Volatile Organic Compounds (VOC) 2040

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Ada County; Boise, ID | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 6.80 | 16.74 | 13.49 | 18.75 |
| Adams, Denver, and Boulder Counties; Denver Metropolitan area, CO | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 27.48 | 68.56 | 54.40 | 76.02 |
| Ajo, AZ | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Albuquerque Area, NM | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 7.70 | 20.00 | 15.19 | 21.57 |
| Allegheny County Air Basin: Hazelwood monitor, PA | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Allegheny County, PA | PM2.5 (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 8.15 | 21.77 | 16.02 | 23.01 |
| Allegheny County; The area including Liberty, Lincoln, Port Vue, and Glassport Boroughs and the City of Clairton, PA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.11 | 0.29 | 0.23 | 0.32 |
| Allegheny, PA | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.57 | 1.51 | 1.13 | 1.61 |
| Allentown, PA | PM2.5 (2006 24-hour) | Maintenance, Moderate | 100 | 0 | 4.81 | 13.14 | 9.45 | 13.68 |
| Allentown-Bethlehem-Easton, PA | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Anchorage Area, AK | CO (1971 8-hour) | Maintenance, Serious | 100 | 0 | 3.83 | 9.14 | 7.61 | 10.46 |
| Anchorage; Eagle River, AK | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.24 | 0.57 | 0.47 | 0.65 |
| AQCR 012: Portions of Grant County, NM | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| AQCR 109-Millinocket, ME | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| AQCR 131: Anoka, Carver, Dakota, Hennepin, Ramsey, Scott, and Washington counties (Minneapolis-St. Paul), MN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| AQCR 237: Brown County: Green Bay sub-city area, WI | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| AQCR 238: Marathon County: Rothschild Sub-city area, Rib Mountain, Weston, WI | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| AQCR 238: Oneida County: Rhinelander Sub-city area, WI | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| AQCR 239: Milwaukee County: Milwaukee sub-city area, WI | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |

Appendix A Air Quality Non-Attainment Area Results

Table A1-59

**Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Cumulative Impacts
Volatile Organic Compounds (VOC) 2040**

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| AQCR 240: Dane County: Madison sub-city area, WI | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Archuleta County; Pagosa Springs, CO | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.23 | 0.62 | 0.45 | 0.65 |
| Armstrong County: Madison Twp, Mahoning Twp, Boggs Twp, Washington Twp, Pine Twp, PA | SO ₂ (1971 24-hour/Annual) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Aroostock County; City of Presque Isle, ME | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.07 | 0.23 | 0.14 | 0.22 |
| Atlanta, GA | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Atlantic City Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.29 | 0.87 | 0.56 | 0.85 |
| Bakersfield Area, CA | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 4.84 | 13.01 | 9.52 | 13.70 |
| Baltimore Area, MD | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.15 | 0.39 | 0.30 | 0.42 |
| Baltimore, MD | Ozone (2008 8-hour) | Nonattainment, Moderate | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Baton Rouge, LA | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Beaver, PA | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.12 | 0.32 | 0.23 | 0.33 |
| Benton County; (part) TVA Johnsonville, TN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Billings Area, MT | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 14.86 | 34.25 | 29.64 | 40.20 |
| Billings, MT | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 11.24 | 25.66 | 22.43 | 30.33 |
| Birmingham, AL | PM2.5 (2006 24-hour) | Maintenance, -- | 100 | 0 | 17.37 | 44.57 | 34.30 | 48.45 |
| Boise-Northern Ada County Area, ID | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 6.80 | 16.74 | 13.49 | 18.75 |
| Bonner County; The Sandpoint Area, ID | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.27 | 0.66 | 0.54 | 0.75 |
| Boston Area, MA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 10.43 | 26.70 | 20.60 | 29.08 |
| Boyd County (part), KY | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Brooke; Follansbee area, WV | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.01 | 0.03 | 0.03 | 0.04 |
| Burlington Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.04 | 0.12 | 0.08 | 0.12 |
| Calaveras County, CA | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Campbell-Clermont Counties, KY-OH | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.34 | 0.91 | 0.66 | 0.95 |

Table A1-59

Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Cumulative Impacts
 Volatile Organic Compounds (VOC) 2040

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|---|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Canton-Massillon, OH | PM2.5 (2006 24-hour) | Maintenance, -- | 100 | 0 | 3.77 | 10.09 | 7.41 | 10.65 |
| Central New Hampshire, NH | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.75 | 2.56 | 1.44 | 2.30 |
| Central Steptoe Valley, NV | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Charleston, WV | PM2.5 (2006 24-hour) | Maintenance, -- | 100 | 0 | 3.05 | 8.39 | 5.99 | 8.70 |
| Charlotte Area, NC | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 7.22 | 21.38 | 14.05 | 21.07 |
| Charlotte-Rock Hill, NC-SC | Ozone (2008 8-hour) | Maintenance, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Chicago-Naperville, IL-IN-WI | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Chico (Butte County), CA | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Chico Area, CA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.55 | 1.62 | 1.07 | 1.60 |
| Chico, CA | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 1.15 | 3.37 | 2.23 | 3.34 |
| Cincinnati, OH-KY-IN | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Clark County; Las Vegas planning area, NV | PM10 (1987 24-hour) | Maintenance, Serious | 100 | 0 | 9.38 | 27.52 | 18.26 | 27.28 |
| Cleveland Area, OH | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 9.41 | 25.14 | 18.51 | 26.58 |
| Cleveland, OH | PM2.5 (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 11.77 | 31.63 | 23.13 | 33.29 |
| Cleveland-Akron-Lorain, OH | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Cleveland-Akron-Lorain, OH | PM2.5 (2006 24-hour) | Maintenance, -- | 100 | 0 | 20.38 | 56.97 | 39.90 | 58.37 |
| Cochise County; Paul Spur/Douglas planning area, AZ | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.44 | 1.15 | 0.86 | 1.22 |
| Colorado Springs Area, CO | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 10.32 | 25.65 | 20.45 | 28.53 |
| Columbus, OH | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Cook County; Lyons Township, IL | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.49 | 1.40 | 0.96 | 1.42 |
| Cook County; Southeast Chicago, IL | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.53 | 1.51 | 1.03 | 1.52 |
| Coshocton County; Franklin Township, OH | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Coso Junction, CA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Cuyahoga County (part), OH | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Cuyahoga County, OH | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 9.37 | 25.03 | 18.43 | 26.45 |

Appendix A Air Quality Non-Attainment Area Results

Table A1-59

**Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Cumulative Impacts
Volatile Organic Compounds (VOC) 2040**

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Dallas-Fort Worth, TX | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Delaware County, PA | PM2.5 (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 4.81 | 12.30 | 9.50 | 13.40 |
| Denver-Boulder Area, CO | CO (1971 8-hour) | Maintenance, Serious | 100 | 0 | 53.80 | 132.59 | 106.63 | 148.30 |
| Denver-Boulder-Greeley-Ft Collins-Loveland, CO | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Detroit Area, MI | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 14.64 | 39.06 | 28.79 | 41.32 |
| Detroit, MI | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 5.80 | 14.57 | 11.47 | 16.07 |
| Detroit-Ann Arbor, MI | PM2.5 (2006 24-hour) | Maintenance, -- | 100 | 0 | 44.95 | 121.85 | 88.27 | 127.50 |
| Dona Ana County; Anthony, NM | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.25 | 0.62 | 0.50 | 0.69 |
| Douglas, AZ | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Dukes County, MA | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Duluth Area, MN | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 3.79 | 9.12 | 7.53 | 10.38 |
| East Chicago Area, IN | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 8.51 | 19.49 | 16.98 | 22.98 |
| East Helena Area, MT | SO ₂ (1971 24-hour/Annual) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| East Kern County Area, CA | PM10 (1987 24-hour) | Nonattainment, Serious | 70 | 0 | 2.54 | 5.88 | 5.05 | 6.87 |
| El Paso County, TX | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 6.31 | 16.02 | 12.47 | 17.55 |
| El Paso, TX | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 2.06 | 4.78 | 4.11 | 5.59 |
| Eugene-Springfield Area, OR | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 2.07 | 5.64 | 4.07 | 5.89 |
| Fairbanks Area, AK | CO (1971 8-hour) | Maintenance, Serious | 100 | 0 | 1.14 | 2.65 | 2.27 | 3.09 |
| Fairbanks, AK | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 1.66 | 3.94 | 3.31 | 4.53 |

Table A1-59
Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Cumulative Impacts
Volatile Organic Compounds (VOC) 2040

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|---|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Flathead County; Columbia Falls and vicinity, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.03 | 0.08 | 0.07 | 0.10 |
| Flathead County; Kalispell and vicinity, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.87 | 2.12 | 1.72 | 2.38 |
| Flathead County; Whitefish and vicinity, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.10 | 0.24 | 0.20 | 0.27 |
| Fort Collins Area, CO | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 1.94 | 4.89 | 3.84 | 5.39 |
| Freehold Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.12 | 0.38 | 0.23 | 0.35 |
| Fremont County; Canon City Area, CO | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.39 | 1.04 | 0.77 | 1.10 |
| Fresno Area, CA | CO (1971 8-hour) | Maintenance, Moderate > 12.7ppm | 100 | 0 | 2.56 | 7.97 | 4.95 | 7.60 |
| Grants Pass Area, OR | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.52 | 1.37 | 1.03 | 1.47 |
| Great Falls Area, MT | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 1.73 | 3.94 | 3.45 | 4.66 |
| Greater Connecticut, CT | Ozone (2008 8-hour) | Nonattainment, Moderate | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Greeley Area, CO | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 6.82 | 17.06 | 13.50 | 18.88 |
| Hancock and Brooke Counties (Part); The city of Weirton, WV | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.54 | 1.28 | 1.08 | 1.47 |
| Hancock County (Part) The city of Weirton, including Butler and Clay: Magisterial Districts, WV | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Harrisburg-Lebanon-Carlisle-York, PA | PM2.5 (2006 24-hour) | Maintenance, Moderate | 100 | 0 | 14.51 | 38.08 | 28.60 | 40.76 |
| Hartford-New Britain-Middletown Area, CT | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 8.67 | 24.15 | 16.98 | 24.80 |
| Hayden, AZ | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.07 | 0.17 | 0.14 | 0.19 |
| Hayden, AZ | SO ₂ (1971 24-hour/Annual) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Hayden, AZ | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.07 | 0.16 | 0.13 | 0.18 |
| Hillsborough County, FL | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.52 | 1.25 | 1.03 | 1.42 |
| Houston-Galveston-Brazoria, TX | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Humphreys County; (part) TVA Johnsonville, TN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Imperial Co, CA | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 1.15 | 3.45 | 2.24 | 3.37 |

Appendix A Air Quality Non-Attainment Area Results

Table A1-59

**Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Cumulative Impacts
Volatile Organic Compounds (VOC) 2040**

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Imperial County, CA | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Imperial County, CA | PM2.5 (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 1.15 | 3.45 | 2.24 | 3.37 |
| Imperial County; Imperial Valley planning area, CA | PM10 (1987 24-hour) | Nonattainment, Serious | 70 | 0 | 1.40 | 4.18 | 2.72 | 4.09 |
| Indian Wells, CA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 2.53 | 5.86 | 5.04 | 6.85 |
| Indiana, PA | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.49 | 1.49 | 0.96 | 1.45 |
| Indianapolis Area, IN | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.01 | 0.03 | 0.02 | 0.03 |
| Indianapolis, IN | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 4.05 | 11.06 | 7.95 | 11.52 |
| Inyo County; Owens Valley planning area, CA | PM10 (1987 24-hour) | Nonattainment, Serious | 70 | 0 | 0.03 | 0.11 | 0.06 | 0.10 |
| Jackson County, MO | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.99 | 2.47 | 1.96 | 2.74 |
| Jackson County; Medford-Ashland (including White City), OR | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 2.50 | 6.46 | 4.94 | 6.99 |
| Jamestown, NY | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Jefferson County, KY | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Jefferson County, MO | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 1.36 | 3.30 | 2.69 | 3.72 |
| Jefferson County; (part) Steubenville & Mingo Junction, OH | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Jefferson County; (part), OH | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.11 | 0.27 | 0.22 | 0.30 |
| Johnstown, PA | PM2.5 (2006 24-hour) | Maintenance, Moderate | 100 | 0 | 1.02 | 2.81 | 2.00 | 2.91 |
| Josephine County; Grants Pass, OR | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.52 | 1.37 | 1.03 | 1.47 |
| Juneau; Mendenhall Valley area, AK | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.24 | 0.58 | 0.48 | 0.66 |
| Kern County (Eastern Kern), CA | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| King County; Kent, WA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.30 | 0.77 | 0.58 | 0.83 |
| King County; Seattle, WA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.10 | 0.27 | 0.20 | 0.29 |
| Klamath County; Klamath Falls, OR | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.94 | 2.45 | 1.85 | 2.63 |
| Klamath Falls Area, OR | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.94 | 2.44 | 1.84 | 2.62 |
| Klamath Falls, OR | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 1.01 | 2.64 | 1.99 | 2.83 |

Table A1-59
Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Cumulative Impacts
Volatile Organic Compounds (VOC) 2040

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Knoxville, TN | Ozone (2008 8-hour) | Maintenance, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Knoxville-Sevierville-La Follette, TN | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 13.09 | 33.73 | 25.85 | 36.57 |
| La Porte County: (part), IN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lake County (part); Lakeview, OR | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.07 | 0.18 | 0.13 | 0.18 |
| Lake County, OH | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 1.49 | 4.44 | 2.89 | 4.35 |
| Lake County: (part), IN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lake County; (part) Eastlake, Timberlake, Lakeline, Willoughby, Mentor, OH | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lake County; Cities of East Chicago, Hammond, Whiting, and Gary, IN | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 10.56 | 24.71 | 21.03 | 28.68 |
| Lake County; Polson, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.02 | 0.06 | 0.05 | 0.07 |
| Lake County; Ronan, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lake Tahoe Nevada Area, NV | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.15 | 0.41 | 0.30 | 0.43 |
| Lake Tahoe North Shore Area, CA | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.05 | 0.15 | 0.10 | 0.15 |
| Lake Tahoe South Shore Area, CA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.09 | 0.30 | 0.18 | 0.28 |
| Lancaster, PA | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lancaster, PA | PM2.5 (2006 24-hour) | Maintenance, Moderate | 100 | 0 | 2.89 | 8.61 | 5.62 | 8.45 |
| Lane County (part); Oakridge, OR | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.01 | 0.04 | 0.03 | 0.04 |
| Lane County; Eugene/Springfield, OR | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 2.07 | 5.64 | 4.07 | 5.89 |
| Las Vegas Area, NV | CO (1971 8-hour) | Maintenance, Serious | 100 | 0 | 9.35 | 27.44 | 18.21 | 27.20 |
| LaSalle County; Oglesby, IL | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.23 | 0.67 | 0.45 | 0.67 |
| Laurel Area, MT | SO ₂ (1971 24-hour/Annual) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lebanon County, PA | PM2.5 (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 2.82 | 7.14 | 5.58 | 7.84 |
| Lemont, IL | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 2.75 | 6.85 | 5.44 | 7.60 |
| Liberty-Clairton, PA | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.11 | 0.29 | 0.23 | 0.32 |

Appendix A Air Quality Non-Attainment Area Results

Table A1-59

Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Cumulative Impacts

Volatile Organic Compounds (VOC) 2040

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Lincoln County; Libby and vicinity, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.08 | 0.21 | 0.17 | 0.23 |
| Logan, UT-ID | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 1.12 | 2.92 | 2.21 | 3.14 |
| Longmont Area, CO | CO (1971 8-hour) | Maintenance, Moderate ≤ 12.7ppm | 100 | 0 | 1.64 | 4.03 | 3.24 | 4.51 |
| Lorain County (part), OH | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Los Angeles, CA | PM2.5 (2006 24-hour) | Nonattainment, Serious | 100 | 0 | 79.52 | 239.85 | 154.33 | 233.39 |
| Los Angeles-San Bernardino Counties (West Mojave Desert), CA | Ozone (2008 8-hour) | Nonattainment, Severe 15 | 25 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Los Angeles-South Coast Air Basin Area, CA | CO (1971 8-hour) | Maintenance, Serious | 100 | 0 | 79.55 | 239.95 | 154.39 | 233.49 |
| Los Angeles-South Coast Air Basin Area, CA | NO ₂ (1971 Annual) | Maintenance, -- | 100 | 0 | 79.55 | 239.97 | 154.40 | 233.50 |
| Los Angeles-South Coast Air Basin, CA | Ozone (2008 8-hour) | Nonattainment, Extreme | 10 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Los Angeles-South Coast Air Basin, CA | PM2.5 (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 79.42 | 239.55 | 154.15 | 233.11 |
| Lowell Area, MA | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 1.31 | 3.39 | 2.58 | 3.66 |
| Lucas County (part), OH | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Madison County; Granite City Township and Nameoki Township, IL | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 6.01 | 13.88 | 11.98 | 16.26 |
| Manchester Area, NH | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.30 | 1.02 | 0.58 | 0.92 |
| Maricopa and Pinal Counties; Phoenix planning area, AZ | PM10 (1987 24-hour) | Nonattainment, Serious | 70 | 0 | 18.98 | 57.31 | 36.84 | 55.74 |
| Marion County; Lawrence, Washington, and Warrant Townships, IN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Mariposa County, CA | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Marshall, WV | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.53 | 1.25 | 1.05 | 1.43 |
| Medford Area, OR | CO (1971 8-hour) | Maintenance, Moderate ≤ 12.7ppm | 100 | 0 | 1.31 | 3.39 | 2.59 | 3.67 |
| Memphis Area, TN | CO (1971 8-hour) | Maintenance, Moderate ≤ 12.7ppm | 100 | 0 | 10.42 | 27.22 | 20.54 | 29.23 |

Table A1-59

Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Cumulative Impacts
 Volatile Organic Compounds (VOC) 2040

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|---|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Memphis, TN-MS-AR | Ozone (2008 8-hour) | Nonattainment TN & Maintenance MS/AR, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Miami, AZ | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.12 | 0.31 | 0.24 | 0.33 |
| Miami, AZ | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Miami, AZ | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.12 | 0.31 | 0.24 | 0.33 |
| Milwaukee-Racine, WI | PM2.5 (2006 24-hour) | Maintenance, -- | 100 | 0 | 8.94 | 25.03 | 17.51 | 25.62 |
| Minneapolis-St. Paul Area, MN | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 47.96 | 121.38 | 94.83 | 133.24 |
| Missoula Area, MT | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 1.91 | 4.71 | 3.78 | 5.26 |
| Missoula county; Missoula and vicinity, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 1.82 | 4.50 | 3.61 | 5.03 |
| Modesto Area, CA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 1.15 | 3.33 | 2.24 | 3.33 |
| Mohave County (part); Bullhead City, AZ | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 1.06 | 2.80 | 2.08 | 2.98 |
| Mono County; Mammoth Lake planning area, CA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.12 | 0.40 | 0.22 | 0.36 |
| Mono County; Mono Basin, CA | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Morenci, AZ | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Morgan County, IN | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.19 | 0.57 | 0.37 | 0.56 |
| Morongo Band of Mission Indians | Ozone (2008 8-hour) | Nonattainment, Serious | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Morristown Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.21 | 0.64 | 0.41 | 0.62 |
| Muscatine County; (part), IA | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Muscatine, IA | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.81 | 1.93 | 1.61 | 2.21 |
| Muskingum River, OH | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.14 | 0.34 | 0.27 | 0.38 |
| Nashua Area, NH | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.28 | 0.95 | 0.54 | 0.86 |
| Nassau County, FL | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.11 | 0.28 | 0.23 | 0.31 |
| Nevada County (Western part), CA | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| New Haven County, CT | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.17 | 0.46 | 0.33 | 0.48 |

Appendix A Air Quality Non-Attainment Area Results

Table A1-59

Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Cumulative Impacts

Volatile Organic Compounds (VOC) 2040

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| New Haven-Meriden-Waterbury Area, CT | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 7.63 | 20.74 | 14.98 | 21.66 |
| New Manchester-Grant magisterial district in Hancock County, WV | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| New York County, NY | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 5.20 | 14.06 | 10.22 | 14.74 |
| New York, NY-NJ-CT | PM2.5 (2006 24-hour) | Maintenance, -- | 100 | 0 | 127.86 | 353.04 | 250.60 | 364.73 |
| New York-N. New Jersey-Long Island Area, NY-NJ-CT | CO (1971 8-hour) | Maintenance, Moderate > 12.7ppm | 100 | 0 | 71.90 | 198.13 | 140.94 | 204.97 |
| New York-N. New Jersey-Long Island, NY-NJ-CT | Ozone (2008 8-hour) | Nonattainment, Moderate | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| NJ portion of the Northeast Pennsylvania-Upper Delaware Valley Interstate AQCR: (part), NJ | SO ₂ (1971 24-hour/Annual) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Nogales, AZ | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.49 | 1.30 | 0.96 | 1.38 |
| Oakridge, OR | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.01 | 0.04 | 0.03 | 0.04 |
| Ogden Area, UT | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.47 | 1.29 | 0.93 | 1.35 |
| Ogden Area, UT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.47 | 1.29 | 0.93 | 1.35 |
| Olmsted County; (part), MN | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.47 | 1.16 | 0.92 | 1.29 |
| Olmsted; City of Rochester, MN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |

Table A1-59
Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Cumulative Impacts
Volatile Organic Compounds (VOC) 2040

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Pechanga Band of Luiseno Mission Indians of the Pechanga Reservation | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Pekin, IL | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.14 | 0.48 | 0.28 | 0.44 |
| Penns Grove Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Peoria County: Hollis Twp, IL | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Peoria County: Peoria, IL | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Perth Amboy Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 1.33 | 3.47 | 2.61 | 3.72 |
| Philadelphia-Camden County Area, PA-NJ | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 11.68 | 30.26 | 23.05 | 32.68 |
| Philadelphia-Wilmington, PA-NJ-DE | PM _{2.5} (2006 24-hour) | Maintenance, Moderate for PA and DE Subject to Former Subpart 1 for NJ | 100 | 0 | 48.07 | 126.09 | 94.71 | 134.98 |
| Philadelphia-Wilmington-Atlantic City, PA-NJ-MD-DE | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Phoenix Area, AZ | CO (1971 8-hour) | Maintenance, Serious | 100 | 0 | 17.75 | 53.87 | 34.41 | 52.20 |
| Phoenix-Mesa, AZ | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Pierce County; Tacoma, WA | PM ₁₀ (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.46 | 1.05 | 0.91 | 1.24 |
| Pima County; Ajo planning area, AZ | PM ₁₀ (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Pima County; Rillito planning area, AZ | PM ₁₀ (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.84 | 2.18 | 1.66 | 2.36 |
| Pinal and Gila Counties; Payson, AZ | PM ₁₀ (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.42 | 1.08 | 0.83 | 1.18 |
| Pinal County (part); West Pinal, AZ | PM ₁₀ (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 5.86 | 14.97 | 11.58 | 16.33 |
| Pitkin County; Aspen, CO | PM ₁₀ (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.29 | 0.76 | 0.57 | 0.82 |
| Pittsburgh Area, PA | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 1.79 | 4.78 | 3.52 | 5.05 |
| Pittsburgh-Beaver Valley, PA | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Pittsburgh-Beaver Valley, PA | PM _{2.5} (2006 24-hour) | Maintenance, Moderate | 100 | 0 | 17.14 | 45.96 | 33.69 | 48.45 |
| Plumas County, CA | PM _{2.5} (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Polk County, TN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |

Appendix A Air Quality Non-Attainment Area Results

Table A1-59

Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Cumulative Impacts

Volatile Organic Compounds (VOC) 2040

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|-------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Portland Area: Portland Metro Service District Boundary, OR | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 8.02 | 22.78 | 15.68 | 23.09 |
| Power-Bannock Counties; Fort Hall Indian Reservation, ID | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Power-Bannock Counties; Portneuf Valley Area, ID | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 1.73 | 4.30 | 3.42 | 4.78 |
| Provo Area, UT | CO (1971 8-hour) | Maintenance, Moderate > 12.7ppm | 100 | 0 | 0.37 | 1.12 | 0.72 | 1.09 |
| Provo, UT | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 2.10 | 6.32 | 4.08 | 6.16 |
| Prowers County; Lamar, CO | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Raleigh-Durham Area, NC | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 13.45 | 35.99 | 26.44 | 38.00 |
| Ramsey County; (part), MN | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.04 | 0.10 | 0.08 | 0.11 |
| Reading, PA | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Reno Area, NV | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 3.47 | 9.16 | 6.84 | 9.77 |
| Rhineland, WI | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 1.33 | 3.20 | 2.64 | 3.64 |
| Riverside County (Coachella Valley), CA | Ozone (2008 8-hour) | Nonattainment, Severe 15 | 25 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Riverside County; Coachella Valley planning area, CA | PM10 (1987 24-hour) | Nonattainment, Serious | 70 | 0 | 1.94 | 6.38 | 3.72 | 5.86 |
| Riverside, Los Angeles, Orange, and San Bernardino Counties; South Coast Air Basin, CA | PM10 (1987 24-hour) | Maintenance, Serious | 100 | 0 | 79.28 | 239.07 | 153.88 | 232.68 |
| Rosebud County; Lame Deer, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.44 | 1.12 | 0.87 | 1.23 |
| Routt County (part); Steamboat Springs, CO | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.38 | 0.97 | 0.74 | 1.05 |
| Sacramento Area, CA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 6.69 | 20.27 | 12.98 | 19.67 |
| Sacramento County, CA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 5.40 | 17.07 | 10.43 | 16.11 |
| Sacramento Metro, CA | Ozone (2008 8-hour) | Nonattainment, Severe 15 | 25 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Sacramento, CA | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 12.89 | 38.37 | 25.05 | 37.66 |
| Salem Area, OR | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 2.46 | 6.59 | 4.84 | 6.95 |
| Salt Lake City Area, UT | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 3.43 | 8.39 | 6.80 | 9.43 |
| Salt Lake City, UT | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 17.52 | 46.07 | 34.52 | 49.24 |

Table A1-59
Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Cumulative Impacts
Volatile Organic Compounds (VOC) 2040

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|---|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Salt Lake County, UT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 9.33 | 24.88 | 18.35 | 26.33 |
| Salt Lake County, UT | SO ₂ (1971 24-hour/Annual) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| San Bernardino County (part); excluding Searles Valley Planning area and South Coast Air Basin, CA | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 2.47 | 7.77 | 4.76 | 7.35 |
| San Diego Area, CA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 25.56 | 71.16 | 50.05 | 73.10 |
| San Diego County, CA | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| San Francisco Bay Area, CA | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| San Francisco Bay Area, CA | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 39.55 | 115.37 | 77.05 | 114.81 |
| San Francisco-Oakland-San Jose Area, CA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 36.58 | 106.44 | 71.29 | 106.11 |
| San Joaquin Valley Air Basin; Fresno, Kern, Kings, Madera, Merced, San Joaquin, Stanislaus, Tulare Counties, CA | PM10 (1987 24-hour) | Maintenance, Serious | 100 | 0 | 23.99 | 71.64 | 46.62 | 70.18 |
| San Joaquin Valley, CA | Ozone (2008 8-hour) | Nonattainment, Extreme | 10 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| San Joaquin Valley, CA | PM2.5 (2006 24-hour) | Nonattainment, Serious | 100 | 0 | 23.99 | 71.63 | 46.61 | 70.17 |
| San Joaquin Valley, CA | PM2.5 (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 23.99 | 71.63 | 46.61 | 70.17 |
| San Luis Obispo (Eastern San Luis Obispo), CA | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| San Manuel, AZ | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| San Miguel County; Telluride, CO | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.05 | 0.16 | 0.10 | 0.16 |
| Sanders County (part); Thompson Falls and vicinity, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Santa Cruz County; Nogales planning area, AZ | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.49 | 1.30 | 0.96 | 1.38 |
| Seaford, DE | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Seattle-Tacoma Area, WA | CO (1971 8-hour) | Maintenance, Moderate > 12.7ppm | 100 | 0 | 32.40 | 84.47 | 63.87 | 90.81 |
| Seattle-Tacoma, WA | PM2.5 (2006 24-hour) | Maintenance, Moderate | 100 | 0 | 5.23 | 13.62 | 10.31 | 14.65 |
| Sheboygan County, WI | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |

Appendix A Air Quality Non-Attainment Area Results

Table A1-59

**Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Cumulative Impacts
Volatile Organic Compounds (VOC) 2040**

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|---|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Sheridan County; City of Sheridan, WY | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.66 | 1.60 | 1.30 | 1.80 |
| Shoshone County (part); excluding Pinehurst, ID | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.35 | 0.97 | 0.69 | 1.01 |
| Shoshone County; City of Pinehurst, ID | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Silver Bow County; Butte, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.31 | 0.88 | 0.62 | 0.90 |
| Somerville Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.14 | 0.39 | 0.28 | 0.41 |
| Southwest Indiana, IN | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.22 | 0.56 | 0.45 | 0.62 |
| Spokane Area, WA | CO (1971 8-hour) | Maintenance, Serious | 100 | 0 | 2.63 | 7.10 | 5.17 | 7.45 |
| Spokane County; (part), WA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 2.71 | 7.32 | 5.33 | 7.68 |
| Springfield Area, MA | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 1.55 | 4.19 | 3.05 | 4.39 |
| St. Bernard Parish, LA | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 1.69 | 3.94 | 3.37 | 4.59 |
| St. Louis Area, MO | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 25.37 | 61.21 | 50.38 | 69.51 |
| St. Louis-St. Charles-Farmington, MO-IL | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Steubenville, OH-WV | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 1.62 | 3.94 | 3.21 | 4.44 |
| Steubenville-Weirton, OH-WV | PM2.5 (2006 24-hour) | Maintenance, -- | 100 | 0 | 3.33 | 8.06 | 6.60 | 9.13 |
| Stockton Area, CA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 1.68 | 5.19 | 3.24 | 4.97 |
| Sullivan County, TN | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.47 | 1.14 | 0.93 | 1.29 |
| Syracuse Area; Onondaga County, NY | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 6.39 | 16.66 | 12.59 | 17.91 |
| Tazewell County; Groveland Twp, IL | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Terre Haute, IN | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 1.00 | 2.44 | 1.98 | 2.74 |

Table A1-59
Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Cumulative Impacts
Volatile Organic Compounds (VOC) 2040

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|---|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Thurston County; Cities of Olympia, Tumwater, and Lacey, WA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.78 | 2.17 | 1.54 | 2.24 |
| Toms River Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.02 | 0.07 | 0.05 | 0.07 |
| Tooele County (part), UT | SO ₂ (1971 24-hour/Annual) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Trenton Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.61 | 1.72 | 1.18 | 1.74 |
| Trona, CA | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.23 | 0.53 | 0.47 | 0.63 |
| Tucson Area, AZ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 10.69 | 27.65 | 21.09 | 29.89 |
| Tuscan Buttes, CA | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Union County; LaGrande, OR | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.50 | 1.29 | 1.00 | 1.41 |
| Upper Green River Basin Area, WY | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Utah County, UT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 2.10 | 6.32 | 4.08 | 6.16 |
| Vancouver Area: Clark County (part), WA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 2.43 | 6.59 | 4.78 | 6.90 |
| Ventura County, CA | Ozone (2008 8-hour) | Nonattainment, Serious | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Vermillion County; Part of Clinton Township, IN | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.62 | 1.57 | 1.23 | 1.72 |
| Vigo County, IN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Walla Walla County; Wallula, WA | PM10 (1987 24-hour) | Maintenance, Serious | 100 | 0 | 0.10 | 0.24 | 0.20 | 0.28 |
| Waltham Area, MA | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.68 | 1.77 | 1.35 | 1.91 |
| Warren County: Conewago Twp, PA | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Warren County: Warren Boro, Pleasant Twp, Glade Twp, PA | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Warren, PA | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.31 | 0.78 | 0.61 | 0.85 |
| Washington Area, DC-MD-VA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 3.86 | 11.34 | 7.52 | 11.24 |
| Washington, DC-MD-VA | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Washoe County; Reno planning area, NV | PM10 (1987 24-hour) | Nonattainment, Serious | 70 | 0 | 3.44 | 9.07 | 6.77 | 9.67 |

Appendix A Air Quality Non-Attainment Area Results

Table A1-59

**Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Cumulative Impacts
Volatile Organic Compounds (VOC) 2040**

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|---|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Wayne County: Boston, Center, Franklin, Wayne & Webster Townships, IN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Wayne County; (part), MI | PM ₁₀ (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 3.54 | 8.43 | 7.04 | 9.67 |
| West Central Pinal County, AZ | PM _{2.5} (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 1.25 | 3.19 | 2.47 | 3.48 |
| West Silver Valley, ID | PM _{2.5} (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 0.19 | 0.53 | 0.38 | 0.55 |
| Winston-Salem Area, NC | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 2.70 | 7.57 | 5.28 | 7.74 |
| Worcester Area, MA | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 2.10 | 5.69 | 4.12 | 5.95 |
| Yakima Area, WA | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.73 | 1.83 | 1.45 | 2.03 |
| Yakima County; (part), WA | PM ₁₀ (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 1.98 | 4.97 | 3.93 | 5.50 |
| Yuba City-Marysville, CA | PM _{2.5} (2006 24-hour) | Maintenance, Moderate | 100 | 0 | 1.03 | 3.09 | 2.01 | 3.03 |
| Yuma County; Yuma planning area, AZ | PM ₁₀ (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 2.19 | 5.62 | 4.32 | 6.10 |

^a Reductions are shown as positive values. Negative values are emissions increases. Values of less than 0.005 tons per year are rounded to zero.

^b Nonattainment or maintenance status as of 5/13/2016. Source: U.S. EPA, The Green Book Nonattainment Areas for Criteria Pollutants; <http://www.epa.gov/airquality/greenbook/>. "--" indicates that no severity classification has been established for the NAAQS pollutant.

^c Emissions thresholds in tons per year. Where the threshold differs by precursor pollutant, the smallest of the precursor thresholds is shown. These thresholds are provided for information only; a general conformity determination is not required for the Proposed Action. Source: 40 CFR 93.853.

Notes: CO = carbon monoxide; NAAQS = National Ambient Air Quality Standards; NO₂ = nitrogen dioxide; PM = particulate matter; SO₂ = sulfur dioxide

Table A1-60
Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Cumulative Impacts
Volatile Organic Compounds (VOC) 2050

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Ada County; Boise, ID | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 7.89 | 19.82 | 15.65 | 21.77 |
| Adams, Denver, and Boulder Counties; Denver Metropolitan area, CO | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 31.81 | 81.05 | 63.00 | 88.12 |
| Ajo, AZ | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Albuquerque Area, NM | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 8.93 | 23.70 | 17.61 | 25.02 |
| Allegheny County Air Basin: Hazelwood monitor, PA | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Allegheny County, PA | PM2.5 (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 9.46 | 25.84 | 18.59 | 26.71 |
| Allegheny County; The area including Liberty, Lincoln, Port Vue, and Glassport Boroughs and the City of Clairton, PA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.11 | 0.28 | 0.22 | 0.31 |
| Allegheny, PA | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.52 | 1.41 | 1.02 | 1.47 |
| Allentown, PA | PM2.5 (2006 24-hour) | Maintenance, Moderate | 100 | 0 | 5.59 | 15.61 | 10.97 | 15.89 |
| Allentown-Bethlehem-Easton, PA | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Anchorage Area, AK | CO (1971 8-hour) | Maintenance, Serious | 100 | 0 | 4.36 | 10.61 | 8.67 | 11.93 |
| Anchorage; Eagle River, AK | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.27 | 0.66 | 0.54 | 0.74 |
| AQCR 012: Portions of Grant County, NM | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| AQCR 109-Millinocket, ME | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| AQCR 131: Anoka, Carver, Dakota, Hennepin, Ramsey, Scott, and Washington counties (Minneapolis-St. Paul), MN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| AQCR 237: Brown County: Green Bay sub-city area, WI | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| AQCR 238: Marathon County: Rothschild Sub-city area, Rib Mountain, Weston, WI | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| AQCR 238: Oneida County: Rhinelander Sub-city area, WI | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| AQCR 239: Milwaukee County: Milwaukee sub-city area, WI | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |

Appendix A Air Quality Non-Attainment Area Results

Table A1-60

Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Cumulative Impacts

Volatile Organic Compounds (VOC) 2050

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| AQCR 240: Dane County: Madison sub-city area, WI | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Archuleta County; Pagosa Springs, CO | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.27 | 0.73 | 0.53 | 0.76 |
| Armstrong County: Madison Twp, Mahoning Twp, Boggs Twp, Washington Twp, Pine Twp, PA | SO ₂ (1971 24-hour/Annual) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Aroostock County; City of Presque Isle, ME | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.09 | 0.30 | 0.18 | 0.28 |
| Atlanta, GA | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Atlantic City Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.34 | 1.03 | 0.65 | 0.98 |
| Bakersfield Area, CA | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 5.63 | 15.46 | 11.06 | 15.93 |
| Baltimore Area, MD | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.18 | 0.48 | 0.36 | 0.51 |
| Baltimore, MD | Ozone (2008 8-hour) | Nonattainment, Moderate | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Baton Rouge, LA | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Beaver, PA | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.14 | 0.40 | 0.27 | 0.40 |
| Benton County; (part) TVA Johnsonville, TN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Billings Area, MT | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 17.10 | 40.16 | 34.14 | 46.37 |
| Billings, MT | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 12.97 | 30.16 | 25.91 | 35.08 |
| Birmingham, AL | PM2.5 (2006 24-hour) | Maintenance, -- | 100 | 0 | 20.12 | 52.73 | 39.72 | 56.16 |
| Boise-Northern Ada County Area, ID | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 7.89 | 19.82 | 15.65 | 21.77 |
| Bonner County; The Sandpoint Area, ID | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.33 | 0.84 | 0.66 | 0.92 |
| Boston Area, MA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 12.17 | 31.82 | 24.04 | 33.95 |
| Boyd County (part), KY | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Brooke; Follansbee area, WV | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.01 | 0.03 | 0.02 | 0.03 |
| Burlington Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.04 | 0.12 | 0.08 | 0.12 |
| Calaveras County, CA | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Campbell-Clermont Counties, KY-OH | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.40 | 1.10 | 0.78 | 1.12 |

Table A1-60
Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Cumulative Impacts
Volatile Organic Compounds (VOC) 2050

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|---|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Canton-Massillon, OH | PM2.5 (2006 24-hour) | Maintenance, -- | 100 | 0 | 4.38 | 11.98 | 8.60 | 12.37 |
| Central New Hampshire, NH | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.88 | 3.07 | 1.68 | 2.69 |
| Central Steptoe Valley, NV | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Charleston, WV | PM2.5 (2006 24-hour) | Maintenance, -- | 100 | 0 | 3.55 | 9.97 | 6.96 | 10.11 |
| Charlotte Area, NC | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 8.42 | 25.51 | 16.35 | 24.53 |
| Charlotte-Rock Hill, NC-SC | Ozone (2008 8-hour) | Maintenance, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Chicago-Naperville, IL-IN-WI | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Chico (Butte County), CA | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Chico Area, CA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.68 | 2.04 | 1.32 | 1.97 |
| Chico, CA | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 1.34 | 4.03 | 2.61 | 3.90 |
| Cincinnati, OH-KY-IN | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Clark County; Las Vegas planning area, NV | PM10 (1987 24-hour) | Maintenance, Serious | 100 | 0 | 10.95 | 32.86 | 21.28 | 31.79 |
| Cleveland Area, OH | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 10.95 | 29.88 | 21.51 | 30.90 |
| Cleveland, OH | PM2.5 (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 13.68 | 37.58 | 26.87 | 38.70 |
| Cleveland-Akron-Lorain, OH | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Cleveland-Akron-Lorain, OH | PM2.5 (2006 24-hour) | Maintenance, -- | 100 | 0 | 23.73 | 67.81 | 46.38 | 67.89 |
| Cochise County; Paul Spur/Douglas planning area, AZ | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.50 | 1.35 | 0.99 | 1.41 |
| Colorado Springs Area, CO | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 11.98 | 30.38 | 23.72 | 33.13 |
| Columbus, OH | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Cook County; Lyons Township, IL | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.57 | 1.67 | 1.12 | 1.65 |
| Cook County; Southeast Chicago, IL | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.57 | 1.65 | 1.10 | 1.63 |
| Coshocton County; Franklin Township, OH | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Coso Junction, CA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Cuyahoga County (part), OH | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Cuyahoga County, OH | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 10.89 | 29.73 | 21.40 | 30.75 |

Appendix A Air Quality Non-Attainment Area Results

Table A1-60

**Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Cumulative Impacts
Volatile Organic Compounds (VOC) 2050**

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Dallas-Fort Worth, TX | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Delaware County, PA | PM2.5 (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 5.57 | 14.56 | 11.01 | 15.55 |
| Denver-Boulder Area, CO | CO (1971 8-hour) | Maintenance, Serious | 100 | 0 | 62.27 | 156.67 | 123.47 | 171.91 |
| Denver-Boulder-Greeley-Ft Collins-Loveland, CO | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Detroit Area, MI | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 15.40 | 41.90 | 30.28 | 43.45 |
| Detroit, MI | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 7.29 | 18.83 | 14.41 | 20.26 |
| Detroit-Ann Arbor, MI | PM2.5 (2006 24-hour) | Maintenance, -- | 100 | 0 | 52.23 | 144.72 | 102.46 | 148.10 |
| Dona Ana County; Anthony, NM | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.29 | 0.74 | 0.58 | 0.81 |
| Douglas, AZ | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Dukes County, MA | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Duluth Area, MN | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 4.69 | 11.52 | 9.32 | 12.87 |
| East Chicago Area, IN | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 9.83 | 22.96 | 19.65 | 26.63 |
| East Helena Area, MT | SO ₂ (1971 24-hour/Annual) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| East Kern County Area, CA | PM10 (1987 24-hour) | Nonattainment, Serious | 70 | 0 | 2.91 | 6.87 | 5.80 | 7.90 |
| El Paso County, TX | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 7.22 | 18.71 | 14.27 | 20.10 |
| El Paso, TX | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 2.36 | 5.57 | 4.71 | 6.41 |
| Eugene-Springfield Area, OR | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 2.46 | 6.83 | 4.82 | 6.98 |
| Fairbanks Area, AK | CO (1971 8-hour) | Maintenance, Serious | 100 | 0 | 1.28 | 3.04 | 2.56 | 3.49 |
| Fairbanks, AK | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 1.91 | 4.61 | 3.80 | 5.21 |

Table A1-60
Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Cumulative Impacts
Volatile Organic Compounds (VOC) 2050

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|---|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Flathead County; Columbia Falls and vicinity, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.04 | 0.09 | 0.07 | 0.10 |
| Flathead County; Kalispell and vicinity, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 1.01 | 2.53 | 2.01 | 2.79 |
| Flathead County; Whitefish and vicinity, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.11 | 0.28 | 0.22 | 0.30 |
| Fort Collins Area, CO | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 2.23 | 5.74 | 4.42 | 6.21 |
| Freehold Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.15 | 0.48 | 0.29 | 0.45 |
| Fremont County; Canon City Area, CO | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.45 | 1.24 | 0.89 | 1.28 |
| Fresno Area, CA | CO (1971 8-hour) | Maintenance, Moderate > 12.7ppm | 100 | 0 | 2.97 | 9.46 | 5.73 | 8.79 |
| Grants Pass Area, OR | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.63 | 1.69 | 1.24 | 1.77 |
| Great Falls Area, MT | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 1.99 | 4.64 | 3.98 | 5.39 |
| Greater Connecticut, CT | Ozone (2008 8-hour) | Nonattainment, Moderate | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Greeley Area, CO | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 7.90 | 20.16 | 15.63 | 21.89 |
| Hancock and Brooke Counties (Part); The city of Weirton, WV | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.60 | 1.44 | 1.19 | 1.63 |
| Hancock County (Part) The city of Weirton, including Butler and Clay: Magisterial Districts, WV | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Harrisburg-Lebanon-Carlisle-York, PA | PM2.5 (2006 24-hour) | Maintenance, Moderate | 100 | 0 | 16.84 | 45.14 | 33.16 | 47.30 |
| Hartford-New Britain-Middletown Area, CT | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 10.10 | 28.76 | 19.75 | 28.86 |
| Hayden, AZ | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.08 | 0.19 | 0.15 | 0.21 |
| Hayden, AZ | SO ₂ (1971 24-hour/Annual) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Hayden, AZ | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.08 | 0.19 | 0.15 | 0.21 |
| Hillsborough County, FL | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.61 | 1.51 | 1.22 | 1.69 |
| Houston-Galveston-Brazoria, TX | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Humphreys County; (part) TVA Johnsonville, TN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Imperial Co, CA | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 1.35 | 4.13 | 2.62 | 3.95 |

Appendix A Air Quality Non-Attainment Area Results

Table A1-60

Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Cumulative Impacts

Volatile Organic Compounds (VOC) 2050

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Imperial County, CA | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Imperial County, CA | PM2.5 (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 1.35 | 4.13 | 2.62 | 3.95 |
| Imperial County; Imperial Valley planning area, CA | PM10 (1987 24-hour) | Nonattainment, Serious | 70 | 0 | 1.63 | 5.00 | 3.17 | 4.77 |
| Indian Wells, CA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 2.90 | 6.83 | 5.78 | 7.86 |
| Indiana, PA | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.58 | 1.78 | 1.12 | 1.69 |
| Indianapolis Area, IN | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.01 | 0.03 | 0.02 | 0.03 |
| Indianapolis, IN | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 4.61 | 12.88 | 9.04 | 13.11 |
| Inyo County; Owens Valley planning area, CA | PM10 (1987 24-hour) | Nonattainment, Serious | 70 | 0 | 0.05 | 0.15 | 0.09 | 0.14 |
| Jackson County, MO | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 1.16 | 2.94 | 2.29 | 3.20 |
| Jackson County; Medford-Ashland (including White City), OR | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 2.96 | 7.79 | 5.83 | 8.27 |
| Jamestown, NY | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Jefferson County, KY | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Jefferson County, MO | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 1.57 | 3.90 | 3.12 | 4.32 |
| Jefferson County; (part) Steubenville & Mingo Junction, OH | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Jefferson County; (part), OH | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.12 | 0.29 | 0.23 | 0.32 |
| Johnstown, PA | PM2.5 (2006 24-hour) | Maintenance, Moderate | 100 | 0 | 1.18 | 3.32 | 2.31 | 3.36 |
| Josephine County; Grants Pass, OR | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.63 | 1.69 | 1.24 | 1.77 |
| Juneau; Mendenhall Valley area, AK | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.28 | 0.69 | 0.56 | 0.77 |
| Kern County (Eastern Kern), CA | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| King County; Kent, WA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.36 | 0.96 | 0.71 | 1.01 |
| King County; Seattle, WA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.11 | 0.30 | 0.23 | 0.32 |
| Klamath County; Klamath Falls, OR | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 1.25 | 3.32 | 2.45 | 3.49 |
| Klamath Falls Area, OR | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 1.25 | 3.32 | 2.45 | 3.49 |
| Klamath Falls, OR | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 1.31 | 3.50 | 2.59 | 3.69 |

Table A1-60

Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Cumulative Impacts
 Volatile Organic Compounds (VOC) 2050

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Knoxville, TN | Ozone (2008 8-hour) | Maintenance, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Knoxville-Sevierville-La Follette, TN | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 15.17 | 39.94 | 29.94 | 42.41 |
| La Porte County: (part), IN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lake County (part); Lakeview, OR | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.21 | 0.57 | 0.41 | 0.59 |
| Lake County, OH | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 1.73 | 5.30 | 3.36 | 5.06 |
| Lake County: (part), IN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lake County; (part) Eastlake, Timberlake, Lakeline, Willoughby, Mentor, OH | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lake County; Cities of East Chicago, Hammond, Whiting, and Gary, IN | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 11.98 | 28.53 | 23.88 | 32.60 |
| Lake County; Polson, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.03 | 0.07 | 0.05 | 0.08 |
| Lake County; Ronan, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lake Tahoe Nevada Area, NV | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.16 | 0.43 | 0.31 | 0.45 |
| Lake Tahoe North Shore Area, CA | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.05 | 0.16 | 0.10 | 0.16 |
| Lake Tahoe South Shore Area, CA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.09 | 0.28 | 0.16 | 0.26 |
| Lancaster, PA | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lancaster, PA | PM2.5 (2006 24-hour) | Maintenance, Moderate | 100 | 0 | 3.37 | 10.28 | 6.54 | 9.84 |
| Lane County (part); Oakridge, OR | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.01 | 0.03 | 0.02 | 0.03 |
| Lane County; Eugene/Springfield, OR | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 2.46 | 6.83 | 4.82 | 6.98 |
| Las Vegas Area, NV | CO (1971 8-hour) | Maintenance, Serious | 100 | 0 | 10.92 | 32.76 | 21.22 | 31.70 |
| LaSalle County; Oglesby, IL | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.27 | 0.81 | 0.53 | 0.79 |
| Laurel Area, MT | SO ₂ (1971 24-hour/Annual) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lebanon County, PA | PM2.5 (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 3.27 | 8.44 | 6.47 | 9.09 |
| Lemont, IL | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 3.20 | 8.14 | 6.33 | 8.86 |
| Liberty-Clairton, PA | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.11 | 0.28 | 0.22 | 0.31 |

Appendix A Air Quality Non-Attainment Area Results

Table A1-60

Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Cumulative Impacts

Volatile Organic Compounds (VOC) 2050

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Lincoln County; Libby and vicinity, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.08 | 0.21 | 0.16 | 0.23 |
| Logan, UT-ID | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 1.31 | 3.47 | 2.58 | 3.66 |
| Longmont Area, CO | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 1.92 | 4.84 | 3.81 | 5.31 |
| Lorain County (part), OH | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Los Angeles, CA | PM2.5 (2006 24-hour) | Nonattainment, Serious | 100 | 0 | 92.95 | 286.79 | 179.97 | 272.17 |
| Los Angeles-San Bernardino Counties (West Mojave Desert), CA | Ozone (2008 8-hour) | Nonattainment, Severe 15 | 25 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Los Angeles-South Coast Air Basin Area, CA | CO (1971 8-hour) | Maintenance, Serious | 100 | 0 | 93.00 | 286.93 | 180.05 | 272.30 |
| Los Angeles-South Coast Air Basin Area, CA | NO ₂ (1971 Annual) | Maintenance, -- | 100 | 0 | 93.00 | 286.94 | 180.06 | 272.31 |
| Los Angeles-South Coast Air Basin, CA | Ozone (2008 8-hour) | Nonattainment, Extreme | 10 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Los Angeles-South Coast Air Basin, CA | PM2.5 (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 92.84 | 286.41 | 179.75 | 271.82 |
| Lowell Area, MA | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 1.54 | 4.09 | 3.04 | 4.32 |
| Lucas County (part), OH | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Madison County; Granite City Township and Nameoki Township, IL | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 6.91 | 16.27 | 13.79 | 18.75 |
| Manchester Area, NH | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.35 | 1.19 | 0.66 | 1.05 |
| Maricopa and Pinal Counties; Phoenix planning area, AZ | PM10 (1987 24-hour) | Nonattainment, Serious | 70 | 0 | 22.14 | 68.38 | 42.86 | 64.85 |
| Marion County; Lawrence, Washington, and Warrant Townships, IN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Mariposa County, CA | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Marshall, WV | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.63 | 1.53 | 1.26 | 1.72 |
| Medford Area, OR | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 1.57 | 4.14 | 3.10 | 4.39 |
| Memphis Area, TN | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 12.09 | 32.26 | 23.82 | 33.91 |

Table A1-60

Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Cumulative Impacts
 Volatile Organic Compounds (VOC) 2050

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|---|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Memphis, TN-MS-AR | Ozone (2008 8-hour) | Nonattainment TN & Maintenance MS/AR, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Miami, AZ | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.09 | 0.23 | 0.18 | 0.25 |
| Miami, AZ | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Miami, AZ | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.09 | 0.23 | 0.18 | 0.25 |
| Milwaukee-Racine, WI | PM2.5 (2006 24-hour) | Maintenance, -- | 100 | 0 | 10.41 | 29.78 | 20.35 | 29.79 |
| Minneapolis-St. Paul Area, MN | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 55.59 | 143.67 | 109.90 | 154.58 |
| Missoula Area, MT | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 2.21 | 5.57 | 4.39 | 6.11 |
| Missoula county; Missoula and vicinity, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 2.11 | 5.31 | 4.18 | 5.82 |
| Modesto Area, CA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 1.28 | 3.79 | 2.49 | 3.70 |
| Mohave County (part); Bullhead City, AZ | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 1.27 | 3.43 | 2.49 | 3.57 |
| Mono County; Mammoth Lake planning area, CA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.15 | 0.53 | 0.29 | 0.46 |
| Mono County; Mono Basin, CA | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Morenci, AZ | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Morgan County, IN | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.21 | 0.65 | 0.42 | 0.63 |
| Morongo Band of Mission Indians | Ozone (2008 8-hour) | Nonattainment, Serious | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Morristown Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.25 | 0.79 | 0.49 | 0.74 |
| Muscatine County; (part), IA | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Muscatine, IA | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.96 | 2.33 | 1.90 | 2.62 |
| Muskingum River, OH | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.17 | 0.45 | 0.34 | 0.48 |
| Nashua Area, NH | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.34 | 1.16 | 0.64 | 1.02 |
| Nassau County, FL | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.11 | 0.27 | 0.22 | 0.30 |
| Nevada County (Western part), CA | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| New Haven County, CT | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.19 | 0.52 | 0.36 | 0.53 |

Appendix A Air Quality Non-Attainment Area Results

Table A1-60

Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Cumulative Impacts

Volatile Organic Compounds (VOC) 2050

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| New Haven-Meriden-Waterbury Area, CT | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 8.86 | 24.63 | 17.38 | 25.15 |
| New Manchester-Grant magisterial district in Hancock County, WV | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| New York County, NY | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 6.04 | 16.70 | 11.86 | 17.12 |
| New York, NY-NJ-CT | PM2.5 (2006 24-hour) | Maintenance, -- | 100 | 0 | 148.71 | 419.80 | 291.12 | 423.97 |
| New York-N. New Jersey-Long Island Area, NY-NJ-CT | CO (1971 8-hour) | Maintenance, Moderate > 12.7ppm | 100 | 0 | 83.66 | 235.73 | 163.82 | 238.39 |
| New York-N. New Jersey-Long Island, NY-NJ-CT | Ozone (2008 8-hour) | Nonattainment, Moderate | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| NJ portion of the Northeast Pennsylvania-Upper Delaware Valley Interstate AQCR: (part), NJ | SO ₂ (1971 24-hour/Annual) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Nogales, AZ | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.58 | 1.57 | 1.14 | 1.63 |
| Oakridge, OR | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.01 | 0.03 | 0.02 | 0.03 |
| Ogden Area, UT | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.55 | 1.52 | 1.07 | 1.55 |
| Ogden Area, UT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.55 | 1.52 | 1.07 | 1.55 |
| Olmsted County; (part), MN | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.51 | 1.31 | 1.02 | 1.43 |
| Olmsted; City of Rochester, MN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |

Table A1-60
Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Cumulative Impacts
Volatile Organic Compounds (VOC) 2050

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Pechanga Band of Luiseno Mission Indians of the Pechanga Reservation | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Pekin, IL | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.17 | 0.59 | 0.32 | 0.52 |
| Penns Grove Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Peoria County: Hollis Twp, IL | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Peoria County: Peoria, IL | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Perth Amboy Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 1.64 | 4.40 | 3.23 | 4.61 |
| Philadelphia-Camden County Area, PA-NJ | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 13.55 | 35.84 | 26.72 | 37.92 |
| Philadelphia-Wilmington, PA-NJ-DE | PM _{2.5} (2006 24-hour) | Maintenance, Moderate for PA and DE Subject to Former Subpart 1 for NJ | 100 | 0 | 55.77 | 149.48 | 109.83 | 156.65 |
| Philadelphia-Wilmington-Atlantic City, PA-NJ-MD-DE | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Phoenix Area, AZ | CO (1971 8-hour) | Maintenance, Serious | 100 | 0 | 20.70 | 64.28 | 40.05 | 60.74 |
| Phoenix-Mesa, AZ | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Pierce County; Tacoma, WA | PM ₁₀ (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.52 | 1.23 | 1.05 | 1.42 |
| Pima County; Ajo planning area, AZ | PM ₁₀ (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Pima County; Rillito planning area, AZ | PM ₁₀ (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 1.01 | 2.68 | 2.00 | 2.84 |
| Pinal and Gila Counties; Payson, AZ | PM ₁₀ (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.54 | 1.42 | 1.07 | 1.51 |
| Pinal County (part); West Pinal, AZ | PM ₁₀ (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 6.87 | 17.93 | 13.57 | 19.16 |
| Pitkin County; Aspen, CO | PM ₁₀ (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.34 | 0.90 | 0.67 | 0.95 |
| Pittsburgh Area, PA | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 1.94 | 5.29 | 3.81 | 5.48 |
| Pittsburgh-Beaver Valley, PA | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Pittsburgh-Beaver Valley, PA | PM _{2.5} (2006 24-hour) | Maintenance, Moderate | 100 | 0 | 19.89 | 54.54 | 39.07 | 56.24 |
| Plumas County, CA | PM _{2.5} (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Polk County, TN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |

Appendix A Air Quality Non-Attainment Area Results

Table A1-60

Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Cumulative Impacts

Volatile Organic Compounds (VOC) 2050

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|-------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Portland Area: Portland Metro Service District Boundary, OR | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 9.36 | 27.19 | 18.27 | 26.91 |
| Power-Bannock Counties; Fort Hall Indian Reservation, ID | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Power-Bannock Counties; Portneuf Valley Area, ID | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 2.04 | 5.19 | 4.04 | 5.65 |
| Provo Area, UT | CO (1971 8-hour) | Maintenance, Moderate > 12.7ppm | 100 | 0 | 0.43 | 1.31 | 0.83 | 1.25 |
| Provo, UT | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 2.45 | 7.54 | 4.75 | 7.17 |
| Prowers County; Lamar, CO | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Raleigh-Durham Area, NC | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 15.62 | 42.71 | 30.68 | 44.12 |
| Ramsey County; (part), MN | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.05 | 0.12 | 0.09 | 0.13 |
| Reading, PA | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Reno Area, NV | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 3.98 | 10.71 | 7.82 | 11.19 |
| Rhinelander, WI | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 1.79 | 4.40 | 3.57 | 4.92 |
| Riverside County (Coachella Valley), CA | Ozone (2008 8-hour) | Nonattainment, Severe 15 | 25 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Riverside County; Coachella Valley planning area, CA | PM10 (1987 24-hour) | Nonattainment, Serious | 70 | 0 | 2.23 | 7.51 | 4.27 | 6.72 |
| Riverside, Los Angeles, Orange, and San Bernardino Counties; South Coast Air Basin, CA | PM10 (1987 24-hour) | Maintenance, Serious | 100 | 0 | 92.69 | 285.88 | 179.46 | 271.37 |
| Rosebud County; Lame Deer, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.57 | 1.48 | 1.14 | 1.60 |
| Routt County (part); Steamboat Springs, CO | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.44 | 1.15 | 0.86 | 1.22 |
| Sacramento Area, CA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 7.69 | 23.80 | 14.88 | 22.53 |
| Sacramento County, CA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 6.32 | 20.42 | 12.17 | 18.78 |
| Sacramento Metro, CA | Ozone (2008 8-hour) | Nonattainment, Severe 15 | 25 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Sacramento, CA | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 15.08 | 45.93 | 29.25 | 43.98 |
| Salem Area, OR | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 2.90 | 7.92 | 5.69 | 8.18 |
| Salt Lake City Area, UT | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 3.92 | 9.76 | 7.77 | 10.78 |
| Salt Lake City, UT | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 20.34 | 54.66 | 40.05 | 57.18 |

Table A1-60
Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Cumulative Impacts
Volatile Organic Compounds (VOC) 2050

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|---|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Salt Lake County, UT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 10.83 | 29.52 | 21.29 | 30.57 |
| Salt Lake County, UT | SO ₂ (1971 24-hour/Annual) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| San Bernardino County (part); excluding Searles Valley Planning area and South Coast Air Basin, CA | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 2.75 | 8.85 | 5.30 | 8.17 |
| San Diego Area, CA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 29.74 | 84.66 | 58.16 | 84.99 |
| San Diego County, CA | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| San Francisco Bay Area, CA | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| San Francisco Bay Area, CA | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 46.13 | 137.65 | 89.70 | 133.70 |
| San Francisco-Oakland-San Jose Area, CA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 42.62 | 126.85 | 82.90 | 123.43 |
| San Joaquin Valley Air Basin; Fresno, Kern, Kings, Madera, Merced, San Joaquin, Stanislaus, Tulare Counties, CA | PM10 (1987 24-hour) | Maintenance, Serious | 100 | 0 | 28.06 | 85.70 | 54.40 | 81.91 |
| San Joaquin Valley, CA | Ozone (2008 8-hour) | Nonattainment, Extreme | 10 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| San Joaquin Valley, CA | PM2.5 (2006 24-hour) | Nonattainment, Serious | 100 | 0 | 28.06 | 85.69 | 54.40 | 81.90 |
| San Joaquin Valley, CA | PM2.5 (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 28.06 | 85.69 | 54.40 | 81.90 |
| San Luis Obispo (Eastern San Luis Obispo), CA | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| San Manuel, AZ | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| San Miguel County; Telluride, CO | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.06 | 0.19 | 0.12 | 0.18 |
| Sanders County (part); Thompson Falls and vicinity, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Santa Cruz County; Nogales planning area, AZ | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.58 | 1.57 | 1.14 | 1.63 |
| Seaford, DE | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Seattle-Tacoma Area, WA | CO (1971 8-hour) | Maintenance, Moderate > 12.7ppm | 100 | 0 | 37.54 | 100.01 | 73.98 | 105.27 |
| Seattle-Tacoma, WA | PM2.5 (2006 24-hour) | Maintenance, Moderate | 100 | 0 | 6.02 | 16.01 | 11.86 | 16.87 |
| Sheboygan County, WI | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |

Appendix A Air Quality Non-Attainment Area Results

Table A1-60

**Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Cumulative Impacts
Volatile Organic Compounds (VOC) 2050**

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|---|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Sheridan County; City of Sheridan, WY | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.77 | 1.91 | 1.52 | 2.11 |
| Shoshone County (part); excluding Pinehurst, ID | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.41 | 1.16 | 0.81 | 1.17 |
| Shoshone County; City of Pinehurst, ID | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Silver Bow County; Butte, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.37 | 1.06 | 0.73 | 1.06 |
| Somerville Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.16 | 0.44 | 0.31 | 0.45 |
| Southwest Indiana, IN | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.27 | 0.69 | 0.54 | 0.75 |
| Spokane Area, WA | CO (1971 8-hour) | Maintenance, Serious | 100 | 0 | 3.03 | 8.35 | 5.94 | 8.57 |
| Spokane County; (part), WA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 3.12 | 8.61 | 6.13 | 8.84 |
| Springfield Area, MA | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 1.85 | 5.10 | 3.63 | 5.23 |
| St. Bernard Parish, LA | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 1.95 | 4.63 | 3.90 | 5.31 |
| St. Louis Area, MO | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 28.96 | 71.29 | 57.55 | 79.49 |
| St. Louis-St. Charles-Farmington, MO-IL | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Steubenville, OH-WV | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 1.94 | 4.83 | 3.85 | 5.34 |
| Steubenville-Weirton, OH-WV | PM2.5 (2006 24-hour) | Maintenance, -- | 100 | 0 | 3.85 | 9.51 | 7.64 | 10.57 |
| Stockton Area, CA | CO (1971 8-hour) | Maintenance, Moderate ≤ 12.7ppm | 100 | 0 | 1.92 | 6.10 | 3.71 | 5.68 |
| Sullivan County, TN | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.48 | 1.20 | 0.96 | 1.33 |
| Syracuse Area; Onondaga County, NY | CO (1971 8-hour) | Maintenance, Moderate ≤ 12.7ppm | 100 | 0 | 7.41 | 19.74 | 14.60 | 20.78 |
| Tazewell County; Groveland Twp, IL | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Terre Haute, IN | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.87 | 2.18 | 1.73 | 2.40 |

Table A1-60

Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Cumulative Impacts
Volatile Organic Compounds (VOC) 2050

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|---|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Thurston County; Cities of Olympia, Tumwater, and Lacey, WA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.90 | 2.54 | 1.76 | 2.57 |
| Toms River Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.03 | 0.09 | 0.05 | 0.08 |
| Tooele County (part), UT | SO ₂ (1971 24-hour/Annual) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Trenton Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.72 | 2.08 | 1.40 | 2.06 |
| Trona, CA | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.27 | 0.63 | 0.54 | 0.73 |
| Tucson Area, AZ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 12.41 | 32.78 | 24.47 | 34.71 |
| Tuscan Buttes, CA | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Union County; LaGrande, OR | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.69 | 1.78 | 1.35 | 1.91 |
| Upper Green River Basin Area, WY | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Utah County, UT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 2.45 | 7.54 | 4.75 | 7.17 |
| Vancouver Area: Clark County (part), WA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 2.82 | 7.81 | 5.54 | 8.01 |
| Ventura County, CA | Ozone (2008 8-hour) | Nonattainment, Serious | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Vermillion County; Part of Clinton Township, IN | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Vigo County, IN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Walla Walla County; Wallula, WA | PM10 (1987 24-hour) | Maintenance, Serious | 100 | 0 | 0.11 | 0.28 | 0.22 | 0.31 |
| Waltham Area, MA | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.79 | 2.09 | 1.55 | 2.20 |
| Warren County: Conewago Twp, PA | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Warren County: Warren Boro, Pleasant Twp, Glade Twp, PA | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Warren, PA | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.35 | 0.91 | 0.69 | 0.97 |
| Washington Area, DC-MD-VA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 4.51 | 13.52 | 8.76 | 13.08 |
| Washington, DC-MD-VA | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Washoe County; Reno planning area, NV | PM10 (1987 24-hour) | Nonattainment, Serious | 70 | 0 | 3.93 | 10.60 | 7.74 | 11.07 |

Appendix A Air Quality Non-Attainment Area Results

Table A1-60

**Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Cumulative Impacts
Volatile Organic Compounds (VOC) 2050**

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|---|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Wayne County: Boston, Center, Franklin, Wayne & Webster Townships, IN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Wayne County; (part), MI | PM ₁₀ (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 4.28 | 10.46 | 8.51 | 11.72 |
| West Central Pinal County, AZ | PM _{2.5} (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 1.48 | 3.84 | 2.92 | 4.12 |
| West Silver Valley, ID | PM _{2.5} (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 0.24 | 0.68 | 0.47 | 0.69 |
| Winston-Salem Area, NC | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 3.14 | 9.00 | 6.13 | 8.99 |
| Worcester Area, MA | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 2.51 | 6.96 | 4.93 | 7.12 |
| Yakima Area, WA | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.88 | 2.25 | 1.75 | 2.45 |
| Yakima County; (part), WA | PM ₁₀ (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 2.31 | 5.89 | 4.56 | 6.39 |
| Yuba City-Marysville, CA | PM _{2.5} (2006 24-hour) | Maintenance, Moderate | 100 | 0 | 1.21 | 3.70 | 2.35 | 3.53 |
| Yuma County; Yuma planning area, AZ | PM ₁₀ (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 2.52 | 6.62 | 4.98 | 7.05 |

^a Reductions are shown as positive values. Negative values are emissions increases. Values of less than 0.005 tons per year are rounded to zero.

^b Nonattainment or maintenance status as of 5/13/2016. Source: U.S. EPA, The Green Book Nonattainment Areas for Criteria Pollutants; <http://www.epa.gov/airquality/greenbook/>. "--" indicates that no severity classification has been established for the NAAQS pollutant.

^c Emissions thresholds in tons per year. Where the threshold differs by precursor pollutant, the smallest of the precursor thresholds is shown. These thresholds are provided for information only; a general conformity determination is not required for the Proposed Action. Source: 40 CFR 93.853.

Notes: CO = carbon monoxide; NAAQS = National Ambient Air Quality Standards; NO₂ = nitrogen dioxide; PM = particulate matter; SO₂ = sulfur dioxide

Table A1-61

Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Cumulative Impacts
Carbon Monoxide (CO) 2018

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Ada County; Boise, ID | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | -0.13 | -0.14 | -0.17 | -0.20 |
| Adams, Denver, and Boulder Counties; Denver Metropolitan area, CO | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | -0.70 | -0.82 | -0.98 | -1.17 |
| Ajo, AZ | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Albuquerque Area, NM | CO (1971 8-hour) | Maintenance, Moderate ≤ 12.7ppm | 100 | 0 | -0.19 | -0.18 | -0.23 | -0.27 |
| Allegheny County Air Basin: Hazelwood monitor, PA | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Allegheny County, PA | PM2.5 (2012 Annual) | Nonattainment, Moderate | 100 | 0 | -0.36 | -0.42 | -0.50 | -0.60 |
| Allegheny County; The area including Liberty, Lincoln, Port Vue, and Glassport Boroughs and the City of Clairton, PA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | -0.01 |
| Allegheny, PA | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | -0.03 | -0.04 | -0.05 | -0.05 |
| Allentown, PA | PM2.5 (2006 24-hour) | Maintenance, Moderate | 100 | 0 | -0.24 | -0.28 | -0.33 | -0.40 |
| Allentown-Bethlehem-Easton, PA | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Anchorage Area, AK | CO (1971 8-hour) | Maintenance, Serious | 100 | 0 | -0.04 | -0.05 | -0.06 | -0.07 |
| Anchorage; Eagle River, AK | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| AQCR 012: Portions of Grant County, NM | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| AQCR 109-Millinocket, ME | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| AQCR 131: Anoka, Carver, Dakota, Hennepin, Ramsey, Scott, and Washington counties (Minneapolis-St. Paul), MN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| AQCR 237: Brown County: Green Bay sub-city area, WI | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| AQCR 238: Marathon County: Rothschild Sub-city area, Rib Mountain, Weston, WI | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| AQCR 238: Oneida County: Rhinelander Sub-city area, WI | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| AQCR 239: Milwaukee County: Milwaukee sub-city area, WI | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |

Appendix A Air Quality Non-Attainment Area Results

Table A1-61

Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Cumulative Impacts

Carbon Monoxide (CO) 2018

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| AQCR 240: Dane County: Madison sub-city area, WI | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Archuleta County; Pagosa Springs, CO | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | -0.01 | -0.01 | -0.02 | -0.02 |
| Armstrong County: Madison Twp, Mahoning Twp, Boggs Twp, Washington Twp, Pine Twp, PA | SO ₂ (1971 24-hour/Annual) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Aroostock County; City of Presque Isle, ME | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | -0.01 | -0.01 | -0.01 | -0.01 |
| Atlanta, GA | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Atlantic City Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | -0.03 | -0.03 | -0.04 | -0.04 |
| Bakersfield Area, CA | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.08 | 0.08 | 0.10 |
| Baltimore Area, MD | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | -0.01 |
| Baltimore, MD | Ozone (2008 8-hour) | Nonattainment, Moderate | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Baton Rouge, LA | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Beaver, PA | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | -0.01 | -0.01 | -0.01 | -0.01 |
| Benton County; (part) TVA Johnsonville, TN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Billings Area, MT | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.37 | 0.57 | 0.66 | 0.79 |
| Billings, MT | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.41 | 0.62 | 0.72 | 0.86 |
| Birmingham, AL | PM2.5 (2006 24-hour) | Maintenance, -- | 100 | 0 | -0.58 | -0.67 | -0.81 | -0.97 |
| Boise-Northern Ada County Area, ID | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | -0.13 | -0.14 | -0.17 | -0.20 |
| Bonner County; The Sandpoint Area, ID | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | -0.01 | -0.01 | -0.01 |
| Boston Area, MA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | -0.31 | -0.35 | -0.42 | -0.50 |
| Boyd County (part), KY | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Brooke; Follansbee area, WV | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Burlington Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | -0.01 | -0.01 | -0.01 |
| Calaveras County, CA | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Campbell-Clermont Counties, KY-OH | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | -0.02 | -0.02 | -0.02 | -0.03 |

Table A1-61

Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Cumulative Impacts
Carbon Monoxide (CO) 2018

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|---|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Canton-Massillon, OH | PM2.5 (2006 24-hour) | Maintenance, -- | 100 | 0 | 0.08 | 0.18 | 0.19 | 0.23 |
| Central New Hampshire, NH | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | -0.10 | -0.12 | -0.14 | -0.17 |
| Central Steptoe Valley, NV | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Charleston, WV | PM2.5 (2006 24-hour) | Maintenance, -- | 100 | 0 | -0.17 | -0.20 | -0.24 | -0.28 |
| Charlotte Area, NC | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | -0.58 | -0.69 | -0.82 | -0.98 |
| Charlotte-Rock Hill, NC-SC | Ozone (2008 8-hour) | Maintenance, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Chicago-Naperville, IL-IN-WI | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Chico (Butte County), CA | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Chico Area, CA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | -0.04 | -0.04 | -0.05 | -0.06 |
| Chico, CA | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | -0.09 | -0.10 | -0.13 | -0.15 |
| Cincinnati, OH-KY-IN | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Clark County; Las Vegas planning area, NV | PM10 (1987 24-hour) | Maintenance, Serious | 100 | 0 | -0.72 | -0.85 | -1.02 | -1.22 |
| Cleveland Area, OH | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | -0.43 | -0.51 | -0.61 | -0.73 |
| Cleveland, OH | PM2.5 (2012 Annual) | Nonattainment, Moderate | 100 | 0 | -0.57 | -0.67 | -0.80 | -0.95 |
| Cleveland-Akron-Lorain, OH | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Cleveland-Akron-Lorain, OH | PM2.5 (2006 24-hour) | Maintenance, -- | 100 | 0 | -1.24 | -1.46 | -1.75 | -2.09 |
| Cochise County; Paul Spur/Douglas planning area, AZ | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | -0.02 | -0.02 | -0.03 | -0.03 |
| Colorado Springs Area, CO | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | -0.22 | -0.24 | -0.29 | -0.35 |
| Columbus, OH | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Cook County; Lyons Township, IL | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | -0.01 | 0.00 | -0.01 | -0.01 |
| Cook County; Southeast Chicago, IL | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | -0.02 | -0.02 | -0.02 | -0.02 |
| Coshocton County; Franklin Township, OH | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Coso Junction, CA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Cuyahoga County (part), OH | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Cuyahoga County, OH | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | -0.43 | -0.51 | -0.61 | -0.73 |

Appendix A Air Quality Non-Attainment Area Results

Table A1-61

**Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Cumulative Impacts
Carbon Monoxide (CO) 2018**

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Dallas-Fort Worth, TX | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Delaware County, PA | PM2.5 (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 0.53 | 0.85 | 0.97 | 1.17 |
| Denver-Boulder Area, CO | CO (1971 8-hour) | Maintenance, Serious | 100 | 0 | -0.74 | -0.72 | -0.89 | -1.07 |
| Denver-Boulder-Greeley-Ft Collins-Loveland, CO | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Detroit Area, MI | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | -0.67 | -0.74 | -0.90 | -1.07 |
| Detroit, MI | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | -0.01 | 0.03 | 0.03 | 0.03 |
| Detroit-Ann Arbor, MI | PM2.5 (2006 24-hour) | Maintenance, -- | 100 | 0 | -2.17 | -2.51 | -3.01 | -3.60 |
| Dona Ana County; Anthony, NM | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | -0.01 | -0.01 | -0.01 |
| Douglas, AZ | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Dukes County, MA | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Duluth Area, MN | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | -0.05 | -0.06 | -0.07 | -0.08 |
| East Chicago Area, IN | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 1.08 | 1.64 | 1.88 | 2.26 |
| East Helena Area, MT | SO ₂ (1971 24-hour/Annual) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| East Kern County Area, CA | PM10 (1987 24-hour) | Nonattainment, Serious | 70 | 0 | 0.22 | 0.33 | 0.38 | 0.46 |
| El Paso County, TX | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | -0.08 | -0.06 | -0.08 | -0.09 |
| El Paso, TX | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.10 | 0.16 | 0.18 | 0.22 |
| Eugene-Springfield Area, OR | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | -0.10 | -0.12 | -0.14 | -0.17 |
| Fairbanks Area, AK | CO (1971 8-hour) | Maintenance, Serious | 100 | 0 | 0.03 | 0.06 | 0.06 | 0.08 |
| Fairbanks, AK | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.02 | 0.04 | 0.05 | 0.06 |

Table A1-61
Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Cumulative Impacts
Carbon Monoxide (CO) 2018

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|---|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Flathead County; Columbia Falls and vicinity, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Flathead County; Kalispell and vicinity, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | -0.02 | -0.02 | -0.02 | -0.03 |
| Flathead County; Whitefish and vicinity, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Fort Collins Area, CO | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | -0.06 | -0.07 | -0.08 | -0.09 |
| Freehold Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | -0.01 | -0.01 | -0.01 | -0.02 |
| Fremont County; Canon City Area, CO | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | -0.02 | -0.02 | -0.03 | -0.03 |
| Fresno Area, CA | CO (1971 8-hour) | Maintenance, Moderate > 12.7ppm | 100 | 0 | -0.24 | -0.28 | -0.34 | -0.40 |
| Grants Pass Area, OR | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | -0.02 | -0.02 | -0.03 | -0.03 |
| Great Falls Area, MT | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.03 | 0.05 | 0.06 | 0.07 |
| Greater Connecticut, CT | Ozone (2008 8-hour) | Nonattainment, Moderate | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Greeley Area, CO | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | -0.15 | -0.17 | -0.20 | -0.24 |
| Hancock and Brooke Counties (Part); The city of Weirton, WV | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.01 | 0.01 | 0.01 |
| Hancock County (Part) The city of Weirton, including Butler and Clay: Magisterial Districts, WV | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Harrisburg-Lebanon-Carlisle-York, PA | PM2.5 (2006 24-hour) | Maintenance, Moderate | 100 | 0 | -0.57 | -0.67 | -0.80 | -0.96 |
| Hartford-New Britain-Middletown Area, CT | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | -0.52 | -0.61 | -0.73 | -0.87 |
| Hayden, AZ | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Hayden, AZ | SO ₂ (1971 24-hour/Annual) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Hayden, AZ | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Hillsborough County, FL | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | -0.01 | -0.01 | -0.01 | -0.01 |
| Houston-Galveston-Brazoria, TX | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Humphreys County; (part) TVA Johnsonville, TN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Imperial Co, CA | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | -0.10 | -0.11 | -0.13 | -0.16 |

Appendix A Air Quality Non-Attainment Area Results

Table A1-61

Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Cumulative Impacts

Carbon Monoxide (CO) 2018

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Imperial County, CA | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Imperial County, CA | PM2.5 (2012 Annual) | Nonattainment, Moderate | 100 | 0 | -0.10 | -0.11 | -0.13 | -0.16 |
| Imperial County; Imperial Valley planning area, CA | PM10 (1987 24-hour) | Nonattainment, Serious | 70 | 0 | -0.12 | -0.14 | -0.16 | -0.20 |
| Indian Wells, CA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.22 | 0.33 | 0.38 | 0.46 |
| Indiana, PA | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | -0.04 | -0.05 | -0.06 | -0.07 |
| Indianapolis Area, IN | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Indianapolis, IN | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | -0.23 | -0.27 | -0.32 | -0.39 |
| Inyo County; Owens Valley planning area, CA | PM10 (1987 24-hour) | Nonattainment, Serious | 70 | 0 | 0.00 | 0.00 | 0.00 | -0.01 |
| Jackson County, MO | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | -0.02 | -0.03 | -0.03 | -0.04 |
| Jackson County; Medford-Ashland (including White City), OR | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | -0.08 | -0.10 | -0.12 | -0.14 |
| Jamestown, NY | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Jefferson County, KY | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Jefferson County, MO | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | -0.02 | -0.03 | -0.03 | -0.04 |
| Jefferson County; (part) Steubenville & Mingo Junction, OH | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Jefferson County; (part), OH | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Johnstown, PA | PM2.5 (2006 24-hour) | Maintenance, Moderate | 100 | 0 | -0.06 | -0.07 | -0.08 | -0.10 |
| Josephine County; Grants Pass, OR | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | -0.02 | -0.02 | -0.03 | -0.03 |
| Juneau; Mendenhall Valley area, AK | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | -0.01 | -0.01 |
| Kern County (Eastern Kern), CA | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| King County; Kent, WA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | -0.01 | -0.01 | -0.01 | -0.02 |
| King County; Seattle, WA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | -0.01 | -0.01 | -0.01 |
| Klamath County; Klamath Falls, OR | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | -0.03 | -0.03 | -0.04 | -0.05 |
| Klamath Falls Area, OR | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | -0.03 | -0.03 | -0.04 | -0.05 |
| Klamath Falls, OR | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | -0.03 | -0.04 | -0.04 | -0.05 |

Table A1-61
Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Cumulative Impacts
Carbon Monoxide (CO) 2018

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Knoxville, TN | Ozone (2008 8-hour) | Maintenance, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Knoxville-Sevierville-La Follette, TN | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | -0.46 | -0.54 | -0.64 | -0.77 |
| La Porte County: (part), IN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lake County (part); Lakeview, OR | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lake County, OH | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | -0.13 | -0.15 | -0.18 | -0.21 |
| Lake County: (part), IN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lake County; (part) Eastlake, Timberlake, Lakeline, Willoughby, Mentor, OH | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lake County; Cities of East Chicago, Hammond, Whiting, and Gary, IN | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 1.00 | 1.55 | 1.78 | 2.13 |
| Lake County; Polson, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lake County; Ronan, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lake Tahoe Nevada Area, NV | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | -0.01 | -0.01 | -0.01 | -0.02 |
| Lake Tahoe North Shore Area, CA | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | -0.01 | -0.01 | -0.01 | -0.01 |
| Lake Tahoe South Shore Area, CA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | -0.02 | -0.02 | -0.02 | -0.03 |
| Lancaster, PA | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lancaster, PA | PM2.5 (2006 24-hour) | Maintenance, Moderate | 100 | 0 | -0.24 | -0.28 | -0.34 | -0.40 |
| Lane County (part); Oakridge, OR | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lane County; Eugene/Springfield, OR | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | -0.10 | -0.12 | -0.14 | -0.17 |
| Las Vegas Area, NV | CO (1971 8-hour) | Maintenance, Serious | 100 | 0 | -0.72 | -0.85 | -1.01 | -1.22 |
| LaSalle County; Oglesby, IL | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | -0.02 | -0.02 | -0.02 | -0.03 |
| Laurel Area, MT | SO ₂ (1971 24-hour/Annual) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lebanon County, PA | PM2.5 (2012 Annual) | Nonattainment, Moderate | 100 | 0 | -0.08 | -0.10 | -0.12 | -0.14 |
| Lemont, IL | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 2.21 | 3.36 | 3.86 | 4.63 |
| Liberty-Clairton, PA | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | -0.01 |

Appendix A Air Quality Non-Attainment Area Results

Table A1-61

Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Cumulative Impacts

Carbon Monoxide (CO) 2018

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Lincoln County; Libby and vicinity, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | -0.01 |
| Logan, UT-ID | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | -0.04 | -0.05 | -0.06 | -0.07 |
| Longmont Area, CO | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | -0.03 | -0.04 | -0.05 | -0.06 |
| Lorain County (part), OH | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Los Angeles, CA | PM2.5 (2006 24-hour) | Nonattainment, Serious | 100 | 0 | -3.24 | -2.57 | -3.33 | -3.97 |
| Los Angeles-San Bernardino Counties (West Mojave Desert), CA | Ozone (2008 8-hour) | Nonattainment, Severe 15 | 25 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Los Angeles-South Coast Air Basin Area, CA | CO (1971 8-hour) | Maintenance, Serious | 100 | 0 | -3.25 | -2.58 | -3.33 | -3.98 |
| Los Angeles-South Coast Air Basin Area, CA | NO ₂ (1971 Annual) | Maintenance, -- | 100 | 0 | -3.25 | -2.58 | -3.33 | -3.98 |
| Los Angeles-South Coast Air Basin, CA | Ozone (2008 8-hour) | Nonattainment, Extreme | 10 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Los Angeles-South Coast Air Basin, CA | PM2.5 (2012 Annual) | Nonattainment, Moderate | 100 | 0 | -3.24 | -2.57 | -3.32 | -3.96 |
| Lowell Area, MA | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | -0.05 | -0.05 | -0.07 | -0.08 |
| Lucas County (part), OH | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Madison County; Granite City Township and Nameoki Township, IL | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.65 | 0.99 | 1.14 | 1.37 |
| Manchester Area, NH | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | -0.04 | -0.05 | -0.06 | -0.07 |
| Maricopa and Pinal Counties; Phoenix planning area, AZ | PM10 (1987 24-hour) | Nonattainment, Serious | 70 | 0 | -1.67 | -1.96 | -2.34 | -2.81 |
| Marion County; Lawrence, Washington, and Warrant Townships, IN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Mariposa County, CA | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Marshall, WV | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.04 | 0.06 | 0.07 | 0.09 |
| Medford Area, OR | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | -0.04 | -0.05 | -0.06 | -0.07 |
| Memphis Area, TN | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | -0.17 | -0.12 | -0.16 | -0.19 |

Table A1-61
Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Cumulative Impacts
Carbon Monoxide (CO) 2018

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|---|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Memphis, TN-MS-AR | Ozone (2008 8-hour) | Nonattainment TN & Maintenance MS/AR, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Miami, AZ | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | -0.01 | -0.01 | -0.01 | -0.01 |
| Miami, AZ | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Miami, AZ | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | -0.01 | -0.01 | -0.01 | -0.01 |
| Milwaukee-Racine, WI | PM2.5 (2006 24-hour) | Maintenance, -- | 100 | 0 | -0.55 | -0.64 | -0.77 | -0.92 |
| Minneapolis-St. Paul Area, MN | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | -1.03 | -1.09 | -1.32 | -1.59 |
| Missoula Area, MT | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | -0.02 | -0.02 | -0.03 | -0.03 |
| Missoula county; Missoula and vicinity, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | -0.02 | -0.02 | -0.03 | -0.03 |
| Modesto Area, CA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | -0.09 | -0.11 | -0.13 | -0.15 |
| Mohave County (part); Bullhead City, AZ | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | -0.04 | -0.05 | -0.06 | -0.07 |
| Mono County; Mammoth Lake planning area, CA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | -0.01 | -0.02 | -0.02 | -0.02 |
| Mono County; Mono Basin, CA | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Morenci, AZ | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Morgan County, IN | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | -0.02 | -0.02 | -0.02 | -0.03 |
| Morongo Band of Mission Indians | Ozone (2008 8-hour) | Nonattainment, Serious | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Morristown Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | -0.02 | -0.02 | -0.02 | -0.03 |
| Muscatine County; (part), IA | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Muscatine, IA | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | -0.01 | -0.01 | -0.01 | -0.02 |
| Muskingum River, OH | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | -0.01 | -0.01 |
| Nashua Area, NH | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | -0.03 | -0.04 | -0.05 | -0.06 |
| Nassau County, FL | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | -0.01 |
| Nevada County (Western part), CA | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| New Haven County, CT | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | -0.01 | -0.01 | -0.01 | -0.02 |

Appendix A Air Quality Non-Attainment Area Results

Table A1-61

Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Cumulative Impacts

Carbon Monoxide (CO) 2018

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| New Haven-Meriden-Waterbury Area, CT | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | -0.38 | -0.44 | -0.52 | -0.63 |
| New Manchester-Grant magisterial district in Hancock County, WV | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| New York County, NY | PM ₁₀ (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | -0.26 | -0.30 | -0.36 | -0.44 |
| New York, NY-NJ-CT | PM _{2.5} (2006 24-hour) | Maintenance, -- | 100 | 0 | -6.75 | -7.74 | -9.29 | -11.13 |
| New York-N. New Jersey-Long Island Area, NY-NJ-CT | CO (1971 8-hour) | Maintenance, Moderate > 12.7ppm | 100 | 0 | -3.85 | -4.46 | -5.34 | -6.40 |
| New York-N. New Jersey-Long Island, NY-NJ-CT | Ozone (2008 8-hour) | Nonattainment, Moderate | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| NJ portion of the Northeast Pennsylvania-Upper Delaware Valley Interstate AQCR: (part), NJ | SO ₂ (1971 24-hour/Annual) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Nogales, AZ | PM _{2.5} (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | -0.02 | -0.02 | -0.03 | -0.03 |
| Oakridge, OR | PM _{2.5} (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Ogden Area, UT | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | -0.03 | -0.03 | -0.04 | -0.04 |
| Ogden Area, UT | PM ₁₀ (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | -0.03 | -0.03 | -0.04 | -0.04 |
| Olmsted County; (part), MN | PM ₁₀ (1987 24-hour) | Maintenance, Moderate | 100 | 0 | -0.01 | -0.02 | -0.02 | -0.02 |
| Olmsted; City of Rochester, MN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |

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Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Cumulative Impacts
Carbon Monoxide (CO) 2018

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Pechanga Band of Luiseno Mission Indians of the Pechanga Reservation | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Pekin, IL | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | -0.02 | -0.02 | -0.03 | -0.03 |
| Penns Grove Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Peoria County: Hollis Twp, IL | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Peoria County: Peoria, IL | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Perth Amboy Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.28 | 0.44 | 0.50 | 0.60 |
| Philadelphia-Camden County Area, PA-NJ | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | -0.21 | -0.18 | -0.23 | -0.27 |
| Philadelphia-Wilmington, PA-NJ-DE | PM _{2.5} (2006 24-hour) | Maintenance, Moderate for PA and DE Subject to Former Subpart 1 for NJ | 100 | 0 | -0.51 | -0.12 | -0.24 | -0.28 |
| Philadelphia-Wilmington-Atlantic City, PA-NJ-MD-DE | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Phoenix Area, AZ | CO (1971 8-hour) | Maintenance, Serious | 100 | 0 | -1.60 | -1.88 | -2.25 | -2.69 |
| Phoenix-Mesa, AZ | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Pierce County; Tacoma, WA | PM ₁₀ (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Pima County; Ajo planning area, AZ | PM ₁₀ (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Pima County; Rillito planning area, AZ | PM ₁₀ (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | -0.03 | -0.03 | -0.04 | -0.05 |
| Pinal and Gila Counties; Payson, AZ | PM ₁₀ (1987 24-hour) | Maintenance, Moderate | 100 | 0 | -0.01 | -0.01 | -0.02 | -0.02 |
| Pinal County (part); West Pinal, AZ | PM ₁₀ (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | -0.18 | -0.21 | -0.25 | -0.30 |
| Pitkin County; Aspen, CO | PM ₁₀ (1987 24-hour) | Maintenance, Moderate | 100 | 0 | -0.01 | -0.01 | -0.02 | -0.02 |
| Pittsburgh Area, PA | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | -0.09 | -0.10 | -0.12 | -0.14 |
| Pittsburgh-Beaver Valley, PA | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Pittsburgh-Beaver Valley, PA | PM _{2.5} (2006 24-hour) | Maintenance, Moderate | 100 | 0 | -0.79 | -0.92 | -1.10 | -1.32 |
| Plumas County, CA | PM _{2.5} (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | -0.01 |
| Polk County, TN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |

Appendix A Air Quality Non-Attainment Area Results

Table A1-61

Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Cumulative Impacts

Carbon Monoxide (CO) 2018

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|-------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Portland Area: Portland Metro Service District Boundary, OR | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | -0.52 | -0.60 | -0.72 | -0.86 |
| Power-Bannock Counties; Fort Hall Indian Reservation, ID | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Power-Bannock Counties; Portneuf Valley Area, ID | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | -0.04 | -0.05 | -0.06 | -0.07 |
| Provo Area, UT | CO (1971 8-hour) | Maintenance, Moderate > 12.7ppm | 100 | 0 | -0.03 | -0.04 | -0.05 | -0.06 |
| Provo, UT | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | -0.18 | -0.21 | -0.25 | -0.30 |
| Prowers County; Lamar, CO | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | -0.01 | -0.01 | -0.01 | -0.01 |
| Raleigh-Durham Area, NC | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | -0.63 | -0.74 | -0.89 | -1.06 |
| Ramsey County; (part), MN | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Reading, PA | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Reno Area, NV | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | -0.15 | -0.18 | -0.21 | -0.26 |
| Rhinelander, WI | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | -0.02 | -0.02 | -0.02 | -0.03 |
| Riverside County (Coachella Valley), CA | Ozone (2008 8-hour) | Nonattainment, Severe 15 | 25 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Riverside County; Coachella Valley planning area, CA | PM10 (1987 24-hour) | Nonattainment, Serious | 70 | 0 | -0.25 | -0.29 | -0.35 | -0.42 |
| Riverside, Los Angeles, Orange, and San Bernardino Counties; South Coast Air Basin, CA | PM10 (1987 24-hour) | Maintenance, Serious | 100 | 0 | -3.21 | -2.54 | -3.28 | -3.92 |
| Rosebud County; Lame Deer, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | -0.01 | -0.01 | -0.01 | -0.01 |
| Routt County (part); Steamboat Springs, CO | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | -0.01 | -0.02 | -0.02 | -0.02 |
| Sacramento Area, CA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | -0.61 | -0.71 | -0.85 | -1.01 |
| Sacramento County, CA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | -0.56 | -0.65 | -0.78 | -0.94 |
| Sacramento Metro, CA | Ozone (2008 8-hour) | Nonattainment, Severe 15 | 25 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Sacramento, CA | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | -0.89 | -1.00 | -1.20 | -1.44 |
| Salem Area, OR | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | -0.11 | -0.13 | -0.16 | -0.19 |
| Salt Lake City Area, UT | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.49 | 0.77 | 0.88 | 1.06 |
| Salt Lake City, UT | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.47 | 0.96 | 1.07 | 1.28 |

Table A1-61

Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Cumulative Impacts
Carbon Monoxide (CO) 2018

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|---|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Salt Lake County, UT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.14 | 0.36 | 0.39 | 0.47 |
| Salt Lake County, UT | SO ₂ (1971 24-hour/Annual) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| San Bernardino County (part); excluding Searles Valley Planning area and South Coast Air Basin, CA | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | -0.29 | -0.34 | -0.41 | -0.49 |
| San Diego Area, CA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | -1.52 | -1.79 | -2.14 | -2.56 |
| San Diego County, CA | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| San Francisco Bay Area, CA | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| San Francisco Bay Area, CA | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | -2.66 | -3.01 | -3.62 | -4.34 |
| San Francisco-Oakland-San Jose Area, CA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | -2.40 | -2.71 | -3.27 | -3.91 |
| San Joaquin Valley Air Basin; Fresno, Kern, Kings, Madera, Merced, San Joaquin, Stanislaus, Tulare Counties, CA | PM10 (1987 24-hour) | Maintenance, Serious | 100 | 0 | -1.73 | -1.95 | -2.35 | -2.81 |
| San Joaquin Valley, CA | Ozone (2008 8-hour) | Nonattainment, Extreme | 10 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| San Joaquin Valley, CA | PM2.5 (2006 24-hour) | Nonattainment, Serious | 100 | 0 | -1.73 | -1.95 | -2.35 | -2.81 |
| San Joaquin Valley, CA | PM2.5 (2012 Annual) | Nonattainment, Moderate | 100 | 0 | -1.73 | -1.95 | -2.35 | -2.81 |
| San Luis Obispo (Eastern San Luis Obispo), CA | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| San Manuel, AZ | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| San Miguel County; Telluride, CO | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | -0.01 | -0.01 | -0.01 |
| Sanders County (part); Thompson Falls and vicinity, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Santa Cruz County; Nogales planning area, AZ | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | -0.02 | -0.02 | -0.03 | -0.03 |
| Seaford, DE | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Seattle-Tacoma Area, WA | CO (1971 8-hour) | Maintenance, Moderate > 12.7ppm | 100 | 0 | -1.26 | -1.48 | -1.76 | -2.11 |
| Seattle-Tacoma, WA | PM2.5 (2006 24-hour) | Maintenance, Moderate | 100 | 0 | -0.21 | -0.24 | -0.29 | -0.35 |
| Sheboygan County, WI | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |

Appendix A Air Quality Non-Attainment Area Results

Table A1-61

Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Cumulative Impacts

Carbon Monoxide (CO) 2018

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|---|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Sheridan County; City of Sheridan, WY | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | -0.01 | -0.01 | -0.02 | -0.02 |
| Shoshone County (part); excluding Pinehurst, ID | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | -0.02 | -0.02 | -0.03 | -0.03 |
| Shoshone County; City of Pinehurst, ID | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Silver Bow County; Butte, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | -0.02 | -0.02 | -0.03 | -0.03 |
| Somerville Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | -0.01 | -0.01 | -0.01 | -0.01 |
| Southwest Indiana, IN | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | -0.01 | -0.01 | -0.01 | -0.01 |
| Spokane Area, WA | CO (1971 8-hour) | Maintenance, Serious | 100 | 0 | -0.13 | -0.16 | -0.19 | -0.23 |
| Spokane County; (part), WA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | -0.14 | -0.16 | -0.19 | -0.23 |
| Springfield Area, MA | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | -0.07 | -0.09 | -0.10 | -0.12 |
| St. Bernard Parish, LA | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.23 | 0.35 | 0.40 | 0.48 |
| St. Louis Area, MO | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | -0.41 | -0.48 | -0.57 | -0.68 |
| St. Louis-St. Charles-Farmington, MO-IL | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Steubenville, OH-WV | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | -0.03 | -0.03 | -0.04 | -0.05 |
| Steubenville-Weirton, OH-WV | PM2.5 (2006 24-hour) | Maintenance, -- | 100 | 0 | -0.04 | -0.05 | -0.06 | -0.07 |
| Stockton Area, CA | CO (1971 8-hour) | Maintenance, Moderate ≤ 12.7ppm | 100 | 0 | -0.17 | -0.20 | -0.24 | -0.28 |
| Sullivan County, TN | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.63 | 0.96 | 1.10 | 1.32 |
| Syracuse Area; Onondaga County, NY | CO (1971 8-hour) | Maintenance, Moderate ≤ 12.7ppm | 100 | 0 | -0.25 | -0.29 | -0.35 | -0.42 |
| Tazewell County; Groveland Twp, IL | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Terre Haute, IN | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | -0.03 | -0.03 | -0.04 | -0.05 |

Table A1-61

Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Cumulative Impacts
Carbon Monoxide (CO) 2018

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|---|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Thurston County; Cities of Olympia, Tumwater, and Lacey, WA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | -0.05 | -0.06 | -0.07 | -0.08 |
| Toms River Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Tooele County (part), UT | SO ₂ (1971 24-hour/Annual) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Trenton Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | -0.04 | -0.05 | -0.05 | -0.07 |
| Trona, CA | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Tucson Area, AZ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | -0.38 | -0.45 | -0.54 | -0.65 |
| Tuscan Buttes, CA | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Union County; LaGrande, OR | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | -0.01 | -0.01 | -0.02 | -0.02 |
| Upper Green River Basin Area, WY | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Utah County, UT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | -0.18 | -0.21 | -0.25 | -0.30 |
| Vancouver Area: Clark County (part), WA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | -0.12 | -0.14 | -0.17 | -0.21 |
| Ventura County, CA | Ozone (2008 8-hour) | Nonattainment, Serious | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Vermillion County; Part of Clinton Township, IN | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | -0.01 | -0.01 | -0.01 | -0.01 |
| Vigo County, IN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Walla Walla County; Wallula, WA | PM10 (1987 24-hour) | Maintenance, Serious | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Waltham Area, MA | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | -0.03 | -0.03 | -0.04 | -0.04 |
| Warren County: Conewago Twp, PA | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Warren County: Warren Boro, Pleasant Twp, Glade Twp, PA | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Warren, PA | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.09 | 0.14 | 0.16 | 0.20 |
| Washington Area, DC-MD-VA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | -0.30 | -0.35 | -0.42 | -0.50 |
| Washington, DC-MD-VA | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Washoe County; Reno planning area, NV | PM10 (1987 24-hour) | Nonattainment, Serious | 70 | 0 | -0.15 | -0.18 | -0.21 | -0.26 |

Appendix A Air Quality Non-Attainment Area Results

Table A1-61

**Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Cumulative Impacts
Carbon Monoxide (CO) 2018**

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|---|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Wayne County: Boston, Center, Franklin, Wayne & Webster Townships, IN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Wayne County; (part), MI | PM ₁₀ (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.08 | 0.14 | 0.16 | 0.19 |
| West Central Pinal County, AZ | PM _{2.5} (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | -0.04 | -0.04 | -0.05 | -0.06 |
| West Silver Valley, ID | PM _{2.5} (2012 Annual) | Nonattainment, Moderate | 100 | 0 | -0.01 | -0.01 | -0.01 | -0.02 |
| Winston-Salem Area, NC | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | -0.17 | -0.20 | -0.24 | -0.28 |
| Worcester Area, MA | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | -0.10 | -0.12 | -0.14 | -0.17 |
| Yakima Area, WA | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | -0.02 | -0.02 | -0.02 | -0.03 |
| Yakima County; (part), WA | PM ₁₀ (1987 24-hour) | Maintenance, Moderate | 100 | 0 | -0.05 | -0.06 | -0.07 | -0.09 |
| Yuba City-Marysville, CA | PM _{2.5} (2006 24-hour) | Maintenance, Moderate | 100 | 0 | -0.09 | -0.10 | -0.12 | -0.14 |
| Yuma County; Yuma planning area, AZ | PM ₁₀ (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | -0.08 | -0.09 | -0.11 | -0.13 |

^a Reductions are shown as positive values. Negative values are emissions increases. Values of less than 0.005 tons per year are rounded to zero.

^b Nonattainment or maintenance status as of 5/13/2016. Source: U.S. EPA, The Green Book Nonattainment Areas for Criteria Pollutants; <http://www.epa.gov/airquality/greenbook/>. "--" indicates that no severity classification has been established for the NAAQS pollutant.

^c Emissions thresholds in tons per year. Where the threshold differs by precursor pollutant, the smallest of the precursor thresholds is shown. These thresholds are provided for information only; a general conformity determination is not required for the Proposed Action. Source: 40 CFR 93.853.

Notes: CO = carbon monoxide; NAAQS = National Ambient Air Quality Standards; NO₂ = nitrogen dioxide; PM = particulate matter; SO₂ = sulfur dioxide

Table A1-62
Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Cumulative Impacts
Carbon Monoxide (CO) 2025

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Ada County; Boise, ID | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 5.44 | 8.63 | 17.49 | 21.63 |
| Adams, Denver, and Boulder Counties; Denver Metropolitan area, CO | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 24.40 | 37.81 | 80.43 | 98.55 |
| Ajo, AZ | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Albuquerque Area, NM | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 12.52 | 20.50 | 38.58 | 48.44 |
| Allegheny County Air Basin: Hazelwood monitor, PA | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Allegheny County, PA | PM2.5 (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 13.73 | 21.48 | 44.75 | 55.05 |
| Allegheny County; The area including Liberty, Lincoln, Port Vue, and Glassport Boroughs and the City of Clairton, PA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.20 | 0.32 | 0.62 | 0.77 |
| Allegheny, PA | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 1.21 | 1.90 | 3.90 | 4.81 |
| Allentown, PA | PM2.5 (2006 24-hour) | Maintenance, Moderate | 100 | 0 | 9.39 | 14.73 | 30.50 | 37.56 |
| Allentown-Bethlehem-Easton, PA | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Anchorage Area, AK | CO (1971 8-hour) | Maintenance, Serious | 100 | 0 | 1.83 | 2.89 | 5.89 | 7.28 |
| Anchorage; Eagle River, AK | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.12 | 0.20 | 0.38 | 0.47 |
| AQCR 012: Portions of Grant County, NM | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| AQCR 109-Millinocket, ME | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| AQCR 131: Anoka, Carver, Dakota, Hennepin, Ramsey, Scott, and Washington counties (Minneapolis-St. Paul), MN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| AQCR 237: Brown County: Green Bay sub-city area, WI | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| AQCR 238: Marathon County: Rothschild Sub-city area, Rib Mountain, Weston, WI | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| AQCR 238: Oneida County: Rhinelander Sub-city area, WI | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| AQCR 239: Milwaukee County: Milwaukee sub-city area, WI | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |

Appendix A Air Quality Non-Attainment Area Results

Table A1-62

Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Cumulative Impacts

Carbon Monoxide (CO) 2025

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| AQCR 240: Dane County: Madison sub-city area, WI | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Archuleta County; Pagosa Springs, CO | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.38 | 0.59 | 1.25 | 1.53 |
| Armstrong County: Madison Twp, Mahoning Twp, Boggs Twp, Washington Twp, Pine Twp, PA | SO ₂ (1971 24-hour/Annual) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Aroostock County; City of Presque Isle, ME | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.23 | 0.35 | 0.75 | 0.92 |
| Atlanta, GA | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Atlantic City Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.87 | 1.35 | 2.88 | 3.53 |
| Bakersfield Area, CA | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 13.57 | 23.52 | 38.67 | 50.03 |
| Baltimore Area, MD | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.21 | 0.34 | 0.66 | 0.83 |
| Baltimore, MD | Ozone (2008 8-hour) | Nonattainment, Moderate | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Baton Rouge, LA | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Beaver, PA | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.23 | 0.36 | 0.77 | 0.95 |
| Benton County; (part) TVA Johnsonville, TN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Billings Area, MT | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 10.96 | 21.37 | 25.47 | 35.86 |
| Billings, MT | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 9.60 | 19.26 | 20.96 | 30.35 |
| Birmingham, AL | PM2.5 (2006 24-hour) | Maintenance, -- | 100 | 0 | 20.81 | 32.36 | 68.34 | 83.85 |
| Boise-Northern Ada County Area, ID | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 5.44 | 8.63 | 17.49 | 21.63 |
| Bonner County; The Sandpoint Area, ID | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.17 | 0.26 | 0.56 | 0.68 |
| Boston Area, MA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 12.63 | 19.90 | 40.81 | 50.35 |
| Boyd County (part), KY | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Brooke; Follansbee area, WV | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.01 | 0.02 | 0.04 | 0.05 |
| Burlington Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.14 | 0.21 | 0.45 | 0.56 |
| Calaveras County, CA | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Campbell-Clermont Counties, KY-OH | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.58 | 0.89 | 1.90 | 2.33 |

Table A1-62
Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Cumulative Impacts
Carbon Monoxide (CO) 2025

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|---|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Canton-Massillon, OH | PM2.5 (2006 24-hour) | Maintenance, -- | 100 | 0 | 12.17 | 21.58 | 33.49 | 43.93 |
| Central New Hampshire, NH | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 3.51 | 5.45 | 11.58 | 14.19 |
| Central Steptoe Valley, NV | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Charleston, WV | PM2.5 (2006 24-hour) | Maintenance, -- | 100 | 0 | 5.92 | 9.18 | 19.52 | 23.92 |
| Charlotte Area, NC | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 20.47 | 31.72 | 67.47 | 82.67 |
| Charlotte-Rock Hill, NC-SC | Ozone (2008 8-hour) | Maintenance, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Chicago-Naperville, IL-IN-WI | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Chico (Butte County), CA | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Chico Area, CA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 1.38 | 2.14 | 4.55 | 5.58 |
| Chico, CA | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 3.13 | 4.86 | 10.33 | 12.66 |
| Cincinnati, OH-KY-IN | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Clark County; Las Vegas planning area, NV | PM10 (1987 24-hour) | Maintenance, Serious | 100 | 0 | 25.46 | 39.45 | 83.92 | 102.82 |
| Cleveland Area, OH | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 15.25 | 23.64 | 50.28 | 61.61 |
| Cleveland, OH | PM2.5 (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 19.90 | 30.84 | 65.61 | 80.39 |
| Cleveland-Akron-Lorain, OH | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Cleveland-Akron-Lorain, OH | PM2.5 (2006 24-hour) | Maintenance, -- | 100 | 0 | 43.62 | 67.60 | 143.81 | 176.20 |
| Cochise County; Paul Spur/Douglas planning area, AZ | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.66 | 1.03 | 2.19 | 2.68 |
| Colorado Springs Area, CO | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 9.42 | 14.93 | 30.22 | 37.39 |
| Columbus, OH | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Cook County; Lyons Township, IL | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 1.68 | 2.84 | 4.94 | 6.31 |
| Cook County; Southeast Chicago, IL | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 1.94 | 3.24 | 5.80 | 7.36 |
| Coshocton County; Franklin Township, OH | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Coso Junction, CA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Cuyahoga County (part), OH | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Cuyahoga County, OH | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 15.19 | 23.54 | 50.08 | 61.36 |

Appendix A Air Quality Non-Attainment Area Results

Table A1-62

**Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Cumulative Impacts
Carbon Monoxide (CO) 2025**

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Dallas-Fort Worth, TX | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Delaware County, PA | PM2.5 (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 21.53 | 40.70 | 53.16 | 72.92 |
| Denver-Boulder Area, CO | CO (1971 8-hour) | Maintenance, Serious | 100 | 0 | 50.82 | 83.30 | 156.44 | 196.52 |
| Denver-Boulder-Greeley-Ft Collins-Loveland, CO | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Detroit Area, MI | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 29.19 | 46.50 | 93.17 | 115.50 |
| Detroit, MI | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 7.36 | 12.64 | 21.27 | 27.37 |
| Detroit-Ann Arbor, MI | PM2.5 (2006 24-hour) | Maintenance, -- | 100 | 0 | 83.20 | 130.23 | 271.15 | 333.60 |
| Dona Ana County; Anthony, NM | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.17 | 0.26 | 0.56 | 0.69 |
| Douglas, AZ | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Dukes County, MA | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Duluth Area, MN | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 1.78 | 2.76 | 5.86 | 7.18 |
| East Chicago Area, IN | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 25.66 | 51.38 | 56.33 | 81.35 |
| East Helena Area, MT | SO ₂ (1971 24-hour/Annual) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| East Kern County Area, CA | PM10 (1987 24-hour) | Nonattainment, Serious | 70 | 0 | 5.97 | 11.74 | 13.60 | 19.32 |
| El Paso County, TX | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 9.81 | 16.49 | 29.21 | 37.16 |
| El Paso, TX | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 3.00 | 5.86 | 6.95 | 9.80 |
| Eugene-Springfield Area, OR | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 3.63 | 5.63 | 11.98 | 14.67 |
| Fairbanks Area, AK | CO (1971 8-hour) | Maintenance, Serious | 100 | 0 | 1.24 | 2.38 | 3.00 | 4.16 |
| Fairbanks, AK | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 1.62 | 2.96 | 4.22 | 5.66 |

Table A1-62
Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Cumulative Impacts
Carbon Monoxide (CO) 2025

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|---|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Flathead County; Columbia Falls and vicinity, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.03 | 0.04 | 0.09 | 0.12 |
| Flathead County; Kalispell and vicinity, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.59 | 0.92 | 1.95 | 2.39 |
| Flathead County; Whitefish and vicinity, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.08 | 0.12 | 0.25 | 0.30 |
| Fort Collins Area, CO | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 1.93 | 2.99 | 6.35 | 7.78 |
| Freehold Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.38 | 0.59 | 1.26 | 1.55 |
| Fremont County; Canon City Area, CO | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.64 | 0.99 | 2.11 | 2.59 |
| Fresno Area, CA | CO (1971 8-hour) | Maintenance, Moderate > 12.7ppm | 100 | 0 | 9.37 | 14.69 | 30.46 | 37.50 |
| Grants Pass Area, OR | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.69 | 1.07 | 2.28 | 2.79 |
| Great Falls Area, MT | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.79 | 1.58 | 1.72 | 2.48 |
| Greater Connecticut, CT | Ozone (2008 8-hour) | Nonattainment, Moderate | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Greeley Area, CO | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 6.87 | 10.95 | 21.91 | 27.17 |
| Hancock and Brooke Counties (Part); The city of Weirton, WV | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.43 | 0.77 | 1.14 | 1.51 |
| Hancock County (Part) The city of Weirton, including Butler and Clay: Magisterial Districts, WV | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Harrisburg-Lebanon-Carlisle-York, PA | PM2.5 (2006 24-hour) | Maintenance, Moderate | 100 | 0 | 21.01 | 32.73 | 68.87 | 84.55 |
| Hartford-New Britain-Middletown Area, CT | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 18.18 | 28.18 | 59.94 | 73.44 |
| Hayden, AZ | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.06 | 0.09 | 0.19 | 0.24 |
| Hayden, AZ | SO ₂ (1971 24-hour/Annual) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Hayden, AZ | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.04 | 0.06 | 0.14 | 0.17 |
| Hillsborough County, FL | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.26 | 0.42 | 0.84 | 1.04 |
| Houston-Galveston-Brazoria, TX | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Humphreys County; (part) TVA Johnsonville, TN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Imperial Co, CA | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 3.36 | 5.21 | 11.09 | 13.59 |

Appendix A Air Quality Non-Attainment Area Results

Table A1-62

Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Cumulative Impacts

Carbon Monoxide (CO) 2025

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Imperial County, CA | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Imperial County, CA | PM2.5 (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 3.36 | 5.21 | 11.09 | 13.59 |
| Imperial County; Imperial Valley planning area, CA | PM10 (1987 24-hour) | Nonattainment, Serious | 70 | 0 | 4.10 | 6.36 | 13.53 | 16.58 |
| Indian Wells, CA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 5.95 | 11.72 | 13.57 | 19.27 |
| Indiana, PA | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 1.50 | 2.33 | 4.96 | 6.08 |
| Indianapolis Area, IN | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.03 | 0.04 | 0.09 | 0.11 |
| Indianapolis, IN | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 7.87 | 12.19 | 25.93 | 31.78 |
| Inyo County; Owens Valley planning area, CA | PM10 (1987 24-hour) | Nonattainment, Serious | 70 | 0 | 0.13 | 0.19 | 0.41 | 0.51 |
| Jackson County, MO | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.88 | 1.36 | 2.87 | 3.53 |
| Jackson County; Medford-Ashland (including White City), OR | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 3.00 | 4.65 | 9.89 | 12.12 |
| Jamestown, NY | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Jefferson County, KY | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Jefferson County, MO | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.84 | 1.30 | 2.77 | 3.39 |
| Jefferson County; (part) Steubenville & Mingo Junction, OH | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Jefferson County; (part), OH | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.08 | 0.12 | 0.26 | 0.32 |
| Johnstown, PA | PM2.5 (2006 24-hour) | Maintenance, Moderate | 100 | 0 | 2.01 | 3.12 | 6.63 | 8.13 |
| Josephine County; Grants Pass, OR | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.69 | 1.07 | 2.28 | 2.79 |
| Juneau; Mendenhall Valley area, AK | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.14 | 0.21 | 0.46 | 0.56 |
| Kern County (Eastern Kern), CA | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| King County; Kent, WA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.34 | 0.53 | 1.13 | 1.38 |
| King County; Seattle, WA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.15 | 0.23 | 0.48 | 0.59 |
| Klamath County; Klamath Falls, OR | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 1.08 | 1.67 | 3.54 | 4.34 |
| Klamath Falls Area, OR | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 1.06 | 1.65 | 3.51 | 4.30 |
| Klamath Falls, OR | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 1.17 | 1.81 | 3.85 | 4.71 |

Table A1-62
Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Cumulative Impacts
Carbon Monoxide (CO) 2025

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Knoxville, TN | Ozone (2008 8-hour) | Maintenance, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Knoxville-Sevierville-La Follette, TN | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 16.06 | 24.88 | 52.94 | 64.86 |
| La Porte County: (part), IN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lake County (part); Lakeview, OR | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.09 | 0.14 | 0.30 | 0.37 |
| Lake County, OH | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 4.39 | 6.80 | 14.47 | 17.73 |
| Lake County: (part), IN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lake County; (part) Eastlake, Timberlake, Lakeline, Willoughby, Mentor, OH | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lake County; Cities of East Chicago, Hammond, Whiting, and Gary, IN | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 28.36 | 55.61 | 65.17 | 92.23 |
| Lake County; Polson, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.03 | 0.05 | 0.11 | 0.14 |
| Lake County; Ronan, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lake Tahoe Nevada Area, NV | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.29 | 0.46 | 0.97 | 1.19 |
| Lake Tahoe North Shore Area, CA | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.17 | 0.27 | 0.57 | 0.69 |
| Lake Tahoe South Shore Area, CA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.48 | 0.75 | 1.59 | 1.95 |
| Lancaster, PA | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lancaster, PA | PM2.5 (2006 24-hour) | Maintenance, Moderate | 100 | 0 | 8.42 | 13.05 | 27.75 | 34.00 |
| Lane County (part); Oakridge, OR | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.04 | 0.06 | 0.12 | 0.15 |
| Lane County; Eugene/Springfield, OR | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 3.63 | 5.63 | 11.98 | 14.67 |
| Las Vegas Area, NV | CO (1971 8-hour) | Maintenance, Serious | 100 | 0 | 25.39 | 39.35 | 83.70 | 102.56 |
| LaSalle County; Oglesby, IL | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.57 | 0.89 | 1.89 | 2.32 |
| Laurel Area, MT | SO ₂ (1971 24-hour/Annual) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lebanon County, PA | PM2.5 (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 2.90 | 4.50 | 9.56 | 11.72 |
| Lemont, IL | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 55.38 | 110.08 | 123.60 | 177.20 |
| Liberty-Clairton, PA | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.20 | 0.32 | 0.62 | 0.77 |

Appendix A Air Quality Non-Attainment Area Results

Table A1-62

Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Cumulative Impacts

Carbon Monoxide (CO) 2025

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|---------------------------------------|--|---|---|--------|--------------------|--------|----------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Lincoln County; Libby and vicinity, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.10 | 0.15 | 0.32 | 0.40 |
| Logan, UT-ID | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 1.49 | 2.30 | 4.90 | 6.00 |
| Longmont Area, CO | CO (1971 8-hour) | Maintenance, Moderate ≤ 12.7ppm | 100 | 0 | 1.21 | 1.87 | 3.98 | 4.87 |
| Lorain County (part), OH | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Los Angeles, CA | PM2.5 (2006 24-hour) | Nonattainment, Serious | 100 | 0 | 328.54 | 548.27 | 987.87 | 1,251.97 |
| Los Angeles-San Bernardino Counties (West Mojave Desert), CA | Ozone (2008 8-hour) | Nonattainment, Severe 15 | 25 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Los Angeles-South Coast Air Basin Area, CA | CO (1971 8-hour) | Maintenance, Serious | 100 | 0 | 328.70 | 548.53 | 988.42 | 1,252.64 |
| Los Angeles-South Coast Air Basin Area, CA | NO ₂ (1971 Annual) | Maintenance, -- | 100 | 0 | 328.71 | 548.53 | 988.44 | 1,252.66 |
| Los Angeles-South Coast Air Basin, CA | Ozone (2008 8-hour) | Nonattainment, Extreme | 10 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Los Angeles-South Coast Air Basin, CA | PM2.5 (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 328.30 | 547.91 | 987.11 | 1,251.02 |
| Lowell Area, MA | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 1.65 | 2.55 | 5.43 | 6.66 |
| Lucas County (part), OH | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Madison County; Granite City Township and Nameoki Township, IL | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 16.48 | 32.74 | 36.84 | 52.78 |
| Manchester Area, NH | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 1.42 | 2.20 | 4.68 | 5.74 |
| Maricopa and Pinal Counties; Phoenix planning area, AZ | PM10 (1987 24-hour) | Nonattainment, Serious | 70 | 0 | 58.48 | 90.63 | 192.79 | 236.22 |
| Marion County; Lawrence, Washington, and Warrant Townships, IN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Mariposa County, CA | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Marshall, WV | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 1.27 | 2.45 | 3.00 | 4.19 |
| Medford Area, OR | CO (1971 8-hour) | Maintenance, Moderate ≤ 12.7ppm | 100 | 0 | 1.54 | 2.39 | 5.08 | 6.22 |
| Memphis Area, TN | CO (1971 8-hour) | Maintenance, Moderate ≤ 12.7ppm | 100 | 0 | 19.90 | 33.39 | 59.40 | 75.49 |

Table A1-62
Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Cumulative Impacts
Carbon Monoxide (CO) 2025

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|---|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Memphis, TN-MS-AR | Ozone (2008 8-hour) | Nonattainment TN & Maintenance MS/AR, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Miami, AZ | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.21 | 0.33 | 0.70 | 0.86 |
| Miami, AZ | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Miami, AZ | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.21 | 0.33 | 0.70 | 0.86 |
| Milwaukee-Racine, WI | PM2.5 (2006 24-hour) | Maintenance, -- | 100 | 0 | 19.25 | 29.83 | 63.45 | 77.74 |
| Minneapolis-St. Paul Area, MN | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 58.54 | 94.78 | 183.10 | 228.66 |
| Missoula Area, MT | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 1.89 | 3.12 | 5.75 | 7.25 |
| Missoula county; Missoula and vicinity, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 1.81 | 2.99 | 5.51 | 6.95 |
| Modesto Area, CA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 3.23 | 5.03 | 10.60 | 13.01 |
| Mohave County (part); Bullhead City, AZ | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 1.51 | 2.34 | 4.99 | 6.11 |
| Mono County; Mammoth Lake planning area, CA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.48 | 0.75 | 1.60 | 1.96 |
| Mono County; Mono Basin, CA | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.04 | 0.06 | 0.12 | 0.15 |
| Morenci, AZ | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Morgan County, IN | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.58 | 0.90 | 1.92 | 2.36 |
| Morongo Band of Mission Indians | Ozone (2008 8-hour) | Nonattainment, Serious | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Morristown Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.64 | 1.00 | 2.11 | 2.59 |
| Muscatine County; (part), IA | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Muscatine, IA | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.32 | 0.50 | 1.07 | 1.31 |
| Muskingum River, OH | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.13 | 0.20 | 0.43 | 0.52 |
| Nashua Area, NH | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 1.22 | 1.90 | 4.04 | 4.95 |
| Nassau County, FL | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.09 | 0.14 | 0.30 | 0.37 |
| Nevada County (Western part), CA | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| New Haven County, CT | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.34 | 0.54 | 1.12 | 1.38 |

Appendix A Air Quality Non-Attainment Area Results

Table A1-62

Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Cumulative Impacts

Carbon Monoxide (CO) 2025

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|---------------------------------------|--|---|---|--------|--------------------|--------|----------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| New Haven-Meriden-Waterbury Area, CT | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 14.34 | 22.43 | 46.80 | 57.55 |
| New Manchester-Grant magisterial district in Hancock County, WV | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| New York County, NY | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 9.14 | 14.17 | 30.14 | 36.93 |
| New York, NY-NJ-CT | PM2.5 (2006 24-hour) | Maintenance, -- | 100 | 0 | 268.27 | 421.52 | 870.29 | 1,072.47 |
| New York-N. New Jersey-Long Island Area, NY-NJ-CT | CO (1971 8-hour) | Maintenance, Moderate > 12.7ppm | 100 | 0 | 146.46 | 229.04 | 477.77 | 587.60 |
| New York-N. New Jersey-Long Island, NY-NJ-CT | Ozone (2008 8-hour) | Nonattainment, Moderate | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| NJ portion of the Northeast Pennsylvania-Upper Delaware Valley Interstate AQCR: (part), NJ | SO ₂ (1971 24-hour/Annual) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Nogales, AZ | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.73 | 1.14 | 2.42 | 2.96 |
| Oakridge, OR | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.04 | 0.06 | 0.12 | 0.15 |
| Ogden Area, UT | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.89 | 1.39 | 2.95 | 3.61 |
| Ogden Area, UT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.89 | 1.39 | 2.95 | 3.61 |
| Olmsted County; (part), MN | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.46 | 0.71 | 1.51 | 1.85 |
| Olmsted; City of Rochester, MN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |

Table A1-62
Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Cumulative Impacts
Carbon Monoxide (CO) 2025

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Pechanga Band of Luiseno Mission Indians of the Pechanga Reservation | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Pekin, IL | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.64 | 1.00 | 2.12 | 2.60 |
| Penns Grove Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Peoria County: Hollis Twp, IL | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Peoria County: Peoria, IL | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Perth Amboy Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 9.17 | 17.66 | 21.82 | 30.41 |
| Philadelphia-Camden County Area, PA-NJ | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 19.93 | 33.16 | 60.19 | 76.16 |
| Philadelphia-Wilmington, PA-NJ-DE | PM _{2.5} (2006 24-hour) | Maintenance, Moderate for PA and DE Subject to Former Subpart 1 for NJ | 100 | 0 | 101.90 | 173.25 | 298.65 | 382.20 |
| Philadelphia-Wilmington-Atlantic City, PA-NJ-MD-DE | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Phoenix Area, AZ | CO (1971 8-hour) | Maintenance, Serious | 100 | 0 | 56.00 | 86.79 | 184.62 | 226.21 |
| Phoenix-Mesa, AZ | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Pierce County; Tacoma, WA | PM ₁₀ (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.03 | 0.05 | 0.11 | 0.14 |
| Pima County; Ajo planning area, AZ | PM ₁₀ (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.01 | 0.02 | 0.04 | 0.05 |
| Pima County; Rillito planning area, AZ | PM ₁₀ (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.99 | 1.53 | 3.26 | 3.99 |
| Pinal and Gila Counties; Payson, AZ | PM ₁₀ (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.44 | 0.68 | 1.44 | 1.77 |
| Pinal County (part); West Pinal, AZ | PM ₁₀ (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 6.43 | 9.97 | 21.20 | 25.98 |
| Pitkin County; Aspen, CO | PM ₁₀ (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.40 | 0.63 | 1.33 | 1.63 |
| Pittsburgh Area, PA | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 3.26 | 5.11 | 10.60 | 13.05 |
| Pittsburgh-Beaver Valley, PA | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Pittsburgh-Beaver Valley, PA | PM _{2.5} (2006 24-hour) | Maintenance, Moderate | 100 | 0 | 29.20 | 45.53 | 95.57 | 117.40 |
| Plumas County, CA | PM _{2.5} (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 0.10 | 0.16 | 0.34 | 0.42 |
| Polk County, TN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |

Appendix A Air Quality Non-Attainment Area Results

Table A1-62

Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Cumulative Impacts

Carbon Monoxide (CO) 2025

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|-------------------------------|--|---|---|--------|--------------------|--------|----------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Portland Area: Portland Metro Service District Boundary, OR | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 18.88 | 29.38 | 61.91 | 75.99 |
| Power-Bannock Counties; Fort Hall Indian Reservation, ID | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Power-Bannock Counties; Portneuf Valley Area, ID | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 1.46 | 2.26 | 4.81 | 5.89 |
| Provo Area, UT | CO (1971 8-hour) | Maintenance, Moderate > 12.7ppm | 100 | 0 | 1.20 | 1.87 | 3.92 | 4.82 |
| Provo, UT | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 6.39 | 9.92 | 21.04 | 25.79 |
| Prowers County; Lamar, CO | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.29 | 0.44 | 0.94 | 1.15 |
| Raleigh-Durham Area, NC | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 22.12 | 34.28 | 72.92 | 89.35 |
| Ramsey County; (part), MN | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.05 | 0.09 | 0.17 | 0.21 |
| Reading, PA | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Reno Area, NV | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 5.28 | 8.18 | 17.40 | 21.32 |
| Rhinelander, WI | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.57 | 0.89 | 1.89 | 2.32 |
| Riverside County (Coachella Valley), CA | Ozone (2008 8-hour) | Nonattainment, Severe 15 | 25 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Riverside County; Coachella Valley planning area, CA | PM10 (1987 24-hour) | Nonattainment, Serious | 70 | 0 | 8.48 | 13.14 | 27.96 | 34.26 |
| Riverside, Los Angeles, Orange, and San Bernardino Counties; South Coast Air Basin, CA | PM10 (1987 24-hour) | Maintenance, Serious | 100 | 0 | 327.48 | 546.63 | 984.39 | 1,247.69 |
| Rosebud County; Lame Deer, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.25 | 0.39 | 0.82 | 1.00 |
| Routt County (part); Steamboat Springs, CO | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.48 | 0.75 | 1.59 | 1.94 |
| Sacramento Area, CA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 21.97 | 34.23 | 71.97 | 88.38 |
| Sacramento County, CA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 19.91 | 30.91 | 65.50 | 80.31 |
| Sacramento Metro, CA | Ozone (2008 8-hour) | Nonattainment, Severe 15 | 25 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Sacramento, CA | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 41.05 | 65.37 | 131.09 | 162.47 |
| Salem Area, OR | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 3.95 | 6.12 | 13.03 | 15.96 |
| Salt Lake City Area, UT | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 15.77 | 30.50 | 37.27 | 52.09 |
| Salt Lake City, UT | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 53.21 | 95.21 | 144.39 | 190.46 |

Table A1-62
Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Cumulative Impacts
Carbon Monoxide (CO) 2025

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|---|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Salt Lake County, UT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 28.22 | 49.79 | 78.30 | 102.38 |
| Salt Lake County, UT | SO ₂ (1971 24-hour/Annual) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| San Bernardino County (part); excluding Searles Valley Planning area and South Coast Air Basin, CA | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 9.83 | 15.24 | 32.35 | 39.66 |
| San Diego Area, CA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 53.65 | 83.20 | 176.75 | 216.62 |
| San Diego County, CA | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| San Francisco Bay Area, CA | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| San Francisco Bay Area, CA | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 112.45 | 177.77 | 362.17 | 447.47 |
| San Francisco-Oakland-San Jose Area, CA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 103.47 | 163.85 | 332.57 | 411.21 |
| San Joaquin Valley Air Basin; Fresno, Kern, Kings, Madera, Merced, San Joaquin, Stanislaus, Tulare Counties, CA | PM10 (1987 24-hour) | Maintenance, Serious | 100 | 0 | 76.18 | 120.82 | 244.41 | 302.40 |
| San Joaquin Valley, CA | Ozone (2008 8-hour) | Nonattainment, Extreme | 10 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| San Joaquin Valley, CA | PM2.5 (2006 24-hour) | Nonattainment, Serious | 100 | 0 | 76.16 | 120.79 | 244.35 | 302.33 |
| San Joaquin Valley, CA | PM2.5 (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 76.16 | 120.79 | 244.35 | 302.33 |
| San Luis Obispo (Eastern San Luis Obispo), CA | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| San Manuel, AZ | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| San Miguel County; Telluride, CO | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.16 | 0.24 | 0.52 | 0.64 |
| Sanders County (part); Thompson Falls and vicinity, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.01 | 0.01 |
| Santa Cruz County; Nogales planning area, AZ | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.73 | 1.14 | 2.42 | 2.96 |
| Seaford, DE | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Seattle-Tacoma Area, WA | CO (1971 8-hour) | Maintenance, Moderate > 12.7ppm | 100 | 0 | 44.00 | 68.19 | 145.06 | 177.73 |
| Seattle-Tacoma, WA | PM2.5 (2006 24-hour) | Maintenance, Moderate | 100 | 0 | 7.14 | 11.06 | 23.53 | 28.83 |
| Sheboygan County, WI | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |

Appendix A Air Quality Non-Attainment Area Results

Table A1-62

Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Cumulative Impacts

Carbon Monoxide (CO) 2025

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|---|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Sheridan County; City of Sheridan, WY | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.41 | 0.63 | 1.35 | 1.65 |
| Shoshone County (part); excluding Pinehurst, ID | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.69 | 1.07 | 2.27 | 2.78 |
| Shoshone County; City of Pinehurst, ID | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Silver Bow County; Butte, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.65 | 1.01 | 2.16 | 2.64 |
| Somerville Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.28 | 0.44 | 0.93 | 1.14 |
| Southwest Indiana, IN | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.18 | 0.28 | 0.60 | 0.74 |
| Spokane Area, WA | CO (1971 8-hour) | Maintenance, Serious | 100 | 0 | 4.65 | 7.21 | 15.33 | 18.78 |
| Spokane County; (part), WA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 4.79 | 7.42 | 15.79 | 19.34 |
| Springfield Area, MA | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 2.59 | 4.01 | 8.53 | 10.46 |
| St. Bernard Parish, LA | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 5.86 | 11.63 | 13.15 | 18.81 |
| St. Louis Area, MO | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 14.09 | 21.84 | 46.43 | 56.90 |
| St. Louis-St. Charles-Farmington, MO-IL | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Steubenville, OH-WV | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 1.03 | 1.59 | 3.38 | 4.14 |
| Steubenville-Weirton, OH-WV | PM2.5 (2006 24-hour) | Maintenance, -- | 100 | 0 | 2.18 | 3.49 | 6.93 | 8.60 |
| Stockton Area, CA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 5.94 | 9.23 | 19.54 | 23.96 |
| Sullivan County, TN | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 15.29 | 30.52 | 33.77 | 48.63 |
| Syracuse Area; Onondaga County, NY | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 8.68 | 13.46 | 28.63 | 35.07 |
| Tazewell County; Groveland Twp, IL | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Terre Haute, IN | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.92 | 1.42 | 3.02 | 3.70 |

Table A1-62
Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Cumulative Impacts
Carbon Monoxide (CO) 2025

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|---|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Thurston County; Cities of Olympia, Tumwater, and Lacey, WA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 1.63 | 2.52 | 5.36 | 6.57 |
| Toms River Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.08 | 0.12 | 0.26 | 0.32 |
| Tooele County (part), UT | SO ₂ (1971 24-hour/Annual) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Trenton Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 1.37 | 2.13 | 4.53 | 5.55 |
| Trona, CA | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.01 | 0.02 | 0.04 | 0.05 |
| Tucson Area, AZ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 13.52 | 20.95 | 44.56 | 54.59 |
| Tuscan Buttes, CA | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Union County; LaGrande, OR | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.44 | 0.68 | 1.46 | 1.78 |
| Upper Green River Basin Area, WY | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Utah County, UT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 6.39 | 9.92 | 21.04 | 25.80 |
| Vancouver Area: Clark County (part), WA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 4.31 | 6.68 | 14.21 | 17.41 |
| Ventura County, CA | Ozone (2008 8-hour) | Nonattainment, Serious | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Vermillion County; Part of Clinton Township, IN | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.33 | 0.51 | 1.09 | 1.34 |
| Vigo County, IN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Walla Walla County; Wallula, WA | PM10 (1987 24-hour) | Maintenance, Serious | 100 | 0 | 0.07 | 0.10 | 0.22 | 0.27 |
| Waltham Area, MA | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.90 | 1.39 | 2.95 | 3.62 |
| Warren County: Conewago Twp, PA | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Warren County: Warren Boro, Pleasant Twp, Glade Twp, PA | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Warren, PA | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 2.75 | 5.35 | 6.40 | 9.00 |
| Washington Area, DC-MD-VA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 10.51 | 16.29 | 34.66 | 42.47 |
| Washington, DC-MD-VA | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Washoe County; Reno planning area, NV | PM10 (1987 24-hour) | Nonattainment, Serious | 70 | 0 | 5.24 | 8.12 | 17.27 | 21.16 |

Appendix A Air Quality Non-Attainment Area Results

Table A1-62

**Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Cumulative Impacts
Carbon Monoxide (CO) 2025**

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|---|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Wayne County: Boston, Center, Franklin, Wayne & Webster Townships, IN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Wayne County; (part), MI | PM ₁₀ (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 3.82 | 7.14 | 9.61 | 13.07 |
| West Central Pinal County, AZ | PM _{2.5} (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 1.32 | 2.04 | 4.34 | 5.31 |
| West Silver Valley, ID | PM _{2.5} (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 0.35 | 0.54 | 1.15 | 1.41 |
| Winston-Salem Area, NC | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 5.91 | 9.15 | 19.47 | 23.86 |
| Worcester Area, MA | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 3.57 | 5.54 | 11.78 | 14.44 |
| Yakima Area, WA | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.62 | 0.97 | 2.06 | 2.52 |
| Yakima County; (part), WA | PM ₁₀ (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 1.82 | 2.82 | 6.00 | 7.36 |
| Yuba City-Marysville, CA | PM _{2.5} (2006 24-hour) | Maintenance, Moderate | 100 | 0 | 3.03 | 4.70 | 9.99 | 12.24 |
| Yuma County; Yuma planning area, AZ | PM ₁₀ (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 2.62 | 4.06 | 8.64 | 10.59 |

^a Reductions are shown as positive values. Negative values are emissions increases. Values of less than 0.005 tons per year are rounded to zero.

^b Nonattainment or maintenance status as of 5/13/2016. Source: U.S. EPA, The Green Book Nonattainment Areas for Criteria Pollutants; <http://www.epa.gov/airquality/greenbook/>. "--" indicates that no severity classification has been established for the NAAQS pollutant.

^c Emissions thresholds in tons per year. Where the threshold differs by precursor pollutant, the smallest of the precursor thresholds is shown. These thresholds are provided for information only; a general conformity determination is not required for the Proposed Action. Source: 40 CFR 93.853.

Notes: CO = carbon monoxide; NAAQS = National Ambient Air Quality Standards; NO₂ = nitrogen dioxide; PM = particulate matter; SO₂ = sulfur dioxide

Table A1-63
Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Cumulative Impacts
Carbon Monoxide (CO) 2040

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Ada County; Boise, ID | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 19.71 | 33.47 | 53.73 | 61.41 |
| Adams, Denver, and Boulder Counties; Denver Metropolitan area, CO | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 88.47 | 145.40 | 245.58 | 277.34 |
| Ajo, AZ | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Albuquerque Area, NM | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 44.62 | 79.50 | 118.10 | 137.64 |
| Allegheny County Air Basin: Hazelwood monitor, PA | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Allegheny County, PA | PM2.5 (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 49.62 | 82.70 | 136.65 | 155.13 |
| Allegheny County; The area including Liberty, Lincoln, Port Vue, and Glassport Boroughs and the City of Clairton, PA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.55 | 0.99 | 1.47 | 1.71 |
| Allegheny, PA | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 3.35 | 5.64 | 9.17 | 10.45 |
| Allentown, PA | PM2.5 (2006 24-hour) | Maintenance, Moderate | 100 | 0 | 33.90 | 56.74 | 93.16 | 105.91 |
| Allentown-Bethlehem-Easton, PA | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Anchorage Area, AK | CO (1971 8-hour) | Maintenance, Serious | 100 | 0 | 6.40 | 10.83 | 17.49 | 19.97 |
| Anchorage; Eagle River, AK | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.42 | 0.73 | 1.11 | 1.29 |
| AQCR 012: Portions of Grant County, NM | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| AQCR 109-Millinocket, ME | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| AQCR 131: Anoka, Carver, Dakota, Hennepin, Ramsey, Scott, and Washington counties (Minneapolis-St. Paul), MN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| AQCR 237: Brown County: Green Bay sub-city area, WI | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| AQCR 238: Marathon County: Rothschild Sub-city area, Rib Mountain, Weston, WI | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| AQCR 238: Oneida County: Rhinelander Sub-city area, WI | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| AQCR 239: Milwaukee County: Milwaukee sub-city area, WI | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |

Appendix A Air Quality Non-Attainment Area Results

Table A1-63

Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Cumulative Impacts

Carbon Monoxide (CO) 2040

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| AQCR 240: Dane County: Madison sub-city area, WI | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Archuleta County; Pagosa Springs, CO | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 1.37 | 2.26 | 3.82 | 4.31 |
| Armstrong County: Madison Twp, Mahoning Twp, Boggs Twp, Washington Twp, Pine Twp, PA | SO ₂ (1971 24-hour/Annual) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Aroostock County; City of Presque Isle, ME | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.92 | 1.51 | 2.54 | 2.87 |
| Atlanta, GA | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Atlantic City Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 3.15 | 5.17 | 8.74 | 9.87 |
| Bakersfield Area, CA | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 47.63 | 92.25 | 119.19 | 144.28 |
| Baltimore Area, MD | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.81 | 1.42 | 2.18 | 2.52 |
| Baltimore, MD | Ozone (2008 8-hour) | Nonattainment, Moderate | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Baton Rouge, LA | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Beaver, PA | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.90 | 1.47 | 2.49 | 2.81 |
| Benton County; (part) TVA Johnsonville, TN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Billings Area, MT | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 36.59 | 84.70 | 78.64 | 105.82 |
| Billings, MT | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 31.77 | 76.78 | 65.26 | 90.71 |
| Birmingham, AL | PM2.5 (2006 24-hour) | Maintenance, -- | 100 | 0 | 75.32 | 124.41 | 208.50 | 235.90 |
| Boise-Northern Ada County Area, ID | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 19.71 | 33.47 | 53.73 | 61.41 |
| Bonner County; The Sandpoint Area, ID | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.68 | 1.12 | 1.88 | 2.13 |
| Boston Area, MA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 46.11 | 77.66 | 126.24 | 143.87 |
| Boyd County (part), KY | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Brooke; Follansbee area, WV | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.03 | 0.05 | 0.09 | 0.10 |
| Burlington Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.40 | 0.66 | 1.11 | 1.26 |
| Calaveras County, CA | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Campbell-Clermont Counties, KY-OH | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 2.15 | 3.53 | 5.97 | 6.74 |

Table A1-63
Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Cumulative Impacts
Carbon Monoxide (CO) 2040

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|---|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Canton-Massillon, OH | PM2.5 (2006 24-hour) | Maintenance, -- | 100 | 0 | 42.24 | 84.66 | 103.02 | 126.90 |
| Central New Hampshire, NH | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 12.74 | 20.93 | 35.35 | 39.93 |
| Central Steptoe Valley, NV | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Charleston, WV | PM2.5 (2006 24-hour) | Maintenance, -- | 100 | 0 | 21.47 | 35.29 | 59.60 | 67.31 |
| Charlotte Area, NC | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 74.21 | 121.96 | 206.00 | 232.64 |
| Charlotte-Rock Hill, NC-SC | Ozone (2008 8-hour) | Maintenance, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Chicago-Naperville, IL-IN-WI | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Chico (Butte County), CA | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Chico Area, CA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 5.48 | 9.01 | 15.22 | 17.19 |
| Chico, CA | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 11.42 | 18.76 | 31.69 | 35.79 |
| Cincinnati, OH-KY-IN | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Clark County; Las Vegas planning area, NV | PM10 (1987 24-hour) | Maintenance, Serious | 100 | 0 | 92.56 | 152.14 | 256.92 | 290.16 |
| Cleveland Area, OH | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 55.39 | 91.04 | 153.77 | 173.66 |
| Cleveland, OH | PM2.5 (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 72.24 | 118.73 | 200.53 | 226.47 |
| Cleveland-Akron-Lorain, OH | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Cleveland-Akron-Lorain, OH | PM2.5 (2006 24-hour) | Maintenance, -- | 100 | 0 | 158.23 | 260.05 | 439.23 | 496.04 |
| Cochise County; Paul Spur/Douglas planning area, AZ | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 2.38 | 3.91 | 6.60 | 7.45 |
| Colorado Springs Area, CO | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 34.07 | 57.90 | 92.79 | 106.12 |
| Columbus, OH | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Cook County; Lyons Township, IL | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 5.92 | 11.07 | 15.18 | 18.07 |
| Cook County; Southeast Chicago, IL | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 6.24 | 11.61 | 16.07 | 19.08 |
| Coshocton County; Franklin Township, OH | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Coso Junction, CA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Cuyahoga County (part), OH | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Cuyahoga County, OH | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 55.14 | 90.62 | 153.06 | 172.86 |

Appendix A Air Quality Non-Attainment Area Results

Table A1-63

**Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Cumulative Impacts
Carbon Monoxide (CO) 2040**

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Dallas-Fort Worth, TX | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Delaware County, PA | PM2.5 (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 73.02 | 161.05 | 164.40 | 214.08 |
| Denver-Boulder Area, CO | CO (1971 8-hour) | Maintenance, Serious | 100 | 0 | 181.20 | 323.31 | 479.20 | 558.84 |
| Denver-Boulder-Greeley-Ft Collins-Loveland, CO | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Detroit Area, MI | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 94.69 | 162.66 | 256.30 | 294.32 |
| Detroit, MI | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 29.21 | 54.92 | 74.66 | 89.09 |
| Detroit-Ann Arbor, MI | PM2.5 (2006 24-hour) | Maintenance, -- | 100 | 0 | 300.80 | 501.59 | 828.26 | 940.39 |
| Dona Ana County; Anthony, NM | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.63 | 1.04 | 1.76 | 1.99 |
| Douglas, AZ | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Dukes County, MA | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Duluth Area, MN | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 7.20 | 11.83 | 19.97 | 22.56 |
| East Chicago Area, IN | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 85.11 | 204.95 | 175.54 | 243.30 |
| East Helena Area, MT | SO ₂ (1971 24-hour/Annual) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| East Kern County Area, CA | PM10 (1987 24-hour) | Nonattainment, Serious | 70 | 0 | 19.52 | 46.04 | 41.14 | 56.13 |
| El Paso County, TX | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 33.78 | 62.71 | 87.06 | 103.30 |
| El Paso, TX | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 9.85 | 22.95 | 21.03 | 28.43 |
| Eugene-Springfield Area, OR | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 13.65 | 22.44 | 37.90 | 42.80 |
| Fairbanks Area, AK | CO (1971 8-hour) | Maintenance, Serious | 100 | 0 | 4.06 | 9.22 | 8.90 | 11.81 |
| Fairbanks, AK | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 5.48 | 11.56 | 12.85 | 16.27 |

Table A1-63
Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Cumulative Impacts
Carbon Monoxide (CO) 2040

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|---|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Flathead County; Columbia Falls and vicinity, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.09 | 0.14 | 0.24 | 0.27 |
| Flathead County; Kalispell and vicinity, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 2.19 | 3.60 | 6.08 | 6.86 |
| Flathead County; Whitefish and vicinity, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.25 | 0.41 | 0.69 | 0.78 |
| Fort Collins Area, CO | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 6.89 | 11.32 | 19.12 | 21.60 |
| Freehold Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 1.57 | 2.58 | 4.36 | 4.93 |
| Fremont County; Canon City Area, CO | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 2.32 | 3.82 | 6.45 | 7.28 |
| Fresno Area, CA | CO (1971 8-hour) | Maintenance, Moderate > 12.7ppm | 100 | 0 | 33.37 | 55.79 | 91.73 | 104.26 |
| Grants Pass Area, OR | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 2.68 | 4.41 | 7.45 | 8.41 |
| Great Falls Area, MT | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 2.60 | 6.28 | 5.34 | 7.43 |
| Greater Connecticut, CT | Ozone (2008 8-hour) | Nonattainment, Moderate | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Greeley Area, CO | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 24.70 | 42.28 | 66.98 | 76.82 |
| Hancock and Brooke Counties (Part); The city of Weirton, WV | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 1.42 | 2.95 | 3.35 | 4.22 |
| Hancock County (Part) The city of Weirton, including Butler and Clay: Magisterial Districts, WV | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Harrisburg-Lebanon-Carlisle-York, PA | PM2.5 (2006 24-hour) | Maintenance, Moderate | 100 | 0 | 76.06 | 125.92 | 210.27 | 238.10 |
| Hartford-New Britain-Middletown Area, CT | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 66.06 | 108.56 | 183.37 | 207.08 |
| Hayden, AZ | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.15 | 0.24 | 0.41 | 0.46 |
| Hayden, AZ | SO ₂ (1971 24-hour/Annual) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Hayden, AZ | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.13 | 0.22 | 0.37 | 0.42 |
| Hillsborough County, FL | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.99 | 1.69 | 2.70 | 3.09 |
| Houston-Galveston-Brazoria, TX | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Humphreys County; (part) TVA Johnsonville, TN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Imperial Co, CA | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 12.33 | 20.27 | 34.24 | 38.67 |

Appendix A Air Quality Non-Attainment Area Results

Table A1-63

Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Cumulative Impacts

Carbon Monoxide (CO) 2040

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Imperial County, CA | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Imperial County, CA | PM2.5 (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 12.33 | 20.27 | 34.24 | 38.67 |
| Imperial County; Imperial Valley planning area, CA | PM10 (1987 24-hour) | Nonattainment, Serious | 70 | 0 | 14.96 | 24.58 | 41.52 | 46.89 |
| Indian Wells, CA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 19.42 | 45.88 | 40.88 | 55.83 |
| Indiana, PA | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 5.46 | 8.97 | 15.16 | 17.12 |
| Indianapolis Area, IN | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.08 | 0.13 | 0.22 | 0.25 |
| Indianapolis, IN | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 27.50 | 45.20 | 76.35 | 86.22 |
| Inyo County; Owens Valley planning area, CA | PM10 (1987 24-hour) | Nonattainment, Serious | 70 | 0 | 0.47 | 0.78 | 1.31 | 1.48 |
| Jackson County, MO | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 3.22 | 5.33 | 8.89 | 10.07 |
| Jackson County; Medford-Ashland (including White City), OR | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 11.27 | 18.52 | 31.27 | 35.32 |
| Jamestown, NY | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Jefferson County, KY | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Jefferson County, MO | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 3.06 | 5.04 | 8.51 | 9.61 |
| Jefferson County; (part) Steubenville & Mingo Junction, OH | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Jefferson County; (part), OH | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.26 | 0.43 | 0.73 | 0.83 |
| Johnstown, PA | PM2.5 (2006 24-hour) | Maintenance, Moderate | 100 | 0 | 7.24 | 11.89 | 20.09 | 22.69 |
| Josephine County; Grants Pass, OR | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 2.68 | 4.41 | 7.45 | 8.41 |
| Juneau; Mendenhall Valley area, AK | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.51 | 0.83 | 1.41 | 1.59 |
| Kern County (Eastern Kern), CA | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| King County; Kent, WA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 1.38 | 2.28 | 3.84 | 4.34 |
| King County; Seattle, WA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.49 | 0.80 | 1.35 | 1.52 |
| Klamath County; Klamath Falls, OR | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 4.65 | 7.64 | 12.90 | 14.57 |
| Klamath Falls Area, OR | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 4.63 | 7.61 | 12.85 | 14.51 |
| Klamath Falls, OR | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 5.00 | 8.22 | 13.88 | 15.67 |

Table A1-63

Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Cumulative Impacts

Carbon Monoxide (CO) 2040

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Knoxville, TN | Ozone (2008 8-hour) | Maintenance, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Knoxville-Sevierville-La Follette, TN | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 58.19 | 95.64 | 161.54 | 182.44 |
| La Porte County: (part), IN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lake County (part); Lakeview, OR | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.41 | 0.67 | 1.13 | 1.28 |
| Lake County, OH | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 15.91 | 26.15 | 44.17 | 49.88 |
| Lake County: (part), IN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lake County; (part) Eastlake, Timberlake, Lakeline, Willoughby, Mentor, OH | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lake County; Cities of East Chicago, Hammond, Whiting, and Gary, IN | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 93.52 | 218.92 | 198.72 | 269.58 |
| Lake County; Polson, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.12 | 0.20 | 0.33 | 0.37 |
| Lake County; Ronan, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lake Tahoe Nevada Area, NV | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.92 | 1.50 | 2.54 | 2.87 |
| Lake Tahoe North Shore Area, CA | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.51 | 0.84 | 1.42 | 1.60 |
| Lake Tahoe South Shore Area, CA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 1.35 | 2.21 | 3.74 | 4.22 |
| Lancaster, PA | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lancaster, PA | PM2.5 (2006 24-hour) | Maintenance, Moderate | 100 | 0 | 30.52 | 50.18 | 84.70 | 95.67 |
| Lane County (part); Oakridge, OR | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.09 | 0.15 | 0.25 | 0.28 |
| Lane County; Eugene/Springfield, OR | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 13.65 | 22.44 | 37.90 | 42.80 |
| Las Vegas Area, NV | CO (1971 8-hour) | Maintenance, Serious | 100 | 0 | 92.30 | 151.72 | 256.22 | 289.37 |
| LaSalle County; Oglesby, IL | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 2.13 | 3.50 | 5.91 | 6.67 |
| Laurel Area, MT | SO ₂ (1971 24-hour/Annual) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lebanon County, PA | PM2.5 (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 10.52 | 17.28 | 29.19 | 32.97 |
| Lemont, IL | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 184.35 | 438.81 | 384.97 | 528.82 |
| Liberty-Clairton, PA | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.55 | 0.99 | 1.47 | 1.71 |

Appendix A Air Quality Non-Attainment Area Results

Table A1-63

Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Cumulative Impacts

Carbon Monoxide (CO) 2040

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|---------------------------------------|--|---|---|----------|--------------------|----------|----------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Lincoln County; Libby and vicinity, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.30 | 0.50 | 0.84 | 0.95 |
| Logan, UT-ID | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 5.40 | 8.88 | 15.00 | 16.94 |
| Longmont Area, CO | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 4.50 | 7.40 | 12.50 | 14.11 |
| Lorain County (part), OH | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Los Angeles, CA | PM2.5 (2006 24-hour) | Nonattainment, Serious | 100 | 0 | 1,167.51 | 2,138.04 | 3,036.36 | 3,580.88 |
| Los Angeles-San Bernardino Counties (West Mojave Desert), CA | Ozone (2008 8-hour) | Nonattainment, Severe 15 | 25 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Los Angeles-South Coast Air Basin Area, CA | CO (1971 8-hour) | Maintenance, Serious | 100 | 0 | 1,167.95 | 2,138.76 | 3,037.57 | 3,582.24 |
| Los Angeles-South Coast Air Basin Area, CA | NO ₂ (1971 Annual) | Maintenance, -- | 100 | 0 | 1,168.00 | 2,138.84 | 3,037.71 | 3,582.40 |
| Los Angeles-South Coast Air Basin, CA | Ozone (2008 8-hour) | Nonattainment, Extreme | 10 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Los Angeles-South Coast Air Basin, CA | PM2.5 (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 1,166.24 | 2,135.94 | 3,032.82 | 3,576.88 |
| Lowell Area, MA | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 6.15 | 10.11 | 17.08 | 19.28 |
| Lucas County (part), OH | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Madison County; Granite City Township and Nameoki Township, IL | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 54.60 | 130.00 | 113.99 | 156.61 |
| Manchester Area, NH | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 4.93 | 8.10 | 13.68 | 15.44 |
| Maricopa and Pinal Counties; Phoenix planning area, AZ | PM10 (1987 24-hour) | Nonattainment, Serious | 70 | 0 | 211.84 | 348.17 | 588.05 | 664.12 |
| Marion County; Lawrence, Washington, and Warrant Townships, IN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Mariposa County, CA | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Marshall, WV | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 4.29 | 9.77 | 9.37 | 12.47 |
| Medford Area, OR | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 5.92 | 9.72 | 16.42 | 18.55 |
| Memphis Area, TN | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 70.39 | 129.98 | 182.05 | 215.50 |

Table A1-63
Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Cumulative Impacts
Carbon Monoxide (CO) 2040

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|---|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Memphis, TN-MS-AR | Ozone (2008 8-hour) | Nonattainment TN & Maintenance MS/AR, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Miami, AZ | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.52 | 0.86 | 1.45 | 1.64 |
| Miami, AZ | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Miami, AZ | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.52 | 0.86 | 1.45 | 1.64 |
| Milwaukee-Racine, WI | PM2.5 (2006 24-hour) | Maintenance, -- | 100 | 0 | 69.82 | 114.76 | 193.79 | 218.87 |
| Minneapolis-St. Paul Area, MN | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 209.68 | 367.37 | 560.83 | 649.12 |
| Missoula Area, MT | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 6.74 | 12.17 | 17.67 | 20.72 |
| Missoula county; Missoula and vicinity, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 6.43 | 11.62 | 16.87 | 19.78 |
| Modesto Area, CA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 10.90 | 18.05 | 30.12 | 34.11 |
| Mohave County (part); Bullhead City, AZ | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 5.82 | 9.56 | 16.15 | 18.24 |
| Mono County; Mammoth Lake planning area, CA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 2.05 | 3.38 | 5.70 | 6.44 |
| Mono County; Mono Basin, CA | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.01 | 0.01 | 0.02 | 0.03 |
| Morenci, AZ | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Morgan County, IN | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 1.98 | 3.25 | 5.49 | 6.20 |
| Morongo Band of Mission Indians | Ozone (2008 8-hour) | Nonattainment, Serious | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Morristown Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 2.48 | 4.10 | 6.85 | 7.75 |
| Muscatine County; (part), IA | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Muscatine, IA | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 1.23 | 2.02 | 3.40 | 3.84 |
| Muskingum River, OH | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.51 | 0.84 | 1.42 | 1.60 |
| Nashua Area, NH | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 4.58 | 7.53 | 12.71 | 14.35 |
| Nassau County, FL | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.24 | 0.39 | 0.67 | 0.75 |
| Nevada County (Western part), CA | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| New Haven County, CT | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 1.15 | 1.92 | 3.17 | 3.60 |

Appendix A Air Quality Non-Attainment Area Results

Table A1-63

Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Cumulative Impacts

Carbon Monoxide (CO) 2040

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|---------------------------------------|--|---|---|--------|--------------------|----------|----------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| New Haven-Meriden-Waterbury Area, CT | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 51.83 | 86.30 | 142.83 | 162.08 |
| New Manchester-Grant magisterial district in Hancock County, WV | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| New York County, NY | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 33.15 | 54.49 | 92.03 | 103.93 |
| New York, NY-NJ-CT | PM2.5 (2006 24-hour) | Maintenance, -- | 100 | 0 | 968.80 | 1,624.68 | 2,659.09 | 3,025.48 |
| New York-N. New Jersey-Long Island Area, NY-NJ-CT | CO (1971 8-hour) | Maintenance, Moderate > 12.7ppm | 100 | 0 | 530.42 | 883.38 | 1,461.59 | 1,658.69 |
| New York-N. New Jersey-Long Island, NY-NJ-CT | Ozone (2008 8-hour) | Nonattainment, Moderate | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| NJ portion of the Northeast Pennsylvania-Upper Delaware Valley Interstate AQCR: (part), NJ | SO ₂ (1971 24-hour/Annual) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Nogales, AZ | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 2.78 | 4.57 | 7.71 | 8.71 |
| Oakridge, OR | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.09 | 0.15 | 0.25 | 0.28 |
| Ogden Area, UT | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 3.19 | 5.24 | 8.85 | 10.00 |
| Ogden Area, UT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 3.19 | 5.24 | 8.85 | 10.00 |
| Olmsted County; (part), MN | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 1.51 | 2.48 | 4.20 | 4.74 |
| Olmsted; City of Rochester, MN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |

Table A1-63

Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Cumulative Impacts

Carbon Monoxide (CO) 2040

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|---------------------------------------|--|---|---|--------|--------------------|--------|----------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Pechanga Band of Luiseno Mission Indians of the Pechanga Reservation | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Pekin, IL | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 2.37 | 3.90 | 6.59 | 7.44 |
| Penns Grove Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Peoria County: Hollis Twp, IL | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Peoria County: Peoria, IL | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Perth Amboy Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 31.74 | 71.52 | 70.05 | 92.51 |
| Philadelphia-Camden County Area, PA-NJ | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 70.70 | 128.91 | 184.39 | 217.04 |
| Philadelphia-Wilmington, PA-NJ-DE | PM _{2.5} (2006 24-hour) | Maintenance, Moderate for PA and DE Subject to Former Subpart 1 for NJ | 100 | 0 | 358.87 | 675.67 | 916.07 | 1,094.01 |
| Philadelphia-Wilmington-Atlantic City, PA-NJ-MD-DE | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Phoenix Area, AZ | CO (1971 8-hour) | Maintenance, Serious | 100 | 0 | 202.55 | 332.90 | 562.27 | 635.00 |
| Phoenix-Mesa, AZ | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Pierce County; Tacoma, WA | PM ₁₀ (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.10 | 0.16 | 0.28 | 0.31 |
| Pima County; Ajo planning area, AZ | PM ₁₀ (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Pima County; Rillito planning area, AZ | PM ₁₀ (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 3.87 | 6.36 | 10.74 | 12.13 |
| Pinal and Gila Counties; Payson, AZ | PM ₁₀ (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 1.85 | 3.04 | 5.13 | 5.79 |
| Pinal County (part); West Pinal, AZ | PM ₁₀ (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 24.04 | 39.51 | 66.74 | 75.37 |
| Pitkin County; Aspen, CO | PM ₁₀ (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 1.47 | 2.41 | 4.07 | 4.59 |
| Pittsburgh Area, PA | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 10.80 | 18.05 | 29.69 | 33.74 |
| Pittsburgh-Beaver Valley, PA | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Pittsburgh-Beaver Valley, PA | PM _{2.5} (2006 24-hour) | Maintenance, Moderate | 100 | 0 | 105.75 | 175.38 | 292.10 | 330.97 |
| Plumas County, CA | PM _{2.5} (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Polk County, TN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |

Appendix A Air Quality Non-Attainment Area Results

Table A1-63

Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Cumulative Impacts

Carbon Monoxide (CO) 2040

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|-------------------------------|--|---|---|----------|--------------------|----------|----------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Portland Area: Portland Metro Service District Boundary, OR | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 68.69 | 113.63 | 189.99 | 215.08 |
| Power-Bannock Counties; Fort Hall Indian Reservation, ID | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Power-Bannock Counties; Portneuf Valley Area, ID | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 5.48 | 9.00 | 15.20 | 17.17 |
| Provo Area, UT | CO (1971 8-hour) | Maintenance, Moderate > 12.7ppm | 100 | 0 | 4.16 | 6.91 | 11.49 | 13.02 |
| Provo, UT | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 23.16 | 38.14 | 64.24 | 72.60 |
| Prowers County; Lamar, CO | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Raleigh-Durham Area, NC | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 80.19 | 131.79 | 222.60 | 251.39 |
| Ramsey County; (part), MN | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.18 | 0.33 | 0.49 | 0.57 |
| Reading, PA | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Reno Area, NV | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 18.64 | 30.64 | 51.76 | 58.45 |
| Rhinelander, WI | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 2.44 | 4.02 | 6.79 | 7.66 |
| Riverside County (Coachella Valley), CA | Ozone (2008 8-hour) | Nonattainment, Severe 15 | 25 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Riverside County; Coachella Valley planning area, CA | PM10 (1987 24-hour) | Nonattainment, Serious | 70 | 0 | 29.55 | 48.57 | 82.04 | 92.65 |
| Riverside, Los Angeles, Orange, and San Bernardino Counties; South Coast Air Basin, CA | PM10 (1987 24-hour) | Maintenance, Serious | 100 | 0 | 1,163.78 | 2,131.91 | 3,026.00 | 3,569.18 |
| Rosebud County; Lame Deer, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 1.66 | 2.72 | 4.60 | 5.20 |
| Routt County (part); Steamboat Springs, CO | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 1.74 | 2.87 | 4.84 | 5.47 |
| Sacramento Area, CA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 77.12 | 127.81 | 213.09 | 241.38 |
| Sacramento County, CA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 72.14 | 118.89 | 199.95 | 226.04 |
| Sacramento Metro, CA | Ozone (2008 8-hour) | Nonattainment, Severe 15 | 25 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Sacramento, CA | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 148.39 | 253.70 | 402.78 | 461.67 |
| Salem Area, OR | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 14.72 | 24.19 | 40.85 | 46.14 |
| Salt Lake City Area, UT | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 52.42 | 120.08 | 113.85 | 152.07 |
| Salt Lake City, UT | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 184.33 | 374.37 | 445.02 | 552.03 |

Table A1-63

Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Cumulative Impacts

Carbon Monoxide (CO) 2040

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|---|---------------------------------------|--|---|---|--------|--------------------|----------|----------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Salt Lake County, UT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 98.14 | 195.22 | 240.78 | 295.41 |
| Salt Lake County, UT | SO ₂ (1971 24-hour/Annual) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| San Bernardino County (part); excluding Searles Valley Planning area and South Coast Air Basin, CA | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 32.48 | 53.47 | 90.10 | 101.81 |
| San Diego Area, CA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 194.59 | 320.10 | 539.89 | 609.92 |
| San Diego County, CA | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| San Francisco Bay Area, CA | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| San Francisco Bay Area, CA | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 405.75 | 686.50 | 1,108.01 | 1,264.93 |
| San Francisco-Oakland-San Jose Area, CA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 372.93 | 632.56 | 1,016.90 | 1,162.03 |
| San Joaquin Valley Air Basin; Fresno, Kern, Kings, Madera, Merced, San Joaquin, Stanislaus, Tulare Counties, CA | PM10 (1987 24-hour) | Maintenance, Serious | 100 | 0 | 275.69 | 468.58 | 750.85 | 858.68 |
| San Joaquin Valley, CA | Ozone (2008 8-hour) | Nonattainment, Extreme | 10 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| San Joaquin Valley, CA | PM2.5 (2006 24-hour) | Nonattainment, Serious | 100 | 0 | 275.64 | 468.50 | 750.72 | 858.53 |
| San Joaquin Valley, CA | PM2.5 (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 275.64 | 468.50 | 750.72 | 858.53 |
| San Luis Obispo (Eastern San Luis Obispo), CA | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| San Manuel, AZ | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| San Miguel County; Telluride, CO | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.57 | 0.94 | 1.58 | 1.79 |
| Sanders County (part); Thompson Falls and vicinity, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Santa Cruz County; Nogales planning area, AZ | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 2.78 | 4.57 | 7.71 | 8.71 |
| Seaford, DE | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Seattle-Tacoma Area, WA | CO (1971 8-hour) | Maintenance, Moderate > 12.7ppm | 100 | 0 | 159.34 | 261.88 | 442.32 | 499.53 |
| Seattle-Tacoma, WA | PM2.5 (2006 24-hour) | Maintenance, Moderate | 100 | 0 | 25.49 | 41.90 | 70.77 | 79.92 |
| Sheboygan County, WI | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |

Appendix A Air Quality Non-Attainment Area Results

Table A1-63

Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Cumulative Impacts

Carbon Monoxide (CO) 2040

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|---|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Sheridan County; City of Sheridan, WY | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 1.52 | 2.49 | 4.21 | 4.75 |
| Shoshone County (part); excluding Pinehurst, ID | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 2.50 | 4.10 | 6.93 | 7.83 |
| Shoshone County; City of Pinehurst, ID | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Silver Bow County; Butte, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 2.43 | 4.00 | 6.75 | 7.63 |
| Somerville Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.95 | 1.56 | 2.63 | 2.97 |
| Southwest Indiana, IN | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.69 | 1.13 | 1.91 | 2.15 |
| Spokane Area, WA | CO (1971 8-hour) | Maintenance, Serious | 100 | 0 | 16.55 | 27.20 | 45.94 | 51.89 |
| Spokane County; (part), WA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 17.06 | 28.04 | 47.36 | 53.49 |
| Springfield Area, MA | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 9.77 | 16.06 | 27.13 | 30.64 |
| St. Bernard Parish, LA | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 19.51 | 46.31 | 40.88 | 56.02 |
| St. Louis Area, MO | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 49.96 | 82.13 | 138.66 | 156.61 |
| St. Louis-St. Charles-Farmington, MO-IL | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Steubenville, OH-WV | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 3.86 | 6.35 | 10.73 | 12.11 |
| Steubenville-Weirton, OH-WV | PM2.5 (2006 24-hour) | Maintenance, -- | 100 | 0 | 7.84 | 13.50 | 21.17 | 24.34 |
| Stockton Area, CA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 20.85 | 34.38 | 57.77 | 65.33 |
| Sullivan County, TN | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 50.52 | 121.32 | 104.51 | 144.54 |
| Syracuse Area; Onondaga County, NY | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 31.48 | 51.74 | 87.38 | 98.69 |
| Tazewell County; Groveland Twp, IL | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Terre Haute, IN | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 2.57 | 4.22 | 7.12 | 8.04 |

Table A1-63

Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Cumulative Impacts
Carbon Monoxide (CO) 2040

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|---|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Thurston County; Cities of Olympia, Tumwater, and Lacey, WA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 5.73 | 9.42 | 15.92 | 17.98 |
| Toms River Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.29 | 0.48 | 0.81 | 0.92 |
| Tooele County (part), UT | SO ₂ (1971 24-hour/Annual) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Trenton Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 5.11 | 8.40 | 14.19 | 16.03 |
| Trona, CA | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Tucson Area, AZ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 49.10 | 80.69 | 136.29 | 153.91 |
| Tuscan Buttes, CA | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Union County; LaGrande, OR | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 2.02 | 3.31 | 5.60 | 6.32 |
| Upper Green River Basin Area, WY | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Utah County, UT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 23.16 | 38.14 | 64.24 | 72.60 |
| Vancouver Area: Clark County (part), WA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 15.60 | 25.64 | 43.30 | 48.91 |
| Ventura County, CA | Ozone (2008 8-hour) | Nonattainment, Serious | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Vermillion County; Part of Clinton Township, IN | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 2.34 | 3.84 | 6.49 | 7.33 |
| Vigo County, IN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Walla Walla County; Wallula, WA | PM10 (1987 24-hour) | Maintenance, Serious | 100 | 0 | 0.23 | 0.38 | 0.65 | 0.73 |
| Waltham Area, MA | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 3.21 | 5.28 | 8.92 | 10.07 |
| Warren County: Conewago Twp, PA | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Warren County: Warren Boro, Pleasant Twp, Glade Twp, PA | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Warren, PA | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 9.11 | 21.06 | 19.60 | 26.36 |
| Washington Area, DC-MD-VA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 38.12 | 62.65 | 105.81 | 119.50 |
| Washington, DC-MD-VA | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Washoe County; Reno planning area, NV | PM10 (1987 24-hour) | Nonattainment, Serious | 70 | 0 | 18.47 | 30.35 | 51.26 | 57.89 |

Appendix A Air Quality Non-Attainment Area Results

Table A1-63

**Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Cumulative Impacts
Carbon Monoxide (CO) 2040**

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|---|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Wayne County: Boston, Center, Franklin, Wayne & Webster Townships, IN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Wayne County; (part), MI | PM ₁₀ (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 14.10 | 30.02 | 32.73 | 41.71 |
| West Central Pinal County, AZ | PM _{2.5} (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 5.02 | 8.25 | 13.94 | 15.74 |
| West Silver Valley, ID | PM _{2.5} (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 1.37 | 2.25 | 3.80 | 4.29 |
| Winston-Salem Area, NC | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 21.37 | 35.12 | 59.32 | 67.00 |
| Worcester Area, MA | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 13.61 | 22.37 | 37.78 | 42.67 |
| Yakima Area, WA | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 2.45 | 4.03 | 6.80 | 7.69 |
| Yakima County; (part), WA | PM ₁₀ (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 6.64 | 10.92 | 18.44 | 20.82 |
| Yuba City-Marysville, CA | PM _{2.5} (2006 24-hour) | Maintenance, Moderate | 100 | 0 | 11.04 | 18.14 | 30.64 | 34.60 |
| Yuma County; Yuma planning area, AZ | PM ₁₀ (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 9.41 | 15.47 | 26.13 | 29.51 |

^a Reductions are shown as positive values. Negative values are emissions increases. Values of less than 0.005 tons per year are rounded to zero.

^b Nonattainment or maintenance status as of 5/13/2016. Source: U.S. EPA, The Green Book Nonattainment Areas for Criteria Pollutants; <http://www.epa.gov/airquality/greenbook/>. "--" indicates that no severity classification has been established for the NAAQS pollutant.

^c Emissions thresholds in tons per year. Where the threshold differs by precursor pollutant, the smallest of the precursor thresholds is shown. These thresholds are provided for information only; a general conformity determination is not required for the Proposed Action. Source: 40 CFR 93.853.

Notes: CO = carbon monoxide; NAAQS = National Ambient Air Quality Standards; NO₂ = nitrogen dioxide; PM = particulate matter; SO₂ = sulfur dioxide

Table A1-64
Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Cumulative Impacts
Carbon Monoxide (CO) 2050

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Ada County; Boise, ID | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 23.75 | 40.66 | 64.10 | 72.87 |
| Adams, Denver, and Boulder Counties; Denver Metropolitan area, CO | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 106.51 | 176.42 | 292.49 | 328.48 |
| Ajo, AZ | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Albuquerque Area, NM | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 53.53 | 96.23 | 140.44 | 162.84 |
| Allegheny County Air Basin: Hazelwood monitor, PA | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Allegheny County, PA | PM2.5 (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 59.69 | 100.29 | 162.71 | 183.68 |
| Allegheny County; The area including Liberty, Lincoln, Port Vue, and Glassport Boroughs and the City of Clairton, PA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.53 | 0.96 | 1.36 | 1.59 |
| Allegheny, PA | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 3.13 | 5.33 | 8.45 | 9.60 |
| Allentown, PA | PM2.5 (2006 24-hour) | Maintenance, Moderate | 100 | 0 | 40.78 | 68.81 | 110.91 | 125.41 |
| Allentown-Bethlehem-Easton, PA | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Anchorage Area, AK | CO (1971 8-hour) | Maintenance, Serious | 100 | 0 | 7.58 | 12.93 | 20.51 | 23.28 |
| Anchorage; Eagle River, AK | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.49 | 0.87 | 1.29 | 1.49 |
| AQCR 012: Portions of Grant County, NM | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| AQCR 109-Millinocket, ME | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| AQCR 131: Anoka, Carver, Dakota, Hennepin, Ramsey, Scott, and Washington counties (Minneapolis-St. Paul), MN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| AQCR 237: Brown County: Green Bay sub-city area, WI | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| AQCR 238: Marathon County: Rothschild Sub-city area, Rib Mountain, Weston, WI | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| AQCR 238: Oneida County: Rhinelander Sub-city area, WI | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| AQCR 239: Milwaukee County: Milwaukee sub-city area, WI | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |

Appendix A Air Quality Non-Attainment Area Results

Table A1-64

Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Cumulative Impacts

Carbon Monoxide (CO) 2050

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| AQCR 240: Dane County: Madison sub-city area, WI | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Archuleta County; Pagosa Springs, CO | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 1.65 | 2.74 | 4.54 | 5.10 |
| Armstrong County: Madison Twp, Mahoning Twp, Boggs Twp, Washington Twp, Pine Twp, PA | SO ₂ (1971 24-hour/Annual) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Aroostock County; City of Presque Isle, ME | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 1.21 | 2.00 | 3.31 | 3.72 |
| Atlanta, GA | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Atlantic City Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 3.77 | 6.25 | 10.36 | 11.64 |
| Bakersfield Area, CA | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 57.01 | 111.56 | 141.72 | 170.75 |
| Baltimore Area, MD | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 1.02 | 1.80 | 2.72 | 3.12 |
| Baltimore, MD | Ozone (2008 8-hour) | Nonattainment, Moderate | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Baton Rouge, LA | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Beaver, PA | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 1.13 | 1.87 | 3.10 | 3.48 |
| Benton County; (part) TVA Johnsonville, TN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Billings Area, MT | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 43.25 | 101.76 | 92.64 | 124.44 |
| Billings, MT | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 37.52 | 92.27 | 76.91 | 106.78 |
| Birmingham, AL | PM2.5 (2006 24-hour) | Maintenance, -- | 100 | 0 | 90.59 | 150.82 | 248.14 | 279.18 |
| Boise-Northern Ada County Area, ID | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 23.75 | 40.66 | 64.10 | 72.87 |
| Bonner County; The Sandpoint Area, ID | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.87 | 1.44 | 2.39 | 2.69 |
| Boston Area, MA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 55.86 | 94.83 | 151.42 | 171.61 |
| Boyd County (part), KY | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Brooke; Follansbee area, WV | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.03 | 0.05 | 0.08 | 0.08 |
| Burlington Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.40 | 0.65 | 1.09 | 1.22 |
| Calaveras County, CA | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Campbell-Clermont Counties, KY-OH | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 2.63 | 4.35 | 7.22 | 8.11 |

Table A1-64

Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Cumulative Impacts
Carbon Monoxide (CO) 2050

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|---|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Canton-Massillon, OH | PM2.5 (2006 24-hour) | Maintenance, -- | 100 | 0 | 50.40 | 102.17 | 122.19 | 149.89 |
| Central New Hampshire, NH | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 15.33 | 25.39 | 42.10 | 47.28 |
| Central Steptoe Valley, NV | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Charleston, WV | PM2.5 (2006 24-hour) | Maintenance, -- | 100 | 0 | 25.84 | 42.81 | 70.98 | 79.71 |
| Charlotte Area, NC | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 89.34 | 147.98 | 245.34 | 275.53 |
| Charlotte-Rock Hill, NC-SC | Ozone (2008 8-hour) | Maintenance, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Chicago-Naperville, IL-IN-WI | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Chico (Butte County), CA | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Chico Area, CA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 6.98 | 11.56 | 19.17 | 21.52 |
| Chico, CA | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 13.79 | 22.84 | 37.87 | 42.52 |
| Cincinnati, OH-KY-IN | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Clark County; Las Vegas planning area, NV | PM10 (1987 24-hour) | Maintenance, Serious | 100 | 0 | 111.57 | 184.81 | 306.38 | 344.09 |
| Cleveland Area, OH | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 66.78 | 110.62 | 183.40 | 205.97 |
| Cleveland, OH | PM2.5 (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 87.04 | 144.18 | 239.04 | 268.46 |
| Cleveland-Akron-Lorain, OH | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Cleveland-Akron-Lorain, OH | PM2.5 (2006 24-hour) | Maintenance, -- | 100 | 0 | 190.55 | 315.63 | 523.31 | 587.70 |
| Cochise County; Paul Spur/Douglas planning area, AZ | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 2.84 | 4.70 | 7.79 | 8.75 |
| Colorado Springs Area, CO | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 41.05 | 70.33 | 110.69 | 125.90 |
| Columbus, OH | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Cook County; Lyons Township, IL | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 7.09 | 13.40 | 18.04 | 21.38 |
| Cook County; Southeast Chicago, IL | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 7.02 | 13.28 | 17.86 | 21.17 |
| Coshocton County; Franklin Township, OH | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Coso Junction, CA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Cuyahoga County (part), OH | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Cuyahoga County, OH | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 66.44 | 110.05 | 182.46 | 204.91 |

Appendix A Air Quality Non-Attainment Area Results

Table A1-64

**Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Cumulative Impacts
Carbon Monoxide (CO) 2050**

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|---------------------------------------|--|---|---|--------|--------------------|--------|----------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Dallas-Fort Worth, TX | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Delaware County, PA | PM2.5 (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 86.70 | 193.93 | 194.44 | 252.45 |
| Denver-Boulder Area, CO | CO (1971 8-hour) | Maintenance, Serious | 100 | 0 | 217.45 | 391.47 | 570.05 | 661.38 |
| Denver-Boulder-Greeley-Ft Collins-Loveland, CO | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Detroit Area, MI | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 102.47 | 178.32 | 273.97 | 313.49 |
| Detroit, MI | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 38.96 | 73.01 | 99.63 | 117.63 |
| Detroit-Ann Arbor, MI | PM2.5 (2006 24-hour) | Maintenance, -- | 100 | 0 | 361.90 | 608.30 | 986.20 | 1,113.54 |
| Dona Ana County; Anthony, NM | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.77 | 1.28 | 2.12 | 2.38 |
| Douglas, AZ | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Dukes County, MA | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Duluth Area, MN | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 9.27 | 15.36 | 25.47 | 28.60 |
| East Chicago Area, IN | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 100.61 | 246.44 | 207.09 | 286.62 |
| East Helena Area, MT | SO ₂ (1971 24-hour/Annual) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| East Kern County Area, CA | PM10 (1987 24-hour) | Nonattainment, Serious | 70 | 0 | 22.86 | 54.99 | 47.93 | 65.43 |
| El Paso County, TX | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 39.93 | 74.94 | 102.01 | 120.53 |
| El Paso, TX | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 11.54 | 27.40 | 24.51 | 33.14 |
| Eugene-Springfield Area, OR | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 16.77 | 27.78 | 46.06 | 51.72 |
| Fairbanks Area, AK | CO (1971 8-hour) | Maintenance, Serious | 100 | 0 | 4.73 | 10.95 | 10.27 | 13.65 |
| Fairbanks, AK | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 6.49 | 13.87 | 15.10 | 19.08 |

Table A1-64

Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Cumulative Impacts

Carbon Monoxide (CO) 2050

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|---|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Flathead County; Columbia Falls and vicinity, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.10 | 0.16 | 0.27 | 0.30 |
| Flathead County; Kalispell and vicinity, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 2.66 | 4.40 | 7.30 | 8.20 |
| Flathead County; Whitefish and vicinity, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.29 | 0.48 | 0.80 | 0.89 |
| Fort Collins Area, CO | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 8.24 | 13.64 | 22.62 | 25.40 |
| Freehold Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 2.04 | 3.38 | 5.61 | 6.30 |
| Fremont County; Canon City Area, CO | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 2.80 | 4.63 | 7.68 | 8.63 |
| Fresno Area, CA | CO (1971 8-hour) | Maintenance, Moderate > 12.7ppm | 100 | 0 | 39.85 | 67.18 | 108.43 | 122.56 |
| Grants Pass Area, OR | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 3.37 | 5.57 | 9.24 | 10.38 |
| Great Falls Area, MT | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 3.07 | 7.55 | 6.30 | 8.74 |
| Greater Connecticut, CT | Ozone (2008 8-hour) | Nonattainment, Moderate | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Greeley Area, CO | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 29.68 | 51.24 | 79.72 | 90.93 |
| Hancock and Brooke Counties (Part); The city of Weirton, WV | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 1.63 | 3.47 | 3.82 | 4.81 |
| Hancock County (Part) The city of Weirton, including Butler and Clay: Magisterial Districts, WV | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Harrisburg-Lebanon-Carlisle-York, PA | PM2.5 (2006 24-hour) | Maintenance, Moderate | 100 | 0 | 91.53 | 152.74 | 250.38 | 281.96 |
| Hartford-New Britain-Middletown Area, CT | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 79.62 | 131.88 | 218.66 | 245.56 |
| Hayden, AZ | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.17 | 0.28 | 0.47 | 0.52 |
| Hayden, AZ | SO ₂ (1971 24-hour/Annual) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Hayden, AZ | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.16 | 0.27 | 0.44 | 0.49 |
| Hillsborough County, FL | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 1.22 | 2.10 | 3.29 | 3.75 |
| Houston-Galveston-Brazoria, TX | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Humphreys County; (part) TVA Johnsonville, TN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Imperial Co, CA | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 14.92 | 24.72 | 40.98 | 46.03 |

Appendix A Air Quality Non-Attainment Area Results

Table A1-64

Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Cumulative Impacts

Carbon Monoxide (CO) 2050

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Imperial County, CA | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Imperial County, CA | PM2.5 (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 14.92 | 24.72 | 40.98 | 46.03 |
| Imperial County; Imperial Valley planning area, CA | PM10 (1987 24-hour) | Nonattainment, Serious | 70 | 0 | 18.04 | 29.89 | 49.55 | 55.65 |
| Indian Wells, CA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 22.72 | 54.75 | 47.53 | 64.98 |
| Indiana, PA | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 6.58 | 10.90 | 18.07 | 20.29 |
| Indianapolis Area, IN | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.08 | 0.14 | 0.23 | 0.26 |
| Indianapolis, IN | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 32.45 | 53.75 | 89.12 | 100.09 |
| Inyo County; Owens Valley planning area, CA | PM10 (1987 24-hour) | Nonattainment, Serious | 70 | 0 | 0.69 | 1.15 | 1.90 | 2.13 |
| Jackson County, MO | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 3.90 | 6.51 | 10.68 | 12.02 |
| Jackson County; Medford-Ashland (including White City), OR | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 13.82 | 22.89 | 37.95 | 42.62 |
| Jamestown, NY | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Jefferson County, KY | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Jefferson County, MO | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 3.70 | 6.13 | 10.16 | 11.41 |
| Jefferson County; (part) Steubenville & Mingo Junction, OH | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Jefferson County; (part), OH | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.29 | 0.48 | 0.80 | 0.90 |
| Johnstown, PA | PM2.5 (2006 24-hour) | Maintenance, Moderate | 100 | 0 | 8.65 | 14.34 | 23.77 | 26.69 |
| Josephine County; Grants Pass, OR | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 3.37 | 5.57 | 9.24 | 10.38 |
| Juneau; Mendenhall Valley area, AK | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.62 | 1.02 | 1.69 | 1.90 |
| Kern County (Eastern Kern), CA | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| King County; Kent, WA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 1.76 | 2.91 | 4.83 | 5.42 |
| King County; Seattle, WA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.56 | 0.92 | 1.53 | 1.71 |
| Klamath County; Klamath Falls, OR | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 6.40 | 10.60 | 17.57 | 19.73 |
| Klamath Falls Area, OR | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 6.40 | 10.60 | 17.58 | 19.74 |
| Klamath Falls, OR | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 6.75 | 11.18 | 18.54 | 20.82 |

Table A1-64

Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Cumulative Impacts
Carbon Monoxide (CO) 2050

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Knoxville, TN | Ozone (2008 8-hour) | Maintenance, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Knoxville-Sevierville-La Follette, TN | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 70.04 | 116.01 | 192.34 | 216.01 |
| La Porte County: (part), IN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lake County (part); Lakeview, OR | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 1.35 | 2.23 | 3.70 | 4.16 |
| Lake County, OH | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 19.15 | 31.72 | 52.60 | 59.07 |
| Lake County: (part), IN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lake County; (part) Eastlake, Timberlake, Lakeline, Willoughby, Mentor, OH | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lake County; Cities of East Chicago, Hammond, Whiting, and Gary, IN | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 109.75 | 261.75 | 232.03 | 314.74 |
| Lake County; Polson, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.13 | 0.22 | 0.37 | 0.41 |
| Lake County; Ronan, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lake Tahoe Nevada Area, NV | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.97 | 1.61 | 2.67 | 3.00 |
| Lake Tahoe North Shore Area, CA | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.55 | 0.91 | 1.50 | 1.69 |
| Lake Tahoe South Shore Area, CA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 1.28 | 2.12 | 3.52 | 3.95 |
| Lancaster, PA | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lancaster, PA | PM2.5 (2006 24-hour) | Maintenance, Moderate | 100 | 0 | 36.74 | 60.88 | 100.87 | 113.30 |
| Lane County (part); Oakridge, OR | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.08 | 0.13 | 0.21 | 0.23 |
| Lane County; Eugene/Springfield, OR | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 16.77 | 27.78 | 46.06 | 51.72 |
| Las Vegas Area, NV | CO (1971 8-hour) | Maintenance, Serious | 100 | 0 | 111.25 | 184.29 | 305.51 | 343.11 |
| LaSalle County; Oglesby, IL | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 2.60 | 4.31 | 7.15 | 8.03 |
| Laurel Area, MT | SO ₂ (1971 24-hour/Annual) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lebanon County, PA | PM2.5 (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 12.66 | 20.97 | 34.76 | 39.04 |
| Lemont, IL | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 218.08 | 527.79 | 454.44 | 623.16 |
| Liberty-Clairton, PA | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.53 | 0.96 | 1.36 | 1.59 |

Appendix A Air Quality Non-Attainment Area Results

Table A1-64

Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Cumulative Impacts

Carbon Monoxide (CO) 2050

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|---------------------------------------|--|---|---|----------|--------------------|----------|----------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Lincoln County; Libby and vicinity, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.31 | 0.52 | 0.86 | 0.97 |
| Logan, UT-ID | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 6.52 | 10.79 | 17.90 | 20.10 |
| Longmont Area, CO | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 5.51 | 9.12 | 15.12 | 16.98 |
| Lorain County (part), OH | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Los Angeles, CA | PM2.5 (2006 24-hour) | Nonattainment, Serious | 100 | 0 | 1,400.83 | 2,589.13 | 3,613.91 | 4,240.65 |
| Los Angeles-San Bernardino Counties (West Mojave Desert), CA | Ozone (2008 8-hour) | Nonattainment, Severe 15 | 25 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Los Angeles-South Coast Air Basin Area, CA | CO (1971 8-hour) | Maintenance, Serious | 100 | 0 | 1,401.41 | 2,590.09 | 3,615.50 | 4,242.43 |
| Los Angeles-South Coast Air Basin Area, CA | NO ₂ (1971 Annual) | Maintenance, -- | 100 | 0 | 1,401.46 | 2,590.17 | 3,615.64 | 4,242.58 |
| Los Angeles-South Coast Air Basin, CA | Ozone (2008 8-hour) | Nonattainment, Extreme | 10 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Los Angeles-South Coast Air Basin, CA | PM2.5 (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 1,399.17 | 2,586.37 | 3,609.35 | 4,235.52 |
| Lowell Area, MA | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 7.53 | 12.48 | 20.68 | 23.23 |
| Lucas County (part), OH | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Madison County; Granite City Township and Nameoki Township, IL | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 64.39 | 156.00 | 134.03 | 183.94 |
| Manchester Area, NH | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 5.77 | 9.56 | 15.85 | 17.81 |
| Maricopa and Pinal Counties; Phoenix planning area, AZ | PM10 (1987 24-hour) | Nonattainment, Serious | 70 | 0 | 254.94 | 422.29 | 700.15 | 786.30 |
| Marion County; Lawrence, Washington, and Warrant Townships, IN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Mariposa County, CA | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Marshall, WV | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 5.12 | 11.82 | 11.17 | 14.81 |
| Medford Area, OR | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 7.34 | 12.16 | 20.17 | 22.65 |
| Memphis Area, TN | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 84.31 | 157.19 | 216.34 | 254.84 |

Table A1-64
Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Cumulative Impacts
Carbon Monoxide (CO) 2050

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|---|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Memphis, TN-MS-AR | Ozone (2008 8-hour) | Nonattainment TN & Maintenance MS/AR, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Miami, AZ | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.41 | 0.67 | 1.11 | 1.25 |
| Miami, AZ | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Miami, AZ | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.41 | 0.67 | 1.11 | 1.25 |
| Milwaukee-Racine, WI | PM2.5 (2006 24-hour) | Maintenance, -- | 100 | 0 | 84.07 | 139.27 | 230.87 | 259.29 |
| Minneapolis-St. Paul Area, MN | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 251.88 | 445.11 | 667.54 | 768.57 |
| Missoula Area, MT | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 8.09 | 14.75 | 21.05 | 24.55 |
| Missoula county; Missoula and vicinity, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 7.71 | 14.06 | 20.06 | 23.40 |
| Modesto Area, CA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 12.53 | 20.93 | 34.28 | 38.61 |
| Mohave County (part); Bullhead City, AZ | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 7.23 | 11.98 | 19.86 | 22.30 |
| Mono County; Mammoth Lake planning area, CA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 2.73 | 4.52 | 7.50 | 8.42 |
| Mono County; Mono Basin, CA | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Morenci, AZ | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Morgan County, IN | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 2.28 | 3.78 | 6.27 | 7.04 |
| Morongo Band of Mission Indians | Ozone (2008 8-hour) | Nonattainment, Serious | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Morristown Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 3.09 | 5.15 | 8.45 | 9.51 |
| Muscatine County; (part), IA | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Muscatine, IA | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 1.51 | 2.50 | 4.14 | 4.65 |
| Muskingum River, OH | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.68 | 1.13 | 1.87 | 2.10 |
| Nashua Area, NH | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 5.61 | 9.29 | 15.41 | 17.30 |
| Nassau County, FL | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.24 | 0.40 | 0.67 | 0.75 |
| Nevada County (Western part), CA | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| New Haven County, CT | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 1.32 | 2.21 | 3.59 | 4.05 |

Appendix A Air Quality Non-Attainment Area Results

Table A1-64

Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Cumulative Impacts

Carbon Monoxide (CO) 2050

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|---------------------------------------|--|---|---|----------|--------------------|----------|----------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| New Haven-Meriden-Waterbury Area, CT | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 62.34 | 104.64 | 170.02 | 191.87 |
| New Manchester-Grant magisterial district in Hancock County, WV | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| New York County, NY | PM ₁₀ (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 39.91 | 66.10 | 109.60 | 123.08 |
| New York, NY-NJ-CT | PM _{2.5} (2006 24-hour) | Maintenance, -- | 100 | 0 | 1,165.58 | 1,970.42 | 3,166.54 | 3,583.09 |
| New York-N. New Jersey-Long Island Area, NY-NJ-CT | CO (1971 8-hour) | Maintenance, Moderate > 12.7ppm | 100 | 0 | 638.88 | 1,072.47 | 1,742.19 | 1,966.20 |
| New York-N. New Jersey-Long Island, NY-NJ-CT | Ozone (2008 8-hour) | Nonattainment, Moderate | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| NJ portion of the Northeast Pennsylvania-Upper Delaware Valley Interstate AQCR: (part), NJ | SO ₂ (1971 24-hour/Annual) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Nogales, AZ | PM _{2.5} (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 3.41 | 5.66 | 9.38 | 10.53 |
| Oakridge, OR | PM _{2.5} (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.08 | 0.13 | 0.21 | 0.23 |
| Ogden Area, UT | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 3.80 | 6.30 | 10.45 | 11.73 |
| Ogden Area, UT | PM ₁₀ (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 3.80 | 6.30 | 10.45 | 11.73 |
| Olmsted County; (part), MN | PM ₁₀ (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 1.74 | 2.88 | 4.77 | 5.36 |
| Olmsted; City of Rochester, MN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |

Table A1-64
Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Cumulative Impacts
Carbon Monoxide (CO) 2050

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|---------------------------------------|--|---|---|--------|--------------------|----------|----------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Pechanga Band of Luiseno Mission Indians of the Pechanga Reservation | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Pekin, IL | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 2.89 | 4.78 | 7.93 | 8.91 |
| Penns Grove Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Peoria County: Hollis Twp, IL | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Peoria County: Peoria, IL | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Perth Amboy Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 38.27 | 87.12 | 84.50 | 110.98 |
| Philadelphia-Camden County Area, PA-NJ | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 84.73 | 155.94 | 219.17 | 256.70 |
| Philadelphia-Wilmington, PA-NJ-DE | PM _{2.5} (2006 24-hour) | Maintenance, Moderate for PA and DE Subject to Former Subpart 1 for NJ | 100 | 0 | 429.48 | 816.67 | 1,088.14 | 1,293.34 |
| Philadelphia-Wilmington-Atlantic City, PA-NJ-MD-DE | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Phoenix Area, AZ | CO (1971 8-hour) | Maintenance, Serious | 100 | 0 | 243.56 | 403.43 | 668.88 | 751.19 |
| Phoenix-Mesa, AZ | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Pierce County; Tacoma, WA | PM ₁₀ (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.10 | 0.17 | 0.28 | 0.32 |
| Pima County; Ajo planning area, AZ | PM ₁₀ (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Pima County; Rillito planning area, AZ | PM ₁₀ (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 4.83 | 8.00 | 13.27 | 14.91 |
| Pinal and Gila Counties; Payson, AZ | PM ₁₀ (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 2.46 | 4.08 | 6.77 | 7.60 |
| Pinal County (part); West Pinal, AZ | PM ₁₀ (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 29.29 | 48.51 | 80.43 | 90.33 |
| Pitkin County; Aspen, CO | PM ₁₀ (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 1.76 | 2.92 | 4.85 | 5.44 |
| Pittsburgh Area, PA | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 12.11 | 20.41 | 32.95 | 37.25 |
| Pittsburgh-Beaver Valley, PA | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Pittsburgh-Beaver Valley, PA | PM _{2.5} (2006 24-hour) | Maintenance, Moderate | 100 | 0 | 127.33 | 212.83 | 348.01 | 392.14 |
| Plumas County, CA | PM _{2.5} (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Polk County, TN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |

Appendix A Air Quality Non-Attainment Area Results

Table A1-64

Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Cumulative Impacts

Carbon Monoxide (CO) 2050

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|-------------------------------|--|---|---|----------|--------------------|----------|----------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Portland Area: Portland Metro Service District Boundary, OR | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 82.88 | 138.18 | 226.84 | 255.36 |
| Power-Bannock Counties; Fort Hall Indian Reservation, ID | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Power-Bannock Counties; Portneuf Valley Area, ID | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 6.73 | 11.15 | 18.48 | 20.76 |
| Provo Area, UT | CO (1971 8-hour) | Maintenance, Moderate > 12.7ppm | 100 | 0 | 4.92 | 8.23 | 13.44 | 15.15 |
| Provo, UT | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 27.88 | 46.27 | 76.50 | 85.97 |
| Prowers County; Lamar, CO | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Raleigh-Durham Area, NC | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 96.53 | 159.89 | 265.10 | 297.72 |
| Ramsey County; (part), MN | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.22 | 0.39 | 0.57 | 0.66 |
| Reading, PA | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Reno Area, NV | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 22.15 | 36.68 | 60.82 | 68.30 |
| Rhinelander, WI | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 3.44 | 5.69 | 9.43 | 10.60 |
| Riverside County (Coachella Valley), CA | Ozone (2008 8-hour) | Nonattainment, Severe 15 | 25 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Riverside County; Coachella Valley planning area, CA | PM10 (1987 24-hour) | Nonattainment, Serious | 70 | 0 | 34.94 | 57.87 | 95.95 | 107.76 |
| Riverside, Los Angeles, Orange, and San Bernardino Counties; South Coast Air Basin, CA | PM10 (1987 24-hour) | Maintenance, Serious | 100 | 0 | 1,396.45 | 2,581.88 | 3,601.89 | 4,227.15 |
| Rosebud County; Lame Deer, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 2.24 | 3.71 | 6.15 | 6.91 |
| Routt County (part); Steamboat Springs, CO | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 2.10 | 3.48 | 5.77 | 6.48 |
| Sacramento Area, CA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 91.00 | 152.04 | 248.78 | 280.28 |
| Sacramento County, CA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 86.83 | 144.23 | 238.11 | 267.68 |
| Sacramento Metro, CA | Ozone (2008 8-hour) | Nonattainment, Severe 15 | 25 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Sacramento, CA | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 178.87 | 308.31 | 480.79 | 548.09 |
| Salem Area, OR | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 17.96 | 29.74 | 49.32 | 55.38 |
| Salt Lake City Area, UT | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 61.72 | 143.83 | 133.42 | 178.01 |
| Salt Lake City, UT | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 219.92 | 451.85 | 527.98 | 652.27 |

Table A1-64
Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Cumulative Impacts
Carbon Monoxide (CO) 2050

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|---|---------------------------------------|--|---|---|--------|--------------------|----------|----------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Salt Lake County, UT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 117.15 | 235.64 | 285.63 | 348.95 |
| Salt Lake County, UT | SO ₂ (1971 24-hour/Annual) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| San Bernardino County (part); excluding Searles Valley Planning area and South Coast Air Basin, CA | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 37.11 | 61.57 | 101.83 | 114.43 |
| San Diego Area, CA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 234.31 | 388.47 | 643.17 | 722.56 |
| San Diego County, CA | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| San Francisco Bay Area, CA | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| San Francisco Bay Area, CA | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 488.32 | 832.94 | 1,320.18 | 1,498.93 |
| San Francisco-Oakland-San Jose Area, CA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 448.63 | 767.19 | 1,211.18 | 1,376.52 |
| San Joaquin Valley Air Basin; Fresno, Kern, Kings, Madera, Merced, San Joaquin, Stanislaus, Tulare Counties, CA | PM10 (1987 24-hour) | Maintenance, Serious | 100 | 0 | 332.21 | 569.24 | 895.88 | 1,018.96 |
| San Joaquin Valley, CA | Ozone (2008 8-hour) | Nonattainment, Extreme | 10 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| San Joaquin Valley, CA | PM2.5 (2006 24-hour) | Nonattainment, Serious | 100 | 0 | 332.16 | 569.17 | 895.75 | 1,018.82 |
| San Joaquin Valley, CA | PM2.5 (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 332.16 | 569.17 | 895.75 | 1,018.82 |
| San Luis Obispo (Eastern San Luis Obispo), CA | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| San Manuel, AZ | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| San Miguel County; Telluride, CO | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.69 | 1.14 | 1.89 | 2.12 |
| Sanders County (part); Thompson Falls and vicinity, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Santa Cruz County; Nogales planning area, AZ | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 3.41 | 5.66 | 9.38 | 10.53 |
| Seaford, DE | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Seattle-Tacoma Area, WA | CO (1971 8-hour) | Maintenance, Moderate > 12.7ppm | 100 | 0 | 191.69 | 317.52 | 526.44 | 591.22 |
| Seattle-Tacoma, WA | PM2.5 (2006 24-hour) | Maintenance, Moderate | 100 | 0 | 30.44 | 50.42 | 83.60 | 93.89 |
| Sheboygan County, WI | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |

Appendix A Air Quality Non-Attainment Area Results

Table A1-64

Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Cumulative Impacts

Carbon Monoxide (CO) 2050

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|---|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Sheridan County; City of Sheridan, WY | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 1.85 | 3.06 | 5.07 | 5.69 |
| Shoshone County (part); excluding Pinehurst, ID | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 3.00 | 4.98 | 8.25 | 9.27 |
| Shoshone County; City of Pinehurst, ID | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Silver Bow County; Butte, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 2.97 | 4.92 | 8.16 | 9.16 |
| Somerville Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 1.09 | 1.81 | 2.99 | 3.36 |
| Southwest Indiana, IN | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.87 | 1.44 | 2.39 | 2.68 |
| Spokane Area, WA | CO (1971 8-hour) | Maintenance, Serious | 100 | 0 | 19.73 | 32.67 | 54.17 | 60.84 |
| Spokane County; (part), WA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 20.35 | 33.70 | 55.88 | 62.75 |
| Springfield Area, MA | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 12.06 | 19.98 | 33.13 | 37.20 |
| St. Bernard Parish, LA | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 23.07 | 55.68 | 48.21 | 65.97 |
| St. Louis Area, MO | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 59.30 | 98.24 | 162.82 | 182.87 |
| St. Louis-St. Charles-Farmington, MO-IL | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Steubenville, OH-WV | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 4.83 | 8.00 | 13.27 | 14.90 |
| Steubenville-Weirton, OH-WV | PM2.5 (2006 24-hour) | Maintenance, -- | 100 | 0 | 9.42 | 16.36 | 25.20 | 28.81 |
| Stockton Area, CA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 24.64 | 40.95 | 67.54 | 75.94 |
| Sullivan County, TN | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 59.55 | 145.59 | 122.81 | 169.73 |
| Syracuse Area; Onondaga County, NY | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 37.89 | 62.77 | 104.07 | 116.87 |
| Tazewell County; Groveland Twp, IL | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Terre Haute, IN | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 2.33 | 3.86 | 6.40 | 7.19 |

Table A1-64
Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Cumulative Impacts
Carbon Monoxide (CO) 2050

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|---|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Thurston County; Cities of Olympia, Tumwater, and Lacey, WA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 6.81 | 11.28 | 18.70 | 21.00 |
| Toms River Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.36 | 0.59 | 0.98 | 1.10 |
| Tooele County (part), UT | SO ₂ (1971 24-hour/Annual) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Trenton Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 6.25 | 10.36 | 17.17 | 19.28 |
| Trona, CA | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Tucson Area, AZ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 59.16 | 97.99 | 162.47 | 182.46 |
| Tuscan Buttes, CA | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Union County; LaGrande, OR | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 2.84 | 4.71 | 7.81 | 8.77 |
| Upper Green River Basin Area, WY | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Utah County, UT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 27.88 | 46.27 | 76.50 | 85.97 |
| Vancouver Area: Clark County (part), WA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 18.76 | 31.08 | 51.53 | 57.87 |
| Ventura County, CA | Ozone (2008 8-hour) | Nonattainment, Serious | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Vermillion County; Part of Clinton Township, IN | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Vigo County, IN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Walla Walla County; Wallula, WA | PM10 (1987 24-hour) | Maintenance, Serious | 100 | 0 | 0.27 | 0.45 | 0.75 | 0.84 |
| Waltham Area, MA | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 3.84 | 6.36 | 10.55 | 11.85 |
| Warren County: Conewago Twp, PA | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Warren County: Warren Boro, Pleasant Twp, Glade Twp, PA | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Warren, PA | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 10.68 | 25.13 | 22.88 | 30.74 |
| Washington Area, DC-MD-VA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 45.88 | 76.00 | 126.01 | 141.52 |
| Washington, DC-MD-VA | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Washoe County; Reno planning area, NV | PM10 (1987 24-hour) | Nonattainment, Serious | 70 | 0 | 21.91 | 36.29 | 60.17 | 67.57 |

Appendix A Air Quality Non-Attainment Area Results

Table A1-64

**Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Cumulative Impacts
Carbon Monoxide (CO) 2050**

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|---|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Wayne County: Boston, Center, Franklin, Wayne & Webster Townships, IN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Wayne County; (part), MI | PM ₁₀ (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 18.06 | 38.33 | 42.31 | 53.21 |
| West Central Pinal County, AZ | PM _{2.5} (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 6.17 | 10.21 | 16.94 | 19.02 |
| West Silver Valley, ID | PM _{2.5} (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 1.77 | 2.93 | 4.85 | 5.45 |
| Winston-Salem Area, NC | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 25.70 | 42.57 | 70.59 | 79.27 |
| Worcester Area, MA | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 16.88 | 27.95 | 46.35 | 52.05 |
| Yakima Area, WA | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 3.07 | 5.08 | 8.43 | 9.46 |
| Yakima County; (part), WA | PM ₁₀ (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 8.02 | 13.29 | 22.03 | 24.74 |
| Yuba City-Marysville, CA | PM _{2.5} (2006 24-hour) | Maintenance, Moderate | 100 | 0 | 13.32 | 22.06 | 36.58 | 41.08 |
| Yuma County; Yuma planning area, AZ | PM ₁₀ (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 11.28 | 18.69 | 30.98 | 34.79 |

^a Reductions are shown as positive values. Negative values are emissions increases. Values of less than 0.005 tons per year are rounded to zero.

^b Nonattainment or maintenance status as of 5/13/2016. Source: U.S. EPA, The Green Book Nonattainment Areas for Criteria Pollutants; <http://www.epa.gov/airquality/greenbook/>. "--" indicates that no severity classification has been established for the NAAQS pollutant.

^c Emissions thresholds in tons per year. Where the threshold differs by precursor pollutant, the smallest of the precursor thresholds is shown. These thresholds are provided for information only; a general conformity determination is not required for the Proposed Action. Source: 40 CFR 93.853.

Notes: CO = carbon monoxide; NAAQS = National Ambient Air Quality Standards; NO₂ = nitrogen dioxide; PM = particulate matter; SO₂ = sulfur dioxide

Table A1-65

Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Cumulative Impacts

Acetaldehyde 2018

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Ada County; Boise, ID | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Adams, Denver, and Boulder Counties; Denver Metropolitan area, CO | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Ajo, AZ | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Albuquerque Area, NM | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Allegheny County Air Basin: Hazelwood monitor, PA | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Allegheny County, PA | PM2.5 (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Allegheny County; The area including Liberty, Lincoln, Port Vue, and Glassport Boroughs and the City of Clairton, PA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Allegheny, PA | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Allentown, PA | PM2.5 (2006 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Allentown-Bethlehem-Easton, PA | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Anchorage Area, AK | CO (1971 8-hour) | Maintenance, Serious | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Anchorage; Eagle River, AK | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| AQCR 012: Portions of Grant County, NM | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| AQCR 109-Millinocket, ME | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| AQCR 131: Anoka, Carver, Dakota, Hennepin, Ramsey, Scott, and Washington counties (Minneapolis-St. Paul), MN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| AQCR 237: Brown County: Green Bay sub-city area, WI | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| AQCR 238: Marathon County: Rothschild Sub-city area, Rib Mountain, Weston, WI | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| AQCR 238: Oneida County: Rhinelander Sub-city area, WI | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| AQCR 239: Milwaukee County: Milwaukee sub-city area, WI | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |

Appendix A Air Quality Non-Attainment Area Results

Table A1-65

Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Cumulative Impacts

Acetaldehyde 2018

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| AQCR 240: Dane County: Madison sub-city area, WI | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Archuleta County; Pagosa Springs, CO | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Armstrong County: Madison Twp, Mahoning Twp, Boggs Twp, Washington Twp, Pine Twp, PA | SO ₂ (1971 24-hour/Annual) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Aroostock County; City of Presque Isle, ME | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Atlanta, GA | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Atlantic City Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Bakersfield Area, CA | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Baltimore Area, MD | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Baltimore, MD | Ozone (2008 8-hour) | Nonattainment, Moderate | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Baton Rouge, LA | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Beaver, PA | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Benton County; (part) TVA Johnsonville, TN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Billings Area, MT | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Billings, MT | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Birmingham, AL | PM2.5 (2006 24-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Boise-Northern Ada County Area, ID | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Bonner County; The Sandpoint Area, ID | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Boston Area, MA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Boyd County (part), KY | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Brooke; Follansbee area, WV | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Burlington Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Calaveras County, CA | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Campbell-Clermont Counties, KY-OH | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |

Table A1-65

Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Cumulative Impacts

Acetaldehyde 2018

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|---|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Canton-Massillon, OH | PM2.5 (2006 24-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Central New Hampshire, NH | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Central Steptoe Valley, NV | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Charleston, WV | PM2.5 (2006 24-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Charlotte Area, NC | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Charlotte-Rock Hill, NC-SC | Ozone (2008 8-hour) | Maintenance, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Chicago-Naperville, IL-IN-WI | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Chico (Butte County), CA | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Chico Area, CA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Chico, CA | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Cincinnati, OH-KY-IN | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Clark County; Las Vegas planning area, NV | PM10 (1987 24-hour) | Maintenance, Serious | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Cleveland Area, OH | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Cleveland, OH | PM2.5 (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Cleveland-Akron-Lorain, OH | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Cleveland-Akron-Lorain, OH | PM2.5 (2006 24-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Cochise County; Paul Spur/Douglas planning area, AZ | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Colorado Springs Area, CO | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Columbus, OH | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Cook County; Lyons Township, IL | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Cook County; Southeast Chicago, IL | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Coshocton County; Franklin Township, OH | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Coso Junction, CA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Cuyahoga County (part), OH | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Cuyahoga County, OH | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |

Appendix A Air Quality Non-Attainment Area Results

Table A1-65

Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Cumulative Impacts

Acetaldehyde 2018

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Dallas-Fort Worth, TX | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Delaware County, PA | PM2.5 (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Denver-Boulder Area, CO | CO (1971 8-hour) | Maintenance, Serious | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Denver-Boulder-Greeley-Ft Collins-Loveland, CO | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Detroit Area, MI | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Detroit, MI | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Detroit-Ann Arbor, MI | PM2.5 (2006 24-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Dona Ana County; Anthony, NM | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Douglas, AZ | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Dukes County, MA | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Duluth Area, MN | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| East Chicago Area, IN | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| East Helena Area, MT | SO ₂ (1971 24-hour/Annual) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| East Kern County Area, CA | PM10 (1987 24-hour) | Nonattainment, Serious | 70 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| El Paso County, TX | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| El Paso, TX | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Eugene-Springfield Area, OR | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Fairbanks Area, AK | CO (1971 8-hour) | Maintenance, Serious | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Fairbanks, AK | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |

Table A1-65
Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Cumulative Impacts
Acetaldehyde 2018

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|---|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Flathead County; Columbia Falls and vicinity, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Flathead County; Kalispell and vicinity, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Flathead County; Whitefish and vicinity, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Fort Collins Area, CO | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Freehold Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Fremont County; Canon City Area, CO | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Fresno Area, CA | CO (1971 8-hour) | Maintenance, Moderate > 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Grants Pass Area, OR | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Great Falls Area, MT | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Greater Connecticut, CT | Ozone (2008 8-hour) | Nonattainment, Moderate | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Greeley Area, CO | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Hancock and Brooke Counties (Part); The city of Weirton, WV | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Hancock County (Part) The city of Weirton, including Butler and Clay; Magisterial Districts, WV | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Harrisburg-Lebanon-Carlisle-York, PA | PM2.5 (2006 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Hartford-New Britain-Middletown Area, CT | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Hayden, AZ | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Hayden, AZ | SO ₂ (1971 24-hour/Annual) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Hayden, AZ | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Hillsborough County, FL | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Houston-Galveston-Brazoria, TX | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Humphreys County; (part) TVA Johnsonville, TN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Imperial Co, CA | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |

Appendix A Air Quality Non-Attainment Area Results

Table A1-65

Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Cumulative Impacts

Acetaldehyde 2018

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Imperial County, CA | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Imperial County, CA | PM2.5 (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Imperial County; Imperial Valley planning area, CA | PM10 (1987 24-hour) | Nonattainment, Serious | 70 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Indian Wells, CA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Indiana, PA | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Indianapolis Area, IN | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Indianapolis, IN | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Inyo County; Owens Valley planning area, CA | PM10 (1987 24-hour) | Nonattainment, Serious | 70 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Jackson County, MO | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Jackson County; Medford-Ashland (including White City), OR | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Jamestown, NY | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Jefferson County, KY | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Jefferson County, MO | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Jefferson County; (part) Steubenville & Mingo Junction, OH | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Jefferson County; (part), OH | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Johnstown, PA | PM2.5 (2006 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Josephine County; Grants Pass, OR | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Juneau; Mendenhall Valley area, AK | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Kern County (Eastern Kern), CA | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| King County; Kent, WA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| King County; Seattle, WA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Klamath County; Klamath Falls, OR | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Klamath Falls Area, OR | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Klamath Falls, OR | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |

Table A1-65
Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Cumulative Impacts
Acetaldehyde 2018

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Knoxville, TN | Ozone (2008 8-hour) | Maintenance, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Knoxville-Sevierville-La Follette, TN | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| La Porte County: (part), IN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lake County (part); Lakeview, OR | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lake County, OH | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lake County: (part), IN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lake County; (part) Eastlake, Timberlake, Lakeline, Willoughby, Mentor, OH | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lake County; Cities of East Chicago, Hammond, Whiting, and Gary, IN | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lake County; Polson, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lake County; Ronan, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lake Tahoe Nevada Area, NV | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lake Tahoe North Shore Area, CA | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lake Tahoe South Shore Area, CA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lancaster, PA | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lancaster, PA | PM2.5 (2006 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lane County (part); Oakridge, OR | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lane County; Eugene/Springfield, OR | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Las Vegas Area, NV | CO (1971 8-hour) | Maintenance, Serious | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| LaSalle County; Oglesby, IL | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Laurel Area, MT | SO ₂ (1971 24-hour/Annual) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lebanon County, PA | PM2.5 (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lemont, IL | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Liberty-Clairton, PA | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |

Appendix A Air Quality Non-Attainment Area Results

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Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Cumulative Impacts

Acetaldehyde 2018

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Lincoln County; Libby and vicinity, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Logan, UT-ID | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Longmont Area, CO | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lorain County (part), OH | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Los Angeles, CA | PM2.5 (2006 24-hour) | Nonattainment, Serious | 100 | 0 | 0.01 | 0.01 | 0.01 | 0.02 |
| Los Angeles-San Bernardino Counties (West Mojave Desert), CA | Ozone (2008 8-hour) | Nonattainment, Severe 15 | 25 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Los Angeles-South Coast Air Basin Area, CA | CO (1971 8-hour) | Maintenance, Serious | 100 | 0 | 0.01 | 0.01 | 0.01 | 0.02 |
| Los Angeles-South Coast Air Basin Area, CA | NO ₂ (1971 Annual) | Maintenance, -- | 100 | 0 | 0.01 | 0.01 | 0.01 | 0.02 |
| Los Angeles-South Coast Air Basin, CA | Ozone (2008 8-hour) | Nonattainment, Extreme | 10 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Los Angeles-South Coast Air Basin, CA | PM2.5 (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 0.01 | 0.01 | 0.01 | 0.02 |
| Lowell Area, MA | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lucas County (part), OH | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Madison County; Granite City Township and Nameoki Township, IL | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Manchester Area, NH | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Maricopa and Pinal Counties; Phoenix planning area, AZ | PM10 (1987 24-hour) | Nonattainment, Serious | 70 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Marion County; Lawrence, Washington, and Warrant Townships, IN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Mariposa County, CA | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Marshall, WV | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Medford Area, OR | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Memphis Area, TN | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |

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Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Cumulative Impacts
Acetaldehyde 2018

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|---|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Memphis, TN-MS-AR | Ozone (2008 8-hour) | Nonattainment TN & Maintenance MS/AR, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Miami, AZ | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Miami, AZ | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Miami, AZ | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Milwaukee-Racine, WI | PM2.5 (2006 24-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Minneapolis-St. Paul Area, MN | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Missoula Area, MT | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Missoula county; Missoula and vicinity, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Modesto Area, CA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Mohave County (part); Bullhead City, AZ | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Mono County; Mammoth Lake planning area, CA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Mono County; Mono Basin, CA | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Morenci, AZ | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Morgan County, IN | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Morongo Band of Mission Indians | Ozone (2008 8-hour) | Nonattainment, Serious | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Morristown Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Muscatine County; (part), IA | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Muscatine, IA | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Muskingum River, OH | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Nashua Area, NH | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Nassau County, FL | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Nevada County (Western part), CA | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| New Haven County, CT | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |

Appendix A Air Quality Non-Attainment Area Results

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Acetaldehyde 2018

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| New Haven-Meriden-Waterbury Area, CT | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| New Manchester-Grant magisterial district in Hancock County, WV | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| New York County, NY | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| New York, NY-NJ-CT | PM2.5 (2006 24-hour) | Maintenance, -- | 100 | 0 | -0.01 | -0.01 | -0.01 | -0.01 |
| New York-N. New Jersey-Long Island Area, NY-NJ-CT | CO (1971 8-hour) | Maintenance, Moderate > 12.7ppm | 100 | 0 | 0.00 | 0.00 | -0.01 | -0.01 |
| New York-N. New Jersey-Long Island, NY-NJ-CT | Ozone (2008 8-hour) | Nonattainment, Moderate | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| NJ portion of the Northeast Pennsylvania-Upper Delaware Valley Interstate AQCR: (part), NJ | SO ₂ (1971 24-hour/Annual) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Nogales, AZ | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Oakridge, OR | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Ogden Area, UT | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Ogden Area, UT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Olmsted County; (part), MN | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Olmsted; City of Rochester, MN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |

Table A1-65
Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Cumulative Impacts
Acetaldehyde 2018

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Pechanga Band of Luiseno Mission Indians of the Pechanga Reservation | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Pekin, IL | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Penns Grove Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Peoria County: Hollis Twp, IL | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Peoria County: Peoria, IL | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Perth Amboy Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Philadelphia-Camden County Area, PA-NJ | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Philadelphia-Wilmington, PA-NJ-DE | PM _{2.5} (2006 24-hour) | Maintenance, Moderate for PA and DE Subject to Former Subpart 1 for NJ | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Philadelphia-Wilmington-Atlantic City, PA-NJ-MD-DE | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Phoenix Area, AZ | CO (1971 8-hour) | Maintenance, Serious | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Phoenix-Mesa, AZ | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Pierce County; Tacoma, WA | PM ₁₀ (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Pima County; Ajo planning area, AZ | PM ₁₀ (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Pima County; Rillito planning area, AZ | PM ₁₀ (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Pinal and Gila Counties; Payson, AZ | PM ₁₀ (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Pinal County (part); West Pinal, AZ | PM ₁₀ (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Pitkin County; Aspen, CO | PM ₁₀ (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Pittsburgh Area, PA | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Pittsburgh-Beaver Valley, PA | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Pittsburgh-Beaver Valley, PA | PM _{2.5} (2006 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Plumas County, CA | PM _{2.5} (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Polk County, TN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |

Appendix A Air Quality Non-Attainment Area Results

Table A1-65

Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Cumulative Impacts

Acetaldehyde 2018

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|-------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Portland Area: Portland Metro Service District Boundary, OR | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Power-Bannock Counties; Fort Hall Indian Reservation, ID | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Power-Bannock Counties; Portneuf Valley Area, ID | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Provo Area, UT | CO (1971 8-hour) | Maintenance, Moderate > 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Provo, UT | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Prowers County; Lamar, CO | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Raleigh-Durham Area, NC | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Ramsey County; (part), MN | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Reading, PA | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Reno Area, NV | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Rhinelander, WI | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Riverside County (Coachella Valley), CA | Ozone (2008 8-hour) | Nonattainment, Severe 15 | 25 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Riverside County; Coachella Valley planning area, CA | PM10 (1987 24-hour) | Nonattainment, Serious | 70 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Riverside, Los Angeles, Orange, and San Bernardino Counties; South Coast Air Basin, CA | PM10 (1987 24-hour) | Maintenance, Serious | 100 | 0 | 0.01 | 0.01 | 0.01 | 0.02 |
| Rosebud County; Lame Deer, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Routt County (part); Steamboat Springs, CO | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Sacramento Area, CA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Sacramento County, CA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Sacramento Metro, CA | Ozone (2008 8-hour) | Nonattainment, Severe 15 | 25 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Sacramento, CA | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Salem Area, OR | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Salt Lake City Area, UT | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Salt Lake City, UT | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |

Table A1-65
Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Cumulative Impacts
Acetaldehyde 2018

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|---|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Salt Lake County, UT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Salt Lake County, UT | SO ₂ (1971 24-hour/Annual) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| San Bernardino County (part); excluding Searles Valley Planning area and South Coast Air Basin, CA | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| San Diego Area, CA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| San Diego County, CA | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| San Francisco Bay Area, CA | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| San Francisco Bay Area, CA | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| San Francisco-Oakland-San Jose Area, CA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| San Joaquin Valley Air Basin; Fresno, Kern, Kings, Madera, Merced, San Joaquin, Stanislaus, Tulare Counties, CA | PM10 (1987 24-hour) | Maintenance, Serious | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| San Joaquin Valley, CA | Ozone (2008 8-hour) | Nonattainment, Extreme | 10 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| San Joaquin Valley, CA | PM2.5 (2006 24-hour) | Nonattainment, Serious | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| San Joaquin Valley, CA | PM2.5 (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| San Luis Obispo (Eastern San Luis Obispo), CA | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| San Manuel, AZ | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| San Miguel County; Telluride, CO | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Sanders County (part); Thompson Falls and vicinity, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Santa Cruz County; Nogales planning area, AZ | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Seaford, DE | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Seattle-Tacoma Area, WA | CO (1971 8-hour) | Maintenance, Moderate > 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Seattle-Tacoma, WA | PM2.5 (2006 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Sheboygan County, WI | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |

Appendix A Air Quality Non-Attainment Area Results

Table A1-65

Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Cumulative Impacts

Acetaldehyde 2018

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|---|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Sheridan County; City of Sheridan, WY | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Shoshone County (part); excluding Pinehurst, ID | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Shoshone County; City of Pinehurst, ID | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Silver Bow County; Butte, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Somerville Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Southwest Indiana, IN | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Spokane Area, WA | CO (1971 8-hour) | Maintenance, Serious | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Spokane County; (part), WA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Springfield Area, MA | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| St. Bernard Parish, LA | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| St. Louis Area, MO | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| St. Louis-St. Charles-Farmington, MO-IL | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Steubenville, OH-WV | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Steubenville-Weirton, OH-WV | PM2.5 (2006 24-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Stockton Area, CA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Sullivan County, TN | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Syracuse Area; Onondaga County, NY | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Tazewell County; Groveland Twp, IL | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Terre Haute, IN | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |

Table A1-65
Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Cumulative Impacts
Acetaldehyde 2018

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|---|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Thurston County; Cities of Olympia, Tumwater, and Lacey, WA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Toms River Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Tooele County (part), UT | SO ₂ (1971 24-hour/Annual) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Trenton Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Trona, CA | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Tucson Area, AZ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Tuscan Buttes, CA | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Union County; LaGrande, OR | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Upper Green River Basin Area, WY | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Utah County, UT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Vancouver Area: Clark County (part), WA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Ventura County, CA | Ozone (2008 8-hour) | Nonattainment, Serious | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Vermillion County; Part of Clinton Township, IN | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Vigo County, IN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Walla Walla County; Wallula, WA | PM10 (1987 24-hour) | Maintenance, Serious | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Waltham Area, MA | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Warren County: Conewago Twp, PA | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Warren County: Warren Boro, Pleasant Twp, Glade Twp, PA | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Warren, PA | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Washington Area, DC-MD-VA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Washington, DC-MD-VA | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Washoe County; Reno planning area, NV | PM10 (1987 24-hour) | Nonattainment, Serious | 70 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |

Appendix A Air Quality Non-Attainment Area Results

Table A1-65

Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Cumulative Impacts

Acetaldehyde 2018

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|---|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Wayne County: Boston, Center, Franklin, Wayne & Webster Townships, IN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Wayne County; (part), MI | PM ₁₀ (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| West Central Pinal County, AZ | PM _{2.5} (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| West Silver Valley, ID | PM _{2.5} (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Winston-Salem Area, NC | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Worcester Area, MA | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Yakima Area, WA | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Yakima County; (part), WA | PM ₁₀ (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Yuba City-Marysville, CA | PM _{2.5} (2006 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Yuma County; Yuma planning area, AZ | PM ₁₀ (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |

^a Reductions are shown as positive values. Negative values are emissions increases. Values of less than 0.005 tons per year are rounded to zero.

^b Nonattainment or maintenance status as of 5/13/2016. Source: U.S. EPA, The Green Book Nonattainment Areas for Criteria Pollutants; <http://www.epa.gov/airquality/greenbook/>. "--" indicates that no severity classification has been established for the NAAQS pollutant.

^c Emissions thresholds in tons per year. Where the threshold differs by precursor pollutant, the smallest of the precursor thresholds is shown. These thresholds are provided for information only; a general conformity determination is not required for the Proposed Action. Source: 40 CFR 93.853.

Notes: CO = carbon monoxide; NAAQS = National Ambient Air Quality Standards; NO₂ = nitrogen dioxide; PM = particulate matter; SO₂ = sulfur dioxide

Table A1-66
Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Cumulative Impacts
Acetaldehyde 2025

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Ada County; Boise, ID | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Adams, Denver, and Boulder Counties; Denver Metropolitan area, CO | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | -0.01 | 0.01 | 0.00 | 0.00 |
| Ajo, AZ | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Albuquerque Area, NM | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Allegheny County Air Basin: Hazelwood monitor, PA | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Allegheny County, PA | PM2.5 (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Allegheny County; The area including Liberty, Lincoln, Port Vue, and Glassport Boroughs and the City of Clairton, PA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Allegheny, PA | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Allentown, PA | PM2.5 (2006 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Allentown-Bethlehem-Easton, PA | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Anchorage Area, AK | CO (1971 8-hour) | Maintenance, Serious | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Anchorage; Eagle River, AK | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| AQCR 012: Portions of Grant County, NM | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| AQCR 109-Millinocket, ME | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| AQCR 131: Anoka, Carver, Dakota, Hennepin, Ramsey, Scott, and Washington counties (Minneapolis-St. Paul), MN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| AQCR 237: Brown County: Green Bay sub-city area, WI | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| AQCR 238: Marathon County: Rothschild Sub-city area, Rib Mountain, Weston, WI | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| AQCR 238: Oneida County: Rhinelander Sub-city area, WI | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| AQCR 239: Milwaukee County: Milwaukee sub-city area, WI | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |

Appendix A Air Quality Non-Attainment Area Results

Table A1-66

Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Cumulative Impacts

Acetaldehyde 2025

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| AQCR 240: Dane County: Madison sub-city area, WI | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Archuleta County; Pagosa Springs, CO | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Armstrong County: Madison Twp, Mahoning Twp, Boggs Twp, Washington Twp, Pine Twp, PA | SO ₂ (1971 24-hour/Annual) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Aroostock County; City of Presque Isle, ME | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Atlanta, GA | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Atlantic City Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Bakersfield Area, CA | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.01 | 0.00 | 0.01 |
| Baltimore Area, MD | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Baltimore, MD | Ozone (2008 8-hour) | Nonattainment, Moderate | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Baton Rouge, LA | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Beaver, PA | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Benton County; (part) TVA Johnsonville, TN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Billings Area, MT | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Billings, MT | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Birmingham, AL | PM2.5 (2006 24-hour) | Maintenance, -- | 100 | 0 | -0.01 | 0.01 | 0.00 | 0.00 |
| Boise-Northern Ada County Area, ID | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Bonner County; The Sandpoint Area, ID | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Boston Area, MA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Boyd County (part), KY | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Brooke; Follansbee area, WV | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Burlington Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Calaveras County, CA | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Campbell-Clermont Counties, KY-OH | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |

Table A1-66
Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Cumulative Impacts
Acetaldehyde 2025

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|---|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Canton-Massillon, OH | PM2.5 (2006 24-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.02 | 0.01 | 0.02 |
| Central New Hampshire, NH | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Central Steptoe Valley, NV | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Charleston, WV | PM2.5 (2006 24-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Charlotte Area, NC | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | -0.01 | 0.01 | 0.00 | 0.00 |
| Charlotte-Rock Hill, NC-SC | Ozone (2008 8-hour) | Maintenance, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Chicago-Naperville, IL-IN-WI | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Chico (Butte County), CA | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Chico Area, CA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Chico, CA | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Cincinnati, OH-KY-IN | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Clark County; Las Vegas planning area, NV | PM10 (1987 24-hour) | Maintenance, Serious | 100 | 0 | -0.01 | 0.01 | 0.00 | 0.00 |
| Cleveland Area, OH | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | -0.01 | 0.00 | 0.00 | 0.00 |
| Cleveland, OH | PM2.5 (2012 Annual) | Nonattainment, Moderate | 100 | 0 | -0.01 | 0.01 | 0.00 | 0.00 |
| Cleveland-Akron-Lorain, OH | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Cleveland-Akron-Lorain, OH | PM2.5 (2006 24-hour) | Maintenance, -- | 100 | 0 | -0.02 | 0.01 | 0.00 | 0.01 |
| Cochise County; Paul Spur/Douglas planning area, AZ | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Colorado Springs Area, CO | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Columbus, OH | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Cook County; Lyons Township, IL | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Cook County; Southeast Chicago, IL | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Coshocton County; Franklin Township, OH | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Coso Junction, CA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Cuyahoga County (part), OH | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Cuyahoga County, OH | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | -0.01 | 0.00 | 0.00 | 0.00 |

Appendix A Air Quality Non-Attainment Area Results

Table A1-66

Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Cumulative Impacts

Acetaldehyde 2025

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Dallas-Fort Worth, TX | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Delaware County, PA | PM2.5 (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Denver-Boulder Area, CO | CO (1971 8-hour) | Maintenance, Serious | 100 | 0 | -0.01 | 0.01 | 0.00 | 0.01 |
| Denver-Boulder-Greeley-Ft Collins-Loveland, CO | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Detroit Area, MI | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | -0.01 | 0.01 | 0.00 | 0.01 |
| Detroit, MI | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Detroit-Ann Arbor, MI | PM2.5 (2006 24-hour) | Maintenance, -- | 100 | 0 | -0.03 | 0.02 | 0.01 | 0.02 |
| Dona Ana County; Anthony, NM | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Douglas, AZ | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Dukes County, MA | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Duluth Area, MN | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| East Chicago Area, IN | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| East Helena Area, MT | SO ₂ (1971 24-hour/Annual) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| East Kern County Area, CA | PM10 (1987 24-hour) | Nonattainment, Serious | 70 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| El Paso County, TX | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| El Paso, TX | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Eugene-Springfield Area, OR | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Fairbanks Area, AK | CO (1971 8-hour) | Maintenance, Serious | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Fairbanks, AK | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |

Table A1-66
Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Cumulative Impacts
Acetaldehyde 2025

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|---|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Flathead County; Columbia Falls and vicinity, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Flathead County; Kalispell and vicinity, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Flathead County; Whitefish and vicinity, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Fort Collins Area, CO | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Freehold Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Fremont County; Canon City Area, CO | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Fresno Area, CA | CO (1971 8-hour) | Maintenance, Moderate > 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Grants Pass Area, OR | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Great Falls Area, MT | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Greater Connecticut, CT | Ozone (2008 8-hour) | Nonattainment, Moderate | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Greeley Area, CO | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Hancock and Brooke Counties (Part); The city of Weirton, WV | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Hancock County (Part) The city of Weirton, including Butler and Clay: Magisterial Districts, WV | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Harrisburg-Lebanon-Carlisle-York, PA | PM2.5 (2006 24-hour) | Maintenance, Moderate | 100 | 0 | -0.01 | 0.01 | 0.00 | 0.00 |
| Hartford-New Britain-Middletown Area, CT | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | -0.01 | 0.00 | 0.00 | 0.00 |
| Hayden, AZ | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Hayden, AZ | SO ₂ (1971 24-hour/Annual) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Hayden, AZ | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Hillsborough County, FL | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Houston-Galveston-Brazoria, TX | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Humphreys County; (part) TVA Johnsonville, TN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Imperial Co, CA | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |

Appendix A Air Quality Non-Attainment Area Results

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Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Cumulative Impacts

Acetaldehyde 2025

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Imperial County, CA | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Imperial County, CA | PM2.5 (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Imperial County; Imperial Valley planning area, CA | PM10 (1987 24-hour) | Nonattainment, Serious | 70 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Indian Wells, CA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Indiana, PA | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Indianapolis Area, IN | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Indianapolis, IN | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Inyo County; Owens Valley planning area, CA | PM10 (1987 24-hour) | Nonattainment, Serious | 70 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Jackson County, MO | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Jackson County; Medford-Ashland (including White City), OR | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Jamestown, NY | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Jefferson County, KY | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Jefferson County, MO | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Jefferson County; (part) Steubenville & Mingo Junction, OH | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Jefferson County; (part), OH | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Johnstown, PA | PM2.5 (2006 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Josephine County; Grants Pass, OR | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Juneau; Mendenhall Valley area, AK | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Kern County (Eastern Kern), CA | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| King County; Kent, WA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| King County; Seattle, WA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Klamath County; Klamath Falls, OR | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Klamath Falls Area, OR | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Klamath Falls, OR | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |

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Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Cumulative Impacts
Acetaldehyde 2025

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Knoxville, TN | Ozone (2008 8-hour) | Maintenance, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Knoxville-Sevierville-La Follette, TN | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | -0.01 | 0.00 | 0.00 | 0.00 |
| La Porte County: (part), IN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lake County (part); Lakeview, OR | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lake County, OH | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lake County: (part), IN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lake County; (part) Eastlake, Timberlake, Lakeline, Willoughby, Mentor, OH | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lake County; Cities of East Chicago, Hammond, Whiting, and Gary, IN | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lake County; Polson, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lake County; Ronan, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lake Tahoe Nevada Area, NV | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lake Tahoe North Shore Area, CA | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lake Tahoe South Shore Area, CA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lancaster, PA | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lancaster, PA | PM2.5 (2006 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lane County (part); Oakridge, OR | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lane County; Eugene/Springfield, OR | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Las Vegas Area, NV | CO (1971 8-hour) | Maintenance, Serious | 100 | 0 | -0.01 | 0.01 | 0.00 | 0.00 |
| LaSalle County; Oglesby, IL | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Laurel Area, MT | SO ₂ (1971 24-hour/Annual) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lebanon County, PA | PM2.5 (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lemont, IL | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Liberty-Clairton, PA | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |

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Acetaldehyde 2025

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Lincoln County; Libby and vicinity, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Logan, UT-ID | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Longmont Area, CO | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lorain County (part), OH | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Los Angeles, CA | PM2.5 (2006 24-hour) | Nonattainment, Serious | 100 | 0 | 0.46 | 1.17 | 1.15 | 1.80 |
| Los Angeles-San Bernardino Counties (West Mojave Desert), CA | Ozone (2008 8-hour) | Nonattainment, Severe 15 | 25 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Los Angeles-South Coast Air Basin Area, CA | CO (1971 8-hour) | Maintenance, Serious | 100 | 0 | 0.46 | 1.17 | 1.15 | 1.80 |
| Los Angeles-South Coast Air Basin Area, CA | NO ₂ (1971 Annual) | Maintenance, -- | 100 | 0 | 0.46 | 1.17 | 1.15 | 1.80 |
| Los Angeles-South Coast Air Basin, CA | Ozone (2008 8-hour) | Nonattainment, Extreme | 10 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Los Angeles-South Coast Air Basin, CA | PM2.5 (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 0.46 | 1.17 | 1.15 | 1.80 |
| Lowell Area, MA | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lucas County (part), OH | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Madison County; Granite City Township and Nameoki Township, IL | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Manchester Area, NH | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Maricopa and Pinal Counties; Phoenix planning area, AZ | PM10 (1987 24-hour) | Nonattainment, Serious | 70 | 0 | -0.02 | 0.01 | 0.00 | 0.01 |
| Marion County; Lawrence, Washington, and Warrant Townships, IN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Mariposa County, CA | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Marshall, WV | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Medford Area, OR | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Memphis Area, TN | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.01 | 0.03 | 0.02 | 0.04 |

Table A1-66
Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Cumulative Impacts
Acetaldehyde 2025

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|---|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Memphis, TN-MS-AR | Ozone (2008 8-hour) | Nonattainment TN & Maintenance MS/AR, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Miami, AZ | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Miami, AZ | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Miami, AZ | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Milwaukee-Racine, WI | PM2.5 (2006 24-hour) | Maintenance, -- | 100 | 0 | -0.01 | 0.00 | 0.00 | 0.00 |
| Minneapolis-St. Paul Area, MN | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.02 | 0.09 | 0.08 | 0.13 |
| Missoula Area, MT | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Missoula county; Missoula and vicinity, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Modesto Area, CA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Mohave County (part); Bullhead City, AZ | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Mono County; Mammoth Lake planning area, CA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Mono County; Mono Basin, CA | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Morenci, AZ | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Morgan County, IN | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Morongo Band of Mission Indians | Ozone (2008 8-hour) | Nonattainment, Serious | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Morristown Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Muscatine County; (part), IA | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Muscatine, IA | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Muskingum River, OH | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Nashua Area, NH | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Nassau County, FL | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Nevada County (Western part), CA | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| New Haven County, CT | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |

Appendix A Air Quality Non-Attainment Area Results

Table A1-66

Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Cumulative Impacts

Acetaldehyde 2025

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| New Haven-Meriden-Waterbury Area, CT | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| New Manchester-Grant magisterial district in Hancock County, WV | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| New York County, NY | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| New York, NY-NJ-CT | PM2.5 (2006 24-hour) | Maintenance, -- | 100 | 0 | -0.09 | 0.07 | 0.01 | 0.05 |
| New York-N. New Jersey-Long Island Area, NY-NJ-CT | CO (1971 8-hour) | Maintenance, Moderate > 12.7ppm | 100 | 0 | -0.05 | 0.04 | 0.01 | 0.03 |
| New York-N. New Jersey-Long Island, NY-NJ-CT | Ozone (2008 8-hour) | Nonattainment, Moderate | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| NJ portion of the Northeast Pennsylvania-Upper Delaware Valley Interstate AQCR: (part), NJ | SO ₂ (1971 24-hour/Annual) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Nogales, AZ | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Oakridge, OR | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Ogden Area, UT | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Ogden Area, UT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Olmsted County; (part), MN | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Olmsted; City of Rochester, MN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |

Table A1-66
Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Cumulative Impacts
Acetaldehyde 2025

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Pechanga Band of Luiseno Mission Indians of the Pechanga Reservation | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Pekin, IL | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Penns Grove Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Peoria County: Hollis Twp, IL | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Peoria County: Peoria, IL | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Perth Amboy Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Philadelphia-Camden County Area, PA-NJ | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | -0.01 | 0.00 | 0.00 | 0.00 |
| Philadelphia-Wilmington, PA-NJ-DE | PM _{2.5} (2006 24-hour) | Maintenance, Moderate for PA and DE Subject to Former Subpart 1 for NJ | 100 | 0 | -0.02 | 0.02 | 0.00 | 0.01 |
| Philadelphia-Wilmington-Atlantic City, PA-NJ-MD-DE | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Phoenix Area, AZ | CO (1971 8-hour) | Maintenance, Serious | 100 | 0 | -0.02 | 0.01 | 0.00 | 0.01 |
| Phoenix-Mesa, AZ | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Pierce County; Tacoma, WA | PM ₁₀ (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Pima County; Ajo planning area, AZ | PM ₁₀ (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Pima County; Rillito planning area, AZ | PM ₁₀ (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Pinal and Gila Counties; Payson, AZ | PM ₁₀ (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Pinal County (part); West Pinal, AZ | PM ₁₀ (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Pitkin County; Aspen, CO | PM ₁₀ (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Pittsburgh Area, PA | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Pittsburgh-Beaver Valley, PA | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Pittsburgh-Beaver Valley, PA | PM _{2.5} (2006 24-hour) | Maintenance, Moderate | 100 | 0 | -0.01 | 0.01 | 0.00 | 0.01 |
| Plumas County, CA | PM _{2.5} (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Polk County, TN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |

Appendix A Air Quality Non-Attainment Area Results

Table A1-66

Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Cumulative Impacts

Acetaldehyde 2025

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|-------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Portland Area: Portland Metro Service District Boundary, OR | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | -0.01 | 0.00 | 0.00 | 0.00 |
| Power-Bannock Counties; Fort Hall Indian Reservation, ID | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Power-Bannock Counties; Portneuf Valley Area, ID | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Provo Area, UT | CO (1971 8-hour) | Maintenance, Moderate > 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Provo, UT | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Prowers County; Lamar, CO | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Raleigh-Durham Area, NC | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | -0.01 | 0.01 | 0.00 | 0.00 |
| Ramsey County; (part), MN | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Reading, PA | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Reno Area, NV | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Rhinelander, WI | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Riverside County (Coachella Valley), CA | Ozone (2008 8-hour) | Nonattainment, Severe 15 | 25 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Riverside County; Coachella Valley planning area, CA | PM10 (1987 24-hour) | Nonattainment, Serious | 70 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Riverside, Los Angeles, Orange, and San Bernardino Counties; South Coast Air Basin, CA | PM10 (1987 24-hour) | Maintenance, Serious | 100 | 0 | 0.46 | 1.17 | 1.15 | 1.80 |
| Rosebud County; Lame Deer, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Routt County (part); Steamboat Springs, CO | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Sacramento Area, CA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | -0.01 | 0.01 | 0.00 | 0.00 |
| Sacramento County, CA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | -0.01 | 0.01 | 0.00 | 0.00 |
| Sacramento Metro, CA | Ozone (2008 8-hour) | Nonattainment, Severe 15 | 25 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Sacramento, CA | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | -0.01 | 0.01 | 0.01 | 0.01 |
| Salem Area, OR | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Salt Lake City Area, UT | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Salt Lake City, UT | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | -0.01 | 0.01 | 0.00 | 0.00 |

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Acetaldehyde 2025

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|---|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Salt Lake County, UT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | -0.01 | 0.00 | 0.00 | 0.00 |
| Salt Lake County, UT | SO ₂ (1971 24-hour/Annual) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| San Bernardino County (part); excluding Searles Valley Planning area and South Coast Air Basin, CA | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| San Diego Area, CA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | -0.02 | 0.01 | 0.00 | 0.01 |
| San Diego County, CA | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| San Francisco Bay Area, CA | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| San Francisco Bay Area, CA | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.02 | 0.15 | 0.13 | 0.21 |
| San Francisco-Oakland-San Jose Area, CA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.03 | 0.15 | 0.13 | 0.21 |
| San Joaquin Valley Air Basin; Fresno, Kern, Kings, Madera, Merced, San Joaquin, Stanislaus, Tulare Counties, CA | PM10 (1987 24-hour) | Maintenance, Serious | 100 | 0 | -0.02 | 0.02 | 0.01 | 0.02 |
| San Joaquin Valley, CA | Ozone (2008 8-hour) | Nonattainment, Extreme | 10 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| San Joaquin Valley, CA | PM2.5 (2006 24-hour) | Nonattainment, Serious | 100 | 0 | -0.02 | 0.02 | 0.01 | 0.02 |
| San Joaquin Valley, CA | PM2.5 (2012 Annual) | Nonattainment, Moderate | 100 | 0 | -0.02 | 0.02 | 0.01 | 0.02 |
| San Luis Obispo (Eastern San Luis Obispo), CA | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| San Manuel, AZ | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| San Miguel County; Telluride, CO | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Sanders County (part); Thompson Falls and vicinity, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Santa Cruz County; Nogales planning area, AZ | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Seaford, DE | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Seattle-Tacoma Area, WA | CO (1971 8-hour) | Maintenance, Moderate > 12.7ppm | 100 | 0 | -0.02 | 0.01 | 0.00 | 0.01 |
| Seattle-Tacoma, WA | PM2.5 (2006 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Sheboygan County, WI | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |

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|---|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Sheridan County; City of Sheridan, WY | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Shoshone County (part); excluding Pinehurst, ID | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Shoshone County; City of Pinehurst, ID | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Silver Bow County; Butte, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Somerville Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Southwest Indiana, IN | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Spokane Area, WA | CO (1971 8-hour) | Maintenance, Serious | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Spokane County; (part), WA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Springfield Area, MA | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| St. Bernard Parish, LA | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.02 | 0.03 | 0.03 | 0.05 |
| St. Louis Area, MO | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| St. Louis-St. Charles-Farmington, MO-IL | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Steubenville, OH-WV | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Steubenville-Weirton, OH-WV | PM2.5 (2006 24-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Stockton Area, CA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Sullivan County, TN | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Syracuse Area; Onondaga County, NY | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Tazewell County; Groveland Twp, IL | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Terre Haute, IN | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |

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Acetaldehyde 2025

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|---|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Thurston County; Cities of Olympia, Tumwater, and Lacey, WA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Toms River Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Tooele County (part), UT | SO ₂ (1971 24-hour/Annual) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Trenton Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Trona, CA | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Tucson Area, AZ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Tuscan Buttes, CA | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Union County; LaGrande, OR | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Upper Green River Basin Area, WY | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Utah County, UT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Vancouver Area: Clark County (part), WA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Ventura County, CA | Ozone (2008 8-hour) | Nonattainment, Serious | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Vermillion County; Part of Clinton Township, IN | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Vigo County, IN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Walla Walla County; Wallula, WA | PM10 (1987 24-hour) | Maintenance, Serious | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Waltham Area, MA | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Warren County: Conewago Twp, PA | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Warren County: Warren Boro, Pleasant Twp, Glade Twp, PA | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Warren, PA | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Washington Area, DC-MD-VA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Washington, DC-MD-VA | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Washoe County; Reno planning area, NV | PM10 (1987 24-hour) | Nonattainment, Serious | 70 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |

Appendix A Air Quality Non-Attainment Area Results

Table A1-66

Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Cumulative Impacts

Acetaldehyde 2025

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|---|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Wayne County: Boston, Center, Franklin, Wayne & Webster Townships, IN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Wayne County; (part), MI | PM ₁₀ (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| West Central Pinal County, AZ | PM _{2.5} (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| West Silver Valley, ID | PM _{2.5} (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Winston-Salem Area, NC | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Worcester Area, MA | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Yakima Area, WA | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Yakima County; (part), WA | PM ₁₀ (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Yuba City-Marysville, CA | PM _{2.5} (2006 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Yuma County; Yuma planning area, AZ | PM ₁₀ (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |

^a Reductions are shown as positive values. Negative values are emissions increases. Values of less than 0.005 tons per year are rounded to zero.

^b Nonattainment or maintenance status as of 5/13/2016. Source: U.S. EPA, The Green Book Nonattainment Areas for Criteria Pollutants; <http://www.epa.gov/airquality/greenbook/>. "--" indicates that no severity classification has been established for the NAAQS pollutant.

^c Emissions thresholds in tons per year. Where the threshold differs by precursor pollutant, the smallest of the precursor thresholds is shown. These thresholds are provided for information only; a general conformity determination is not required for the Proposed Action. Source: 40 CFR 93.853.

Notes: CO = carbon monoxide; NAAQS = National Ambient Air Quality Standards; NO₂ = nitrogen dioxide; PM = particulate matter; SO₂ = sulfur dioxide

Table A1-67
Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Cumulative Impacts
Acetaldehyde 2040

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Ada County; Boise, ID | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.01 | 0.00 | 0.01 |
| Adams, Denver, and Boulder Counties; Denver Metropolitan area, CO | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.06 | 0.02 | 0.03 |
| Ajo, AZ | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Albuquerque Area, NM | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.03 | 0.01 | 0.01 |
| Allegheny County Air Basin: Hazelwood monitor, PA | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Allegheny County, PA | PM2.5 (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.03 | 0.01 | 0.01 |
| Allegheny County; The area including Liberty, Lincoln, Port Vue, and Glassport Boroughs and the City of Clairton, PA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Allegheny, PA | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Allentown, PA | PM2.5 (2006 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.02 | 0.01 | 0.01 |
| Allentown-Bethlehem-Easton, PA | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Anchorage Area, AK | CO (1971 8-hour) | Maintenance, Serious | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Anchorage; Eagle River, AK | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| AQCR 012: Portions of Grant County, NM | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| AQCR 109-Millinocket, ME | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| AQCR 131: Anoka, Carver, Dakota, Hennepin, Ramsey, Scott, and Washington counties (Minneapolis-St. Paul), MN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| AQCR 237: Brown County: Green Bay sub-city area, WI | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| AQCR 238: Marathon County: Rothschild Sub-city area, Rib Mountain, Weston, WI | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| AQCR 238: Oneida County: Rhinelander Sub-city area, WI | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| AQCR 239: Milwaukee County: Milwaukee sub-city area, WI | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |

Appendix A Air Quality Non-Attainment Area Results

Table A1-67

Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Cumulative Impacts

Acetaldehyde 2040

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| AQCR 240: Dane County: Madison sub-city area, WI | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Archuleta County; Pagosa Springs, CO | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Armstrong County: Madison Twp, Mahoning Twp, Boggs Twp, Washington Twp, Pine Twp, PA | SO ₂ (1971 24-hour/Annual) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Aroostock County; City of Presque Isle, ME | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Atlanta, GA | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Atlantic City Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Bakersfield Area, CA | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.03 | 0.02 | 0.02 |
| Baltimore Area, MD | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Baltimore, MD | Ozone (2008 8-hour) | Nonattainment, Moderate | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Baton Rouge, LA | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Beaver, PA | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Benton County; (part) TVA Johnsonville, TN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Billings Area, MT | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Billings, MT | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Birmingham, AL | PM2.5 (2006 24-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.05 | 0.02 | 0.02 |
| Boise-Northern Ada County Area, ID | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.01 | 0.00 | 0.01 |
| Bonner County; The Sandpoint Area, ID | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Boston Area, MA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.03 | 0.01 | 0.01 |
| Boyd County (part), KY | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Brooke; Follansbee area, WV | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Burlington Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Calaveras County, CA | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Campbell-Clermont Counties, KY-OH | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |

Table A1-67
Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Cumulative Impacts
Acetaldehyde 2040

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|---|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Canton-Massillon, OH | PM2.5 (2006 24-hour) | Maintenance, -- | 100 | 0 | 0.02 | 0.08 | 0.05 | 0.08 |
| Central New Hampshire, NH | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.01 | 0.00 | 0.00 |
| Central Steptoe Valley, NV | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Charleston, WV | PM2.5 (2006 24-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.02 | 0.01 | 0.01 |
| Charlotte Area, NC | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.05 | 0.02 | 0.02 |
| Charlotte-Rock Hill, NC-SC | Ozone (2008 8-hour) | Maintenance, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Chicago-Naperville, IL-IN-WI | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Chico (Butte County), CA | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Chico Area, CA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Chico, CA | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.01 | 0.00 | 0.00 |
| Cincinnati, OH-KY-IN | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Clark County; Las Vegas planning area, NV | PM10 (1987 24-hour) | Maintenance, Serious | 100 | 0 | 0.00 | 0.07 | 0.02 | 0.03 |
| Cleveland Area, OH | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.04 | 0.01 | 0.02 |
| Cleveland, OH | PM2.5 (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.05 | 0.02 | 0.02 |
| Cleveland-Akron-Lorain, OH | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Cleveland-Akron-Lorain, OH | PM2.5 (2006 24-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.11 | 0.04 | 0.05 |
| Cochise County; Paul Spur/Douglas planning area, AZ | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Colorado Springs Area, CO | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.02 | 0.01 | 0.01 |
| Columbus, OH | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Cook County; Lyons Township, IL | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Cook County; Southeast Chicago, IL | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Coshocton County; Franklin Township, OH | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Coso Junction, CA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Cuyahoga County (part), OH | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Cuyahoga County, OH | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.04 | 0.01 | 0.02 |

Appendix A Air Quality Non-Attainment Area Results

Table A1-67

Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Cumulative Impacts

Acetaldehyde 2040

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Dallas-Fort Worth, TX | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Delaware County, PA | PM2.5 (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.01 | 0.00 | 0.01 |
| Denver-Boulder Area, CO | CO (1971 8-hour) | Maintenance, Serious | 100 | 0 | 0.00 | 0.10 | 0.04 | 0.04 |
| Denver-Boulder-Greeley-Ft Collins-Loveland, CO | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Detroit Area, MI | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.07 | 0.03 | 0.04 |
| Detroit, MI | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.02 | 0.01 | 0.02 |
| Detroit-Ann Arbor, MI | PM2.5 (2006 24-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.22 | 0.08 | 0.10 |
| Dona Ana County; Anthony, NM | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Douglas, AZ | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Dukes County, MA | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Duluth Area, MN | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.01 | 0.00 | 0.00 |
| East Chicago Area, IN | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| East Helena Area, MT | SO ₂ (1971 24-hour/Annual) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| East Kern County Area, CA | PM10 (1987 24-hour) | Nonattainment, Serious | 70 | 0 | 0.00 | 0.01 | 0.01 | 0.02 |
| El Paso County, TX | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.02 | 0.01 | 0.01 |
| El Paso, TX | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Eugene-Springfield Area, OR | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.01 | 0.00 | 0.00 |
| Fairbanks Area, AK | CO (1971 8-hour) | Maintenance, Serious | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Fairbanks, AK | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |

Table A1-67
Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Cumulative Impacts
Acetaldehyde 2040

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|---|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Flathead County; Columbia Falls and vicinity, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Flathead County; Kalispell and vicinity, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Flathead County; Whitefish and vicinity, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Fort Collins Area, CO | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Freehold Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Fremont County; Canon City Area, CO | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Fresno Area, CA | CO (1971 8-hour) | Maintenance, Moderate > 12.7ppm | 100 | 0 | 0.00 | 0.02 | 0.01 | 0.01 |
| Grants Pass Area, OR | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Great Falls Area, MT | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Greater Connecticut, CT | Ozone (2008 8-hour) | Nonattainment, Moderate | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Greeley Area, CO | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.02 | 0.01 | 0.01 |
| Hancock and Brooke Counties (Part); The city of Weirton, WV | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Hancock County (Part) The city of Weirton, including Butler and Clay: Magisterial Districts, WV | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Harrisburg-Lebanon-Carlisle-York, PA | PM2.5 (2006 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.05 | 0.02 | 0.02 |
| Hartford-New Britain-Middletown Area, CT | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.05 | 0.02 | 0.02 |
| Hayden, AZ | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Hayden, AZ | SO ₂ (1971 24-hour/Annual) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Hayden, AZ | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Hillsborough County, FL | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Houston-Galveston-Brazoria, TX | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Humphreys County; (part) TVA Johnsonville, TN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Imperial Co, CA | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.01 | 0.00 | 0.00 |

Appendix A Air Quality Non-Attainment Area Results

Table A1-67

Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Cumulative Impacts

Acetaldehyde 2040

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Imperial County, CA | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Imperial County, CA | PM2.5 (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.01 | 0.00 | 0.00 |
| Imperial County; Imperial Valley planning area, CA | PM10 (1987 24-hour) | Nonattainment, Serious | 70 | 0 | 0.00 | 0.01 | 0.00 | 0.00 |
| Indian Wells, CA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.01 | 0.01 | 0.02 |
| Indiana, PA | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Indianapolis Area, IN | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Indianapolis, IN | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.02 | 0.01 | 0.01 |
| Inyo County; Owens Valley planning area, CA | PM10 (1987 24-hour) | Nonattainment, Serious | 70 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Jackson County, MO | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Jackson County; Medford-Ashland (including White City), OR | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.01 | 0.00 | 0.00 |
| Jamestown, NY | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Jefferson County, KY | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Jefferson County, MO | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Jefferson County; (part) Steubenville & Mingo Junction, OH | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Jefferson County; (part), OH | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Johnstown, PA | PM2.5 (2006 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.01 | 0.00 | 0.00 |
| Josephine County; Grants Pass, OR | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Juneau; Mendenhall Valley area, AK | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Kern County (Eastern Kern), CA | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| King County; Kent, WA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| King County; Seattle, WA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Klamath County; Klamath Falls, OR | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Klamath Falls Area, OR | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Klamath Falls, OR | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |

Table A1-67
Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Cumulative Impacts
Acetaldehyde 2040

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Knoxville, TN | Ozone (2008 8-hour) | Maintenance, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Knoxville-Sevierville-La Follette, TN | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.04 | 0.01 | 0.02 |
| La Porte County: (part), IN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lake County (part); Lakeview, OR | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lake County, OH | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.01 | 0.00 | 0.00 |
| Lake County: (part), IN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lake County; (part) Eastlake, Timberlake, Lakeline, Willoughby, Mentor, OH | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lake County; Cities of East Chicago, Hammond, Whiting, and Gary, IN | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.01 | 0.00 | 0.00 |
| Lake County; Polson, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lake County; Ronan, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lake Tahoe Nevada Area, NV | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lake Tahoe North Shore Area, CA | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lake Tahoe South Shore Area, CA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lancaster, PA | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lancaster, PA | PM2.5 (2006 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.02 | 0.01 | 0.01 |
| Lane County (part); Oakridge, OR | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lane County; Eugene/Springfield, OR | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.01 | 0.00 | 0.00 |
| Las Vegas Area, NV | CO (1971 8-hour) | Maintenance, Serious | 100 | 0 | 0.00 | 0.07 | 0.02 | 0.03 |
| LaSalle County; Oglesby, IL | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Laurel Area, MT | SO ₂ (1971 24-hour/Annual) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lebanon County, PA | PM2.5 (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.01 | 0.00 | 0.00 |
| Lemont, IL | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.01 | 0.00 | 0.00 |
| Liberty-Clairton, PA | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |

Appendix A Air Quality Non-Attainment Area Results

Table A1-67

Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Cumulative Impacts

Acetaldehyde 2040

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Lincoln County; Libby and vicinity, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Logan, UT-ID | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Longmont Area, CO | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lorain County (part), OH | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Los Angeles, CA | PM2.5 (2006 24-hour) | Nonattainment, Serious | 100 | 0 | 1.83 | 5.27 | 4.05 | 5.72 |
| Los Angeles-San Bernardino Counties (West Mojave Desert), CA | Ozone (2008 8-hour) | Nonattainment, Severe 15 | 25 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Los Angeles-South Coast Air Basin Area, CA | CO (1971 8-hour) | Maintenance, Serious | 100 | 0 | 1.83 | 5.27 | 4.05 | 5.72 |
| Los Angeles-South Coast Air Basin Area, CA | NO ₂ (1971 Annual) | Maintenance, -- | 100 | 0 | 1.83 | 5.27 | 4.05 | 5.72 |
| Los Angeles-South Coast Air Basin, CA | Ozone (2008 8-hour) | Nonattainment, Extreme | 10 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Los Angeles-South Coast Air Basin, CA | PM2.5 (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 1.83 | 5.27 | 4.05 | 5.72 |
| Lowell Area, MA | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lucas County (part), OH | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Madison County; Granite City Township and Nameoki Township, IL | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.01 | 0.00 | 0.01 |
| Manchester Area, NH | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Maricopa and Pinal Counties; Phoenix planning area, AZ | PM10 (1987 24-hour) | Nonattainment, Serious | 70 | 0 | -0.01 | 0.15 | 0.05 | 0.06 |
| Marion County; Lawrence, Washington, and Warrant Townships, IN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Mariposa County, CA | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Marshall, WV | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Medford Area, OR | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Memphis Area, TN | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.04 | 0.13 | 0.09 | 0.12 |

Table A1-67
Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Cumulative Impacts
Acetaldehyde 2040

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|---|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Memphis, TN-MS-AR | Ozone (2008 8-hour) | Nonattainment TN & Maintenance MS/AR, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Miami, AZ | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Miami, AZ | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Miami, AZ | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Milwaukee-Racine, WI | PM2.5 (2006 24-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.05 | 0.02 | 0.02 |
| Minneapolis-St. Paul Area, MN | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.12 | 0.44 | 0.30 | 0.42 |
| Missoula Area, MT | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Missoula county; Missoula and vicinity, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Modesto Area, CA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.01 | 0.00 | 0.00 |
| Mohave County (part); Bullhead City, AZ | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Mono County; Mammoth Lake planning area, CA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Mono County; Mono Basin, CA | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Morenci, AZ | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Morgan County, IN | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Morongo Band of Mission Indians | Ozone (2008 8-hour) | Nonattainment, Serious | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Morristown Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Muscatine County; (part), IA | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Muscatine, IA | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Muskingum River, OH | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Nashua Area, NH | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Nassau County, FL | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Nevada County (Western part), CA | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| New Haven County, CT | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |

Appendix A Air Quality Non-Attainment Area Results

Table A1-67

Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Cumulative Impacts

Acetaldehyde 2040

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| New Haven-Meriden-Waterbury Area, CT | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.04 | 0.01 | 0.02 |
| New Manchester-Grant magisterial district in Hancock County, WV | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| New York County, NY | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.02 | 0.01 | 0.01 |
| New York, NY-NJ-CT | PM2.5 (2006 24-hour) | Maintenance, -- | 100 | 0 | -0.03 | 0.66 | 0.22 | 0.28 |
| New York-N. New Jersey-Long Island Area, NY-NJ-CT | CO (1971 8-hour) | Maintenance, Moderate > 12.7ppm | 100 | 0 | -0.01 | 0.36 | 0.12 | 0.16 |
| New York-N. New Jersey-Long Island, NY-NJ-CT | Ozone (2008 8-hour) | Nonattainment, Moderate | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| NJ portion of the Northeast Pennsylvania-Upper Delaware Valley Interstate AQCR: (part), NJ | SO ₂ (1971 24-hour/Annual) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Nogales, AZ | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Oakridge, OR | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Ogden Area, UT | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Ogden Area, UT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Olmsted County; (part), MN | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Olmsted; City of Rochester, MN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |

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Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Cumulative Impacts
Acetaldehyde 2040

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Pechanga Band of Luiseno Mission Indians of the Pechanga Reservation | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Pekin, IL | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Penns Grove Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Peoria County: Hollis Twp, IL | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Peoria County: Peoria, IL | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Perth Amboy Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Philadelphia-Camden County Area, PA-NJ | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.04 | 0.01 | 0.02 |
| Philadelphia-Wilmington, PA-NJ-DE | PM _{2.5} (2006 24-hour) | Maintenance, Moderate for PA and DE Subject to Former Subpart 1 for NJ | 100 | 0 | -0.01 | 0.18 | 0.06 | 0.07 |
| Philadelphia-Wilmington-Atlantic City, PA-NJ-MD-DE | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Phoenix Area, AZ | CO (1971 8-hour) | Maintenance, Serious | 100 | 0 | -0.01 | 0.14 | 0.05 | 0.06 |
| Phoenix-Mesa, AZ | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Pierce County; Tacoma, WA | PM ₁₀ (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Pima County; Ajo planning area, AZ | PM ₁₀ (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Pima County; Rillito planning area, AZ | PM ₁₀ (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Pinal and Gila Counties; Payson, AZ | PM ₁₀ (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Pinal County (part); West Pinal, AZ | PM ₁₀ (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.02 | 0.01 | 0.01 |
| Pitkin County; Aspen, CO | PM ₁₀ (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Pittsburgh Area, PA | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.01 | 0.00 | 0.00 |
| Pittsburgh-Beaver Valley, PA | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Pittsburgh-Beaver Valley, PA | PM _{2.5} (2006 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.07 | 0.02 | 0.03 |
| Plumas County, CA | PM _{2.5} (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Polk County, TN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |

Appendix A Air Quality Non-Attainment Area Results

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Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Cumulative Impacts

Acetaldehyde 2040

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|-------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Portland Area: Portland Metro Service District Boundary, OR | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.05 | 0.02 | 0.02 |
| Power-Bannock Counties; Fort Hall Indian Reservation, ID | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Power-Bannock Counties; Portneuf Valley Area, ID | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Provo Area, UT | CO (1971 8-hour) | Maintenance, Moderate > 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Provo, UT | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.02 | 0.01 | 0.01 |
| Prowers County; Lamar, CO | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Raleigh-Durham Area, NC | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.06 | 0.02 | 0.02 |
| Ramsey County; (part), MN | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Reading, PA | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Reno Area, NV | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.01 | 0.00 | 0.01 |
| Rhinelander, WI | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Riverside County (Coachella Valley), CA | Ozone (2008 8-hour) | Nonattainment, Severe 15 | 25 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Riverside County; Coachella Valley planning area, CA | PM10 (1987 24-hour) | Nonattainment, Serious | 70 | 0 | 0.00 | 0.02 | 0.01 | 0.01 |
| Riverside, Los Angeles, Orange, and San Bernardino Counties; South Coast Air Basin, CA | PM10 (1987 24-hour) | Maintenance, Serious | 100 | 0 | 1.83 | 5.27 | 4.05 | 5.72 |
| Rosebud County; Lame Deer, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Routt County (part); Steamboat Springs, CO | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Sacramento Area, CA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.05 | 0.02 | 0.02 |
| Sacramento County, CA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.05 | 0.02 | 0.02 |
| Sacramento Metro, CA | Ozone (2008 8-hour) | Nonattainment, Severe 15 | 25 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Sacramento, CA | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.11 | 0.05 | 0.06 |
| Salem Area, OR | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.01 | 0.00 | 0.00 |
| Salt Lake City Area, UT | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.01 | 0.00 | 0.00 |
| Salt Lake City, UT | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.07 | 0.02 | 0.03 |

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Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Cumulative Impacts
Acetaldehyde 2040

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|---|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Salt Lake County, UT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.04 | 0.01 | 0.02 |
| Salt Lake County, UT | SO ₂ (1971 24-hour/Annual) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| San Bernardino County (part); excluding Searles Valley Planning area and South Coast Air Basin, CA | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.02 | 0.01 | 0.01 |
| San Diego Area, CA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | -0.01 | 0.14 | 0.05 | 0.06 |
| San Diego County, CA | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| San Francisco Bay Area, CA | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| San Francisco Bay Area, CA | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.19 | 0.78 | 0.51 | 0.71 |
| San Francisco-Oakland-San Jose Area, CA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.19 | 0.76 | 0.50 | 0.70 |
| San Joaquin Valley Air Basin; Fresno, Kern, Kings, Madera, Merced, San Joaquin, Stanislaus, Tulare Counties, CA | PM10 (1987 24-hour) | Maintenance, Serious | 100 | 0 | 0.00 | 0.20 | 0.07 | 0.09 |
| San Joaquin Valley, CA | Ozone (2008 8-hour) | Nonattainment, Extreme | 10 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| San Joaquin Valley, CA | PM2.5 (2006 24-hour) | Nonattainment, Serious | 100 | 0 | 0.00 | 0.20 | 0.07 | 0.09 |
| San Joaquin Valley, CA | PM2.5 (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.20 | 0.07 | 0.09 |
| San Luis Obispo (Eastern San Luis Obispo), CA | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| San Manuel, AZ | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| San Miguel County; Telluride, CO | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Sanders County (part); Thompson Falls and vicinity, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Santa Cruz County; Nogales planning area, AZ | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Seaford, DE | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Seattle-Tacoma Area, WA | CO (1971 8-hour) | Maintenance, Moderate > 12.7ppm | 100 | 0 | 0.00 | 0.11 | 0.04 | 0.05 |
| Seattle-Tacoma, WA | PM2.5 (2006 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.02 | 0.01 | 0.01 |
| Sheboygan County, WI | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |

Appendix A Air Quality Non-Attainment Area Results

Table A1-67

Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Cumulative Impacts

Acetaldehyde 2040

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|---|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Sheridan County; City of Sheridan, WY | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Shoshone County (part); excluding Pinehurst, ID | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Shoshone County; City of Pinehurst, ID | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Silver Bow County; Butte, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Somerville Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Southwest Indiana, IN | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Spokane Area, WA | CO (1971 8-hour) | Maintenance, Serious | 100 | 0 | 0.00 | 0.01 | 0.00 | 0.00 |
| Spokane County; (part), WA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.01 | 0.00 | 0.01 |
| Springfield Area, MA | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.01 | 0.00 | 0.00 |
| St. Bernard Parish, LA | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.05 | 0.13 | 0.11 | 0.15 |
| St. Louis Area, MO | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.04 | 0.01 | 0.02 |
| St. Louis-St. Charles-Farmington, MO-IL | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Steubenville, OH-WV | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Steubenville-Weirton, OH-WV | PM2.5 (2006 24-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Stockton Area, CA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.01 | 0.01 | 0.01 |
| Sullivan County, TN | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Syracuse Area; Onondaga County, NY | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.02 | 0.01 | 0.01 |
| Tazewell County; Groveland Twp, IL | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Terre Haute, IN | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |

Table A1-67
Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Cumulative Impacts
Acetaldehyde 2040

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|---|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Thurston County; Cities of Olympia, Tumwater, and Lacey, WA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Toms River Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Tooele County (part), UT | SO ₂ (1971 24-hour/Annual) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Trenton Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Trona, CA | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Tucson Area, AZ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.03 | 0.01 | 0.01 |
| Tuscan Buttes, CA | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Union County; LaGrande, OR | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Upper Green River Basin Area, WY | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Utah County, UT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.02 | 0.01 | 0.01 |
| Vancouver Area: Clark County (part), WA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.01 | 0.00 | 0.00 |
| Ventura County, CA | Ozone (2008 8-hour) | Nonattainment, Serious | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Vermillion County; Part of Clinton Township, IN | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Vigo County, IN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Walla Walla County; Wallula, WA | PM10 (1987 24-hour) | Maintenance, Serious | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Waltham Area, MA | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Warren County: Conewago Twp, PA | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Warren County: Warren Boro, Pleasant Twp, Glade Twp, PA | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Warren, PA | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Washington Area, DC-MD-VA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.03 | 0.01 | 0.01 |
| Washington, DC-MD-VA | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Washoe County; Reno planning area, NV | PM10 (1987 24-hour) | Nonattainment, Serious | 70 | 0 | 0.00 | 0.01 | 0.00 | 0.01 |

Appendix A Air Quality Non-Attainment Area Results

Table A1-67

Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Cumulative Impacts

Acetaldehyde 2040

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|---|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Wayne County: Boston, Center, Franklin, Wayne & Webster Townships, IN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Wayne County; (part), MI | PM ₁₀ (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.01 | 0.01 | 0.01 |
| West Central Pinal County, AZ | PM _{2.5} (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| West Silver Valley, ID | PM _{2.5} (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Winston-Salem Area, NC | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.02 | 0.01 | 0.01 |
| Worcester Area, MA | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.01 | 0.00 | 0.00 |
| Yakima Area, WA | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Yakima County; (part), WA | PM ₁₀ (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Yuba City-Marysville, CA | PM _{2.5} (2006 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.01 | 0.00 | 0.00 |
| Yuma County; Yuma planning area, AZ | PM ₁₀ (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.01 | 0.00 | 0.00 |

^a Reductions are shown as positive values. Negative values are emissions increases. Values of less than 0.005 tons per year are rounded to zero.

^b Nonattainment or maintenance status as of 5/13/2016. Source: U.S. EPA, The Green Book Nonattainment Areas for Criteria Pollutants; <http://www.epa.gov/airquality/greenbook/>. "--" indicates that no severity classification has been established for the NAAQS pollutant.

^c Emissions thresholds in tons per year. Where the threshold differs by precursor pollutant, the smallest of the precursor thresholds is shown. These thresholds are provided for information only; a general conformity determination is not required for the Proposed Action. Source: 40 CFR 93.853.

Notes: CO = carbon monoxide; NAAQS = National Ambient Air Quality Standards; NO₂ = nitrogen dioxide; PM = particulate matter; SO₂ = sulfur dioxide

Table A1-68
Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Cumulative Impacts
Acetaldehyde 2050

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Ada County; Boise, ID | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.02 | 0.01 | 0.01 |
| Adams, Denver, and Boulder Counties; Denver Metropolitan area, CO | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.08 | 0.03 | 0.03 |
| Ajo, AZ | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Albuquerque Area, NM | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.03 | 0.01 | 0.01 |
| Allegheny County Air Basin: Hazelwood monitor, PA | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Allegheny County, PA | PM2.5 (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.04 | 0.02 | 0.02 |
| Allegheny County; The area including Liberty, Lincoln, Port Vue, and Glassport Boroughs and the City of Clairton, PA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Allegheny, PA | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Allentown, PA | PM2.5 (2006 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.03 | 0.01 | 0.01 |
| Allentown-Bethlehem-Easton, PA | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Anchorage Area, AK | CO (1971 8-hour) | Maintenance, Serious | 100 | 0 | 0.00 | 0.01 | 0.00 | 0.00 |
| Anchorage; Eagle River, AK | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| AQCR 012: Portions of Grant County, NM | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| AQCR 109-Millinocket, ME | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| AQCR 131: Anoka, Carver, Dakota, Hennepin, Ramsey, Scott, and Washington counties (Minneapolis-St. Paul), MN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| AQCR 237: Brown County: Green Bay sub-city area, WI | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| AQCR 238: Marathon County: Rothschild Sub-city area, Rib Mountain, Weston, WI | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| AQCR 238: Oneida County: Rhinelander Sub-city area, WI | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| AQCR 239: Milwaukee County: Milwaukee sub-city area, WI | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |

Appendix A Air Quality Non-Attainment Area Results

Table A1-68

Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Cumulative Impacts

Acetaldehyde 2050

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| AQCR 240: Dane County: Madison sub-city area, WI | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Archuleta County; Pagosa Springs, CO | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Armstrong County: Madison Twp, Mahoning Twp, Boggs Twp, Washington Twp, Pine Twp, PA | SO ₂ (1971 24-hour/Annual) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Aroostock County; City of Presque Isle, ME | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Atlanta, GA | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Atlantic City Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Bakersfield Area, CA | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.01 | 0.04 | 0.02 | 0.03 |
| Baltimore Area, MD | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Baltimore, MD | Ozone (2008 8-hour) | Nonattainment, Moderate | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Baton Rouge, LA | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Beaver, PA | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Benton County; (part) TVA Johnsonville, TN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Billings Area, MT | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Billings, MT | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Birmingham, AL | PM2.5 (2006 24-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.07 | 0.02 | 0.03 |
| Boise-Northern Ada County Area, ID | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.02 | 0.01 | 0.01 |
| Bonner County; The Sandpoint Area, ID | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Boston Area, MA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.04 | 0.01 | 0.02 |
| Boyd County (part), KY | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Brooke; Follansbee area, WV | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Burlington Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Calaveras County, CA | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Campbell-Clermont Counties, KY-OH | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |

Table A1-68
Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Cumulative Impacts
Acetaldehyde 2050

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|---|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Canton-Massillon, OH | PM2.5 (2006 24-hour) | Maintenance, -- | 100 | 0 | 0.03 | 0.09 | 0.06 | 0.09 |
| Central New Hampshire, NH | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.01 | 0.00 | 0.01 |
| Central Steptoe Valley, NV | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Charleston, WV | PM2.5 (2006 24-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.02 | 0.01 | 0.01 |
| Charlotte Area, NC | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.07 | 0.02 | 0.03 |
| Charlotte-Rock Hill, NC-SC | Ozone (2008 8-hour) | Maintenance, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Chicago-Naperville, IL-IN-WI | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Chico (Butte County), CA | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Chico Area, CA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.01 | 0.00 | 0.00 |
| Chico, CA | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.01 | 0.00 | 0.00 |
| Cincinnati, OH-KY-IN | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Clark County; Las Vegas planning area, NV | PM10 (1987 24-hour) | Maintenance, Serious | 100 | 0 | 0.00 | 0.08 | 0.03 | 0.04 |
| Cleveland Area, OH | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.05 | 0.02 | 0.02 |
| Cleveland, OH | PM2.5 (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.06 | 0.02 | 0.03 |
| Cleveland-Akron-Lorain, OH | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Cleveland-Akron-Lorain, OH | PM2.5 (2006 24-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.14 | 0.05 | 0.06 |
| Cochise County; Paul Spur/Douglas planning area, AZ | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Colorado Springs Area, CO | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.03 | 0.01 | 0.01 |
| Columbus, OH | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Cook County; Lyons Township, IL | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Cook County; Southeast Chicago, IL | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Coshocton County; Franklin Township, OH | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Coso Junction, CA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Cuyahoga County (part), OH | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Cuyahoga County, OH | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.05 | 0.02 | 0.02 |

Appendix A Air Quality Non-Attainment Area Results

Table A1-68

Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Cumulative Impacts

Acetaldehyde 2050

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Dallas-Fort Worth, TX | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Delaware County, PA | PM2.5 (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.02 | 0.01 | 0.01 |
| Denver-Boulder Area, CO | CO (1971 8-hour) | Maintenance, Serious | 100 | 0 | 0.00 | 0.13 | 0.05 | 0.06 |
| Denver-Boulder-Greeley-Ft Collins-Loveland, CO | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Detroit Area, MI | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.08 | 0.04 | 0.04 |
| Detroit, MI | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.03 | 0.02 | 0.02 |
| Detroit-Ann Arbor, MI | PM2.5 (2006 24-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.27 | 0.11 | 0.13 |
| Dona Ana County; Anthony, NM | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Douglas, AZ | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Dukes County, MA | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Duluth Area, MN | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.01 | 0.00 | 0.00 |
| East Chicago Area, IN | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| East Helena Area, MT | SO ₂ (1971 24-hour/Annual) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| East Kern County Area, CA | PM10 (1987 24-hour) | Nonattainment, Serious | 70 | 0 | 0.01 | 0.02 | 0.01 | 0.02 |
| El Paso County, TX | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.02 | 0.01 | 0.01 |
| El Paso, TX | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Eugene-Springfield Area, OR | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.01 | 0.00 | 0.01 |
| Fairbanks Area, AK | CO (1971 8-hour) | Maintenance, Serious | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Fairbanks, AK | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |

Table A1-68

Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Cumulative Impacts

Acetaldehyde 2050

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|---|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Flathead County; Columbia Falls and vicinity, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Flathead County; Kalispell and vicinity, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Flathead County; Whitefish and vicinity, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Fort Collins Area, CO | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.01 | 0.00 | 0.00 |
| Freehold Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Fremont County; Canon City Area, CO | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Fresno Area, CA | CO (1971 8-hour) | Maintenance, Moderate > 12.7ppm | 100 | 0 | 0.00 | 0.03 | 0.01 | 0.01 |
| Grants Pass Area, OR | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Great Falls Area, MT | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Greater Connecticut, CT | Ozone (2008 8-hour) | Nonattainment, Moderate | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Greeley Area, CO | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.02 | 0.01 | 0.01 |
| Hancock and Brooke Counties (Part); The city of Weirton, WV | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Hancock County (Part) The city of Weirton, including Butler and Clay; Magisterial Districts, WV | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Harrisburg-Lebanon-Carlisle-York, PA | PM2.5 (2006 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.07 | 0.03 | 0.03 |
| Hartford-New Britain-Middletown Area, CT | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.06 | 0.02 | 0.03 |
| Hayden, AZ | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Hayden, AZ | SO ₂ (1971 24-hour/Annual) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Hayden, AZ | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Hillsborough County, FL | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Houston-Galveston-Brazoria, TX | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Humphreys County; (part) TVA Johnsonville, TN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Imperial Co, CA | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.01 | 0.00 | 0.00 |

Appendix A Air Quality Non-Attainment Area Results

Table A1-68

Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Cumulative Impacts

Acetaldehyde 2050

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Imperial County, CA | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Imperial County, CA | PM2.5 (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.01 | 0.00 | 0.00 |
| Imperial County; Imperial Valley planning area, CA | PM10 (1987 24-hour) | Nonattainment, Serious | 70 | 0 | 0.00 | 0.01 | 0.01 | 0.01 |
| Indian Wells, CA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.01 | 0.02 | 0.01 | 0.02 |
| Indiana, PA | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Indianapolis Area, IN | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Indianapolis, IN | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.02 | 0.01 | 0.01 |
| Inyo County; Owens Valley planning area, CA | PM10 (1987 24-hour) | Nonattainment, Serious | 70 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Jackson County, MO | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Jackson County; Medford-Ashland (including White City), OR | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.01 | 0.00 | 0.00 |
| Jamestown, NY | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Jefferson County, KY | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Jefferson County, MO | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Jefferson County; (part) Steubenville & Mingo Junction, OH | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Jefferson County; (part), OH | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Johnstown, PA | PM2.5 (2006 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.01 | 0.00 | 0.00 |
| Josephine County; Grants Pass, OR | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Juneau; Mendenhall Valley area, AK | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Kern County (Eastern Kern), CA | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| King County; Kent, WA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| King County; Seattle, WA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Klamath County; Klamath Falls, OR | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Klamath Falls Area, OR | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Klamath Falls, OR | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.01 | 0.00 | 0.00 |

Table A1-68
Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Cumulative Impacts
Acetaldehyde 2050

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Knoxville, TN | Ozone (2008 8-hour) | Maintenance, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Knoxville-Sevierville-La Follette, TN | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.05 | 0.02 | 0.02 |
| La Porte County: (part), IN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lake County (part); Lakeview, OR | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lake County, OH | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.01 | 0.01 | 0.01 |
| Lake County: (part), IN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lake County; (part) Eastlake, Timberlake, Lakeline, Willoughby, Mentor, OH | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lake County; Cities of East Chicago, Hammond, Whiting, and Gary, IN | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.01 | 0.00 | 0.00 |
| Lake County; Polson, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lake County; Ronan, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lake Tahoe Nevada Area, NV | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lake Tahoe North Shore Area, CA | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lake Tahoe South Shore Area, CA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lancaster, PA | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lancaster, PA | PM2.5 (2006 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.03 | 0.01 | 0.01 |
| Lane County (part); Oakridge, OR | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lane County; Eugene/Springfield, OR | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.01 | 0.00 | 0.01 |
| Las Vegas Area, NV | CO (1971 8-hour) | Maintenance, Serious | 100 | 0 | 0.00 | 0.08 | 0.03 | 0.04 |
| LaSalle County; Oglesby, IL | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Laurel Area, MT | SO ₂ (1971 24-hour/Annual) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lebanon County, PA | PM2.5 (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.01 | 0.00 | 0.00 |
| Lemont, IL | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.01 | 0.00 | 0.00 |
| Liberty-Clairton, PA | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |

Appendix A Air Quality Non-Attainment Area Results

Table A1-68

Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Cumulative Impacts

Acetaldehyde 2050

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Lincoln County; Libby and vicinity, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Logan, UT-ID | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Longmont Area, CO | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lorain County (part), OH | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Los Angeles, CA | PM2.5 (2006 24-hour) | Nonattainment, Serious | 100 | 0 | 2.09 | 6.12 | 4.63 | 6.48 |
| Los Angeles-San Bernardino Counties (West Mojave Desert), CA | Ozone (2008 8-hour) | Nonattainment, Severe 15 | 25 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Los Angeles-South Coast Air Basin Area, CA | CO (1971 8-hour) | Maintenance, Serious | 100 | 0 | 2.09 | 6.12 | 4.63 | 6.49 |
| Los Angeles-South Coast Air Basin Area, CA | NO ₂ (1971 Annual) | Maintenance, -- | 100 | 0 | 2.09 | 6.12 | 4.63 | 6.49 |
| Los Angeles-South Coast Air Basin, CA | Ozone (2008 8-hour) | Nonattainment, Extreme | 10 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Los Angeles-South Coast Air Basin, CA | PM2.5 (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 2.09 | 6.12 | 4.63 | 6.48 |
| Lowell Area, MA | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.01 | 0.00 | 0.00 |
| Lucas County (part), OH | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Madison County; Granite City Township and Nameoki Township, IL | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.01 | 0.01 | 0.01 |
| Manchester Area, NH | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Maricopa and Pinal Counties; Phoenix planning area, AZ | PM10 (1987 24-hour) | Nonattainment, Serious | 70 | 0 | 0.00 | 0.19 | 0.07 | 0.08 |
| Marion County; Lawrence, Washington, and Warrant Townships, IN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Mariposa County, CA | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Marshall, WV | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Medford Area, OR | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.01 | 0.00 | 0.00 |
| Memphis Area, TN | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.04 | 0.15 | 0.10 | 0.14 |

Table A1-68

Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Cumulative Impacts

Acetaldehyde 2050

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|---|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Memphis, TN-MS-AR | Ozone (2008 8-hour) | Nonattainment TN & Maintenance MS/AR, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Miami, AZ | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Miami, AZ | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Miami, AZ | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Milwaukee-Racine, WI | PM2.5 (2006 24-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.06 | 0.02 | 0.03 |
| Minneapolis-St. Paul Area, MN | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.14 | 0.52 | 0.35 | 0.49 |
| Missoula Area, MT | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Missoula county; Missoula and vicinity, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Modesto Area, CA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.01 | 0.00 | 0.00 |
| Mohave County (part); Bullhead City, AZ | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.01 | 0.00 | 0.00 |
| Mono County; Mammoth Lake planning area, CA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Mono County; Mono Basin, CA | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Morenci, AZ | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Morgan County, IN | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Morongo Band of Mission Indians | Ozone (2008 8-hour) | Nonattainment, Serious | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Morristown Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Muscatine County; (part), IA | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Muscatine, IA | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Muskingum River, OH | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Nashua Area, NH | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Nassau County, FL | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Nevada County (Western part), CA | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| New Haven County, CT | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |

Appendix A Air Quality Non-Attainment Area Results

Table A1-68

Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Cumulative Impacts

Acetaldehyde 2050

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| New Haven-Meriden-Waterbury Area, CT | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.05 | 0.02 | 0.02 |
| New Manchester-Grant magisterial district in Hancock County, WV | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| New York County, NY | PM ₁₀ (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.03 | 0.01 | 0.01 |
| New York, NY-NJ-CT | PM _{2.5} (2006 24-hour) | Maintenance, -- | 100 | 0 | -0.01 | 0.83 | 0.31 | 0.36 |
| New York-N. New Jersey-Long Island Area, NY-NJ-CT | CO (1971 8-hour) | Maintenance, Moderate > 12.7ppm | 100 | 0 | 0.00 | 0.46 | 0.17 | 0.20 |
| New York-N. New Jersey-Long Island, NY-NJ-CT | Ozone (2008 8-hour) | Nonattainment, Moderate | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| NJ portion of the Northeast Pennsylvania-Upper Delaware Valley Interstate AQCR: (part), NJ | SO ₂ (1971 24-hour/Annual) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Nogales, AZ | PM _{2.5} (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Oakridge, OR | PM _{2.5} (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Ogden Area, UT | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Ogden Area, UT | PM ₁₀ (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Olmsted County; (part), MN | PM ₁₀ (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Olmsted; City of Rochester, MN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |

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Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Cumulative Impacts
Acetaldehyde 2050

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Pechanga Band of Luiseno Mission Indians of the Pechanga Reservation | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Pekin, IL | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Penns Grove Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Peoria County: Hollis Twp, IL | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Peoria County: Peoria, IL | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Perth Amboy Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.01 | 0.00 | 0.00 |
| Philadelphia-Camden County Area, PA-NJ | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.05 | 0.02 | 0.02 |
| Philadelphia-Wilmington, PA-NJ-DE | PM _{2.5} (2006 24-hour) | Maintenance, Moderate for PA and DE Subject to Former Subpart 1 for NJ | 100 | 0 | 0.00 | 0.22 | 0.08 | 0.10 |
| Philadelphia-Wilmington-Atlantic City, PA-NJ-MD-DE | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Phoenix Area, AZ | CO (1971 8-hour) | Maintenance, Serious | 100 | 0 | 0.00 | 0.18 | 0.07 | 0.08 |
| Phoenix-Mesa, AZ | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Pierce County; Tacoma, WA | PM ₁₀ (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Pima County; Ajo planning area, AZ | PM ₁₀ (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Pima County; Rillito planning area, AZ | PM ₁₀ (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Pinal and Gila Counties; Payson, AZ | PM ₁₀ (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Pinal County (part); West Pinal, AZ | PM ₁₀ (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.02 | 0.01 | 0.01 |
| Pitkin County; Aspen, CO | PM ₁₀ (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Pittsburgh Area, PA | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.01 | 0.00 | 0.00 |
| Pittsburgh-Beaver Valley, PA | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Pittsburgh-Beaver Valley, PA | PM _{2.5} (2006 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.09 | 0.03 | 0.04 |
| Plumas County, CA | PM _{2.5} (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Polk County, TN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |

Appendix A Air Quality Non-Attainment Area Results

Table A1-68

Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Cumulative Impacts

Acetaldehyde 2050

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|-------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Portland Area: Portland Metro Service District Boundary, OR | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.06 | 0.02 | 0.03 |
| Power-Bannock Counties; Fort Hall Indian Reservation, ID | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Power-Bannock Counties; Portneuf Valley Area, ID | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.01 | 0.00 | 0.00 |
| Provo Area, UT | CO (1971 8-hour) | Maintenance, Moderate > 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Provo, UT | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.02 | 0.01 | 0.01 |
| Prowers County; Lamar, CO | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Raleigh-Durham Area, NC | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.07 | 0.03 | 0.03 |
| Ramsey County; (part), MN | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Reading, PA | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Reno Area, NV | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.02 | 0.01 | 0.01 |
| Rhinelander, WI | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Riverside County (Coachella Valley), CA | Ozone (2008 8-hour) | Nonattainment, Severe 15 | 25 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Riverside County; Coachella Valley planning area, CA | PM10 (1987 24-hour) | Nonattainment, Serious | 70 | 0 | 0.00 | 0.03 | 0.01 | 0.01 |
| Riverside, Los Angeles, Orange, and San Bernardino Counties; South Coast Air Basin, CA | PM10 (1987 24-hour) | Maintenance, Serious | 100 | 0 | 2.09 | 6.12 | 4.63 | 6.48 |
| Rosebud County; Lame Deer, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Routt County (part); Steamboat Springs, CO | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Sacramento Area, CA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.07 | 0.02 | 0.03 |
| Sacramento County, CA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.06 | 0.02 | 0.03 |
| Sacramento Metro, CA | Ozone (2008 8-hour) | Nonattainment, Severe 15 | 25 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Sacramento, CA | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.01 | 0.14 | 0.06 | 0.08 |
| Salem Area, OR | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.01 | 0.00 | 0.01 |
| Salt Lake City Area, UT | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.01 | 0.00 | 0.00 |
| Salt Lake City, UT | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.08 | 0.03 | 0.04 |

Table A1-68
Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Cumulative Impacts
Acetaldehyde 2050

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|---|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Salt Lake County, UT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.05 | 0.02 | 0.02 |
| Salt Lake County, UT | SO ₂ (1971 24-hour/Annual) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| San Bernardino County (part); excluding Searles Valley Planning area and South Coast Air Basin, CA | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.03 | 0.01 | 0.01 |
| San Diego Area, CA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.17 | 0.06 | 0.08 |
| San Diego County, CA | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| San Francisco Bay Area, CA | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| San Francisco Bay Area, CA | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.23 | 0.93 | 0.60 | 0.82 |
| San Francisco-Oakland-San Jose Area, CA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.23 | 0.90 | 0.59 | 0.81 |
| San Joaquin Valley Air Basin; Fresno, Kern, Kings, Madera, Merced, San Joaquin, Stanislaus, Tulare Counties, CA | PM10 (1987 24-hour) | Maintenance, Serious | 100 | 0 | 0.00 | 0.25 | 0.10 | 0.12 |
| San Joaquin Valley, CA | Ozone (2008 8-hour) | Nonattainment, Extreme | 10 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| San Joaquin Valley, CA | PM2.5 (2006 24-hour) | Nonattainment, Serious | 100 | 0 | 0.00 | 0.25 | 0.10 | 0.12 |
| San Joaquin Valley, CA | PM2.5 (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.25 | 0.10 | 0.12 |
| San Luis Obispo (Eastern San Luis Obispo), CA | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| San Manuel, AZ | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| San Miguel County; Telluride, CO | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Sanders County (part); Thompson Falls and vicinity, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Santa Cruz County; Nogales planning area, AZ | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Seaford, DE | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Seattle-Tacoma Area, WA | CO (1971 8-hour) | Maintenance, Moderate > 12.7ppm | 100 | 0 | 0.00 | 0.14 | 0.05 | 0.06 |
| Seattle-Tacoma, WA | PM2.5 (2006 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.02 | 0.01 | 0.01 |
| Sheboygan County, WI | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |

Appendix A Air Quality Non-Attainment Area Results

Table A1-68

Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Cumulative Impacts

Acetaldehyde 2050

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|---|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Sheridan County; City of Sheridan, WY | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Shoshone County (part); excluding Pinehurst, ID | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Shoshone County; City of Pinehurst, ID | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Silver Bow County; Butte, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Somerville Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Southwest Indiana, IN | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Spokane Area, WA | CO (1971 8-hour) | Maintenance, Serious | 100 | 0 | 0.00 | 0.01 | 0.01 | 0.01 |
| Spokane County; (part), WA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.02 | 0.01 | 0.01 |
| Springfield Area, MA | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.01 | 0.00 | 0.00 |
| St. Bernard Parish, LA | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.06 | 0.15 | 0.12 | 0.17 |
| St. Louis Area, MO | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.04 | 0.02 | 0.02 |
| St. Louis-St. Charles-Farmington, MO-IL | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Steubenville, OH-WV | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Steubenville-Weirton, OH-WV | PM2.5 (2006 24-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.01 | 0.00 | 0.00 |
| Stockton Area, CA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.02 | 0.01 | 0.01 |
| Sullivan County, TN | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Syracuse Area; Onondaga County, NY | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.03 | 0.01 | 0.01 |
| Tazewell County; Groveland Twp, IL | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Terre Haute, IN | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |

Table A1-68
Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Cumulative Impacts
Acetaldehyde 2050

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|---|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Thurston County; Cities of Olympia, Tumwater, and Lacey, WA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.01 | 0.00 | 0.00 |
| Toms River Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Tooele County (part), UT | SO ₂ (1971 24-hour/Annual) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Trenton Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Trona, CA | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Tucson Area, AZ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.04 | 0.02 | 0.02 |
| Tuscan Buttes, CA | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Union County; LaGrande, OR | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Upper Green River Basin Area, WY | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Utah County, UT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.02 | 0.01 | 0.01 |
| Vancouver Area: Clark County (part), WA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.01 | 0.01 | 0.01 |
| Ventura County, CA | Ozone (2008 8-hour) | Nonattainment, Serious | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Vermillion County; Part of Clinton Township, IN | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Vigo County, IN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Walla Walla County; Wallula, WA | PM10 (1987 24-hour) | Maintenance, Serious | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Waltham Area, MA | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Warren County: Conewago Twp, PA | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Warren County: Warren Boro, Pleasant Twp, Glade Twp, PA | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Warren, PA | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Washington Area, DC-MD-VA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.03 | 0.01 | 0.01 |
| Washington, DC-MD-VA | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Washoe County; Reno planning area, NV | PM10 (1987 24-hour) | Nonattainment, Serious | 70 | 0 | 0.00 | 0.02 | 0.01 | 0.01 |

Appendix A Air Quality Non-Attainment Area Results

Table A1-68

Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Cumulative Impacts

Acetaldehyde 2050

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|---|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Wayne County: Boston, Center, Franklin, Wayne & Webster Townships, IN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Wayne County; (part), MI | PM ₁₀ (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.02 | 0.01 | 0.02 |
| West Central Pinal County, AZ | PM _{2.5} (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| West Silver Valley, ID | PM _{2.5} (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Winston-Salem Area, NC | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.02 | 0.01 | 0.01 |
| Worcester Area, MA | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.01 | 0.00 | 0.01 |
| Yakima Area, WA | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Yakima County; (part), WA | PM ₁₀ (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.01 | 0.00 | 0.00 |
| Yuba City-Marysville, CA | PM _{2.5} (2006 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.01 | 0.00 | 0.00 |
| Yuma County; Yuma planning area, AZ | PM ₁₀ (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.01 | 0.00 | 0.00 |

^a Reductions are shown as positive values. Negative values are emissions increases. Values of less than 0.005 tons per year are rounded to zero.

^b Nonattainment or maintenance status as of 5/13/2016. Source: U.S. EPA, The Green Book Nonattainment Areas for Criteria Pollutants; <http://www.epa.gov/airquality/greenbook/>. "--" indicates that no severity classification has been established for the NAAQS pollutant.

^c Emissions thresholds in tons per year. Where the threshold differs by precursor pollutant, the smallest of the precursor thresholds is shown. These thresholds are provided for information only; a general conformity determination is not required for the Proposed Action. Source: 40 CFR 93.853.

Notes: CO = carbon monoxide; NAAQS = National Ambient Air Quality Standards; NO₂ = nitrogen dioxide; PM = particulate matter; SO₂ = sulfur dioxide

Table A1-69
Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Cumulative Impacts
Acrolein 2018

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Ada County; Boise, ID | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Adams, Denver, and Boulder Counties; Denver Metropolitan area, CO | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Ajo, AZ | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Albuquerque Area, NM | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Allegheny County Air Basin: Hazelwood monitor, PA | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Allegheny County, PA | PM2.5 (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Allegheny County; The area including Liberty, Lincoln, Port Vue, and Glassport Boroughs and the City of Clairton, PA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Allegheny, PA | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Allentown, PA | PM2.5 (2006 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Allentown-Bethlehem-Easton, PA | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Anchorage Area, AK | CO (1971 8-hour) | Maintenance, Serious | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Anchorage; Eagle River, AK | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| AQCR 012: Portions of Grant County, NM | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| AQCR 109-Millinocket, ME | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| AQCR 131: Anoka, Carver, Dakota, Hennepin, Ramsey, Scott, and Washington counties (Minneapolis-St. Paul), MN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| AQCR 237: Brown County: Green Bay sub-city area, WI | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| AQCR 238: Marathon County: Rothschild Sub-city area, Rib Mountain, Weston, WI | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| AQCR 238: Oneida County: Rhinelander Sub-city area, WI | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| AQCR 239: Milwaukee County: Milwaukee sub-city area, WI | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |

Appendix A Air Quality Non-Attainment Area Results

Table A1-69

Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Cumulative Impacts

Acrolein 2018

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| AQCR 240: Dane County: Madison sub-city area, WI | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Archuleta County; Pagosa Springs, CO | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Armstrong County: Madison Twp, Mahoning Twp, Boggs Twp, Washington Twp, Pine Twp, PA | SO ₂ (1971 24-hour/Annual) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Aroostock County; City of Presque Isle, ME | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Atlanta, GA | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Atlantic City Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Bakersfield Area, CA | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Baltimore Area, MD | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Baltimore, MD | Ozone (2008 8-hour) | Nonattainment, Moderate | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Baton Rouge, LA | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Beaver, PA | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Benton County; (part) TVA Johnsonville, TN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Billings Area, MT | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Billings, MT | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Birmingham, AL | PM2.5 (2006 24-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Boise-Northern Ada County Area, ID | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Bonner County; The Sandpoint Area, ID | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Boston Area, MA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Boyd County (part), KY | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Brooke; Follansbee area, WV | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Burlington Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Calaveras County, CA | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Campbell-Clermont Counties, KY-OH | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |

Table A1-69
Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Cumulative Impacts
Acrolein 2018

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|---|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Canton-Massillon, OH | PM2.5 (2006 24-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Central New Hampshire, NH | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Central Steptoe Valley, NV | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Charleston, WV | PM2.5 (2006 24-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Charlotte Area, NC | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Charlotte-Rock Hill, NC-SC | Ozone (2008 8-hour) | Maintenance, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Chicago-Naperville, IL-IN-WI | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Chico (Butte County), CA | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Chico Area, CA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Chico, CA | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Cincinnati, OH-KY-IN | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Clark County; Las Vegas planning area, NV | PM10 (1987 24-hour) | Maintenance, Serious | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Cleveland Area, OH | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Cleveland, OH | PM2.5 (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Cleveland-Akron-Lorain, OH | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Cleveland-Akron-Lorain, OH | PM2.5 (2006 24-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Cochise County; Paul Spur/Douglas planning area, AZ | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Colorado Springs Area, CO | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Columbus, OH | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Cook County; Lyons Township, IL | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Cook County; Southeast Chicago, IL | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Coshocton County; Franklin Township, OH | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Coso Junction, CA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Cuyahoga County (part), OH | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Cuyahoga County, OH | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |

Appendix A Air Quality Non-Attainment Area Results

Table A1-69

Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Cumulative Impacts

Acrolein 2018

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Dallas-Fort Worth, TX | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Delaware County, PA | PM2.5 (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Denver-Boulder Area, CO | CO (1971 8-hour) | Maintenance, Serious | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Denver-Boulder-Greeley-Ft Collins-Loveland, CO | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Detroit Area, MI | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Detroit, MI | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Detroit-Ann Arbor, MI | PM2.5 (2006 24-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Dona Ana County; Anthony, NM | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Douglas, AZ | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Dukes County, MA | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Duluth Area, MN | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| East Chicago Area, IN | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| East Helena Area, MT | SO ₂ (1971 24-hour/Annual) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| East Kern County Area, CA | PM10 (1987 24-hour) | Nonattainment, Serious | 70 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| El Paso County, TX | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| El Paso, TX | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Eugene-Springfield Area, OR | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Fairbanks Area, AK | CO (1971 8-hour) | Maintenance, Serious | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Fairbanks, AK | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |

Table A1-69
Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Cumulative Impacts
Acrolein 2018

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|---|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Flathead County; Columbia Falls and vicinity, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Flathead County; Kalispell and vicinity, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Flathead County; Whitefish and vicinity, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Fort Collins Area, CO | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Freehold Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Fremont County; Canon City Area, CO | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Fresno Area, CA | CO (1971 8-hour) | Maintenance, Moderate > 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Grants Pass Area, OR | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Great Falls Area, MT | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Greater Connecticut, CT | Ozone (2008 8-hour) | Nonattainment, Moderate | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Greeley Area, CO | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Hancock and Brooke Counties (Part); The city of Weirton, WV | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Hancock County (Part) The city of Weirton, including Butler and Clay; Magisterial Districts, WV | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Harrisburg-Lebanon-Carlisle-York, PA | PM2.5 (2006 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Hartford-New Britain-Middletown Area, CT | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Hayden, AZ | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Hayden, AZ | SO ₂ (1971 24-hour/Annual) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Hayden, AZ | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Hillsborough County, FL | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Houston-Galveston-Brazoria, TX | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Humphreys County; (part) TVA Johnsonville, TN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Imperial Co, CA | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |

Appendix A Air Quality Non-Attainment Area Results

Table A1-69

Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Cumulative Impacts

Acrolein 2018

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Imperial County, CA | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Imperial County, CA | PM2.5 (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Imperial County; Imperial Valley planning area, CA | PM10 (1987 24-hour) | Nonattainment, Serious | 70 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Indian Wells, CA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Indiana, PA | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Indianapolis Area, IN | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Indianapolis, IN | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Inyo County; Owens Valley planning area, CA | PM10 (1987 24-hour) | Nonattainment, Serious | 70 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Jackson County, MO | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Jackson County; Medford-Ashland (including White City), OR | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Jamestown, NY | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Jefferson County, KY | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Jefferson County, MO | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Jefferson County; (part) Steubenville & Mingo Junction, OH | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Jefferson County; (part), OH | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Johnstown, PA | PM2.5 (2006 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Josephine County; Grants Pass, OR | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Juneau; Mendenhall Valley area, AK | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Kern County (Eastern Kern), CA | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| King County; Kent, WA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| King County; Seattle, WA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Klamath County; Klamath Falls, OR | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Klamath Falls Area, OR | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Klamath Falls, OR | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |

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Acrolein 2018

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Knoxville, TN | Ozone (2008 8-hour) | Maintenance, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Knoxville-Sevierville-La Follette, TN | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| La Porte County: (part), IN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lake County (part); Lakeview, OR | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lake County, OH | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lake County: (part), IN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lake County; (part) Eastlake, Timberlake, Lakeline, Willoughby, Mentor, OH | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lake County; Cities of East Chicago, Hammond, Whiting, and Gary, IN | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lake County; Polson, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lake County; Ronan, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lake Tahoe Nevada Area, NV | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lake Tahoe North Shore Area, CA | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lake Tahoe South Shore Area, CA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lancaster, PA | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lancaster, PA | PM2.5 (2006 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lane County (part); Oakridge, OR | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lane County; Eugene/Springfield, OR | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Las Vegas Area, NV | CO (1971 8-hour) | Maintenance, Serious | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| LaSalle County; Oglesby, IL | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Laurel Area, MT | SO ₂ (1971 24-hour/Annual) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lebanon County, PA | PM2.5 (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lemont, IL | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Liberty-Clairton, PA | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |

Appendix A Air Quality Non-Attainment Area Results

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Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Cumulative Impacts

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| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Lincoln County; Libby and vicinity, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Logan, UT-ID | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Longmont Area, CO | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lorain County (part), OH | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Los Angeles, CA | PM2.5 (2006 24-hour) | Nonattainment, Serious | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Los Angeles-San Bernardino Counties (West Mojave Desert), CA | Ozone (2008 8-hour) | Nonattainment, Severe 15 | 25 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Los Angeles-South Coast Air Basin Area, CA | CO (1971 8-hour) | Maintenance, Serious | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Los Angeles-South Coast Air Basin Area, CA | NO ₂ (1971 Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Los Angeles-South Coast Air Basin, CA | Ozone (2008 8-hour) | Nonattainment, Extreme | 10 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Los Angeles-South Coast Air Basin, CA | PM2.5 (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lowell Area, MA | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lucas County (part), OH | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Madison County; Granite City Township and Nameoki Township, IL | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Manchester Area, NH | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Maricopa and Pinal Counties; Phoenix planning area, AZ | PM10 (1987 24-hour) | Nonattainment, Serious | 70 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Marion County; Lawrence, Washington, and Warrant Townships, IN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Mariposa County, CA | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Marshall, WV | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Medford Area, OR | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Memphis Area, TN | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |

Table A1-69
Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Cumulative Impacts
Acrolein 2018

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|---|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Memphis, TN-MS-AR | Ozone (2008 8-hour) | Nonattainment TN & Maintenance MS/AR, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Miami, AZ | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Miami, AZ | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Miami, AZ | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Milwaukee-Racine, WI | PM2.5 (2006 24-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Minneapolis-St. Paul Area, MN | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.01 | 0.01 | 0.01 |
| Missoula Area, MT | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Missoula county; Missoula and vicinity, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Modesto Area, CA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Mohave County (part); Bullhead City, AZ | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Mono County; Mammoth Lake planning area, CA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Mono County; Mono Basin, CA | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Morenci, AZ | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Morgan County, IN | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Morongo Band of Mission Indians | Ozone (2008 8-hour) | Nonattainment, Serious | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Morristown Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Muscatine County; (part), IA | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Muscatine, IA | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Muskingum River, OH | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Nashua Area, NH | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Nassau County, FL | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Nevada County (Western part), CA | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| New Haven County, CT | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |

Appendix A Air Quality Non-Attainment Area Results

Table A1-69

Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Cumulative Impacts

Acrolein 2018

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| New Haven-Meriden-Waterbury Area, CT | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| New Manchester-Grant magisterial district in Hancock County, WV | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| New York County, NY | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| New York, NY-NJ-CT | PM2.5 (2006 24-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| New York-N. New Jersey-Long Island Area, NY-NJ-CT | CO (1971 8-hour) | Maintenance, Moderate > 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| New York-N. New Jersey-Long Island, NY-NJ-CT | Ozone (2008 8-hour) | Nonattainment, Moderate | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| NJ portion of the Northeast Pennsylvania-Upper Delaware Valley Interstate AQCR: (part), NJ | SO ₂ (1971 24-hour/Annual) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Nogales, AZ | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Oakridge, OR | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Ogden Area, UT | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Ogden Area, UT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Olmsted County; (part), MN | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Olmsted; City of Rochester, MN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |

Table A1-69
Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Cumulative Impacts
Acrolein 2018

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Pechanga Band of Luiseno Mission Indians of the Pechanga Reservation | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Pekin, IL | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Penns Grove Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Peoria County: Hollis Twp, IL | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Peoria County: Peoria, IL | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Perth Amboy Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Philadelphia-Camden County Area, PA-NJ | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Philadelphia-Wilmington, PA-NJ-DE | PM _{2.5} (2006 24-hour) | Maintenance, Moderate for PA and DE Subject to Former Subpart 1 for NJ | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Philadelphia-Wilmington-Atlantic City, PA-NJ-MD-DE | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Phoenix Area, AZ | CO (1971 8-hour) | Maintenance, Serious | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Phoenix-Mesa, AZ | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Pierce County; Tacoma, WA | PM ₁₀ (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Pima County; Ajo planning area, AZ | PM ₁₀ (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Pima County; Rillito planning area, AZ | PM ₁₀ (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Pinal and Gila Counties; Payson, AZ | PM ₁₀ (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Pinal County (part); West Pinal, AZ | PM ₁₀ (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Pitkin County; Aspen, CO | PM ₁₀ (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Pittsburgh Area, PA | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Pittsburgh-Beaver Valley, PA | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Pittsburgh-Beaver Valley, PA | PM _{2.5} (2006 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Plumas County, CA | PM _{2.5} (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Polk County, TN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |

Appendix A Air Quality Non-Attainment Area Results

Table A1-69

Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Cumulative Impacts

Acrolein 2018

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|-------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Portland Area: Portland Metro Service District Boundary, OR | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Power-Bannock Counties; Fort Hall Indian Reservation, ID | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Power-Bannock Counties; Portneuf Valley Area, ID | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Provo Area, UT | CO (1971 8-hour) | Maintenance, Moderate > 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Provo, UT | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Prowers County; Lamar, CO | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Raleigh-Durham Area, NC | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Ramsey County; (part), MN | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Reading, PA | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Reno Area, NV | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Rhinelander, WI | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Riverside County (Coachella Valley), CA | Ozone (2008 8-hour) | Nonattainment, Severe 15 | 25 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Riverside County; Coachella Valley planning area, CA | PM10 (1987 24-hour) | Nonattainment, Serious | 70 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Riverside, Los Angeles, Orange, and San Bernardino Counties; South Coast Air Basin, CA | PM10 (1987 24-hour) | Maintenance, Serious | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Rosebud County; Lame Deer, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Routt County (part); Steamboat Springs, CO | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Sacramento Area, CA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Sacramento County, CA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Sacramento Metro, CA | Ozone (2008 8-hour) | Nonattainment, Severe 15 | 25 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Sacramento, CA | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Salem Area, OR | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Salt Lake City Area, UT | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Salt Lake City, UT | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |

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Acrolein 2018

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|---|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Salt Lake County, UT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Salt Lake County, UT | SO ₂ (1971 24-hour/Annual) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| San Bernardino County (part); excluding Searles Valley Planning area and South Coast Air Basin, CA | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| San Diego Area, CA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| San Diego County, CA | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| San Francisco Bay Area, CA | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| San Francisco Bay Area, CA | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| San Francisco-Oakland-San Jose Area, CA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| San Joaquin Valley Air Basin; Fresno, Kern, Kings, Madera, Merced, San Joaquin, Stanislaus, Tulare Counties, CA | PM10 (1987 24-hour) | Maintenance, Serious | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| San Joaquin Valley, CA | Ozone (2008 8-hour) | Nonattainment, Extreme | 10 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| San Joaquin Valley, CA | PM2.5 (2006 24-hour) | Nonattainment, Serious | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| San Joaquin Valley, CA | PM2.5 (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| San Luis Obispo (Eastern San Luis Obispo), CA | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| San Manuel, AZ | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| San Miguel County; Telluride, CO | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Sanders County (part); Thompson Falls and vicinity, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Santa Cruz County; Nogales planning area, AZ | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Seaford, DE | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Seattle-Tacoma Area, WA | CO (1971 8-hour) | Maintenance, Moderate > 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Seattle-Tacoma, WA | PM2.5 (2006 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Sheboygan County, WI | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |

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|---|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Sheridan County; City of Sheridan, WY | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Shoshone County (part); excluding Pinehurst, ID | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Shoshone County; City of Pinehurst, ID | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Silver Bow County; Butte, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Somerville Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Southwest Indiana, IN | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Spokane Area, WA | CO (1971 8-hour) | Maintenance, Serious | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Spokane County; (part), WA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Springfield Area, MA | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| St. Bernard Parish, LA | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| St. Louis Area, MO | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| St. Louis-St. Charles-Farmington, MO-IL | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Steubenville, OH-WV | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Steubenville-Weirton, OH-WV | PM2.5 (2006 24-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Stockton Area, CA | CO (1971 8-hour) | Maintenance, Moderate ≤ 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Sullivan County, TN | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Syracuse Area; Onondaga County, NY | CO (1971 8-hour) | Maintenance, Moderate ≤ 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Tazewell County; Groveland Twp, IL | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Terre Haute, IN | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |

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Acrolein 2018

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|---|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Thurston County; Cities of Olympia, Tumwater, and Lacey, WA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Toms River Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Tooele County (part), UT | SO ₂ (1971 24-hour/Annual) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Trenton Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Trona, CA | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Tucson Area, AZ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Tuscan Buttes, CA | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Union County; LaGrande, OR | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Upper Green River Basin Area, WY | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Utah County, UT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Vancouver Area: Clark County (part), WA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Ventura County, CA | Ozone (2008 8-hour) | Nonattainment, Serious | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Vermillion County; Part of Clinton Township, IN | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Vigo County, IN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Walla Walla County; Wallula, WA | PM10 (1987 24-hour) | Maintenance, Serious | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Waltham Area, MA | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Warren County: Conewago Twp, PA | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Warren County: Warren Boro, Pleasant Twp, Glade Twp, PA | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Warren, PA | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Washington Area, DC-MD-VA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Washington, DC-MD-VA | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Washoe County; Reno planning area, NV | PM10 (1987 24-hour) | Nonattainment, Serious | 70 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |

Appendix A Air Quality Non-Attainment Area Results

Table A1-69

**Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Cumulative Impacts
Acrolein 2018**

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|---|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Wayne County: Boston, Center, Franklin, Wayne & Webster Townships, IN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Wayne County; (part), MI | PM ₁₀ (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| West Central Pinal County, AZ | PM _{2.5} (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| West Silver Valley, ID | PM _{2.5} (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Winston-Salem Area, NC | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Worcester Area, MA | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Yakima Area, WA | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Yakima County; (part), WA | PM ₁₀ (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Yuba City-Marysville, CA | PM _{2.5} (2006 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Yuma County; Yuma planning area, AZ | PM ₁₀ (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |

^a Reductions are shown as positive values. Negative values are emissions increases. Values of less than 0.005 tons per year are rounded to zero.

^b Nonattainment or maintenance status as of 5/13/2016. Source: U.S. EPA, The Green Book Nonattainment Areas for Criteria Pollutants; <http://www.epa.gov/airquality/greenbook/>. "--" indicates that no severity classification has been established for the NAAQS pollutant.

^c Emissions thresholds in tons per year. Where the threshold differs by precursor pollutant, the smallest of the precursor thresholds is shown. These thresholds are provided for information only; a general conformity determination is not required for the Proposed Action. Source: 40 CFR 93.853.

Notes: CO = carbon monoxide; NAAQS = National Ambient Air Quality Standards; NO₂ = nitrogen dioxide; PM = particulate matter; SO₂ = sulfur dioxide

Table A1-70
Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Cumulative Impacts
Acrolein 2025

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Ada County; Boise, ID | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Adams, Denver, and Boulder Counties; Denver Metropolitan area, CO | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Ajo, AZ | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Albuquerque Area, NM | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Allegheny County Air Basin: Hazelwood monitor, PA | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Allegheny County, PA | PM2.5 (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Allegheny County; The area including Liberty, Lincoln, Port Vue, and Glassport Boroughs and the City of Clairton, PA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Allegheny, PA | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Allentown, PA | PM2.5 (2006 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Allentown-Bethlehem-Easton, PA | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Anchorage Area, AK | CO (1971 8-hour) | Maintenance, Serious | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Anchorage; Eagle River, AK | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| AQCR 012: Portions of Grant County, NM | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| AQCR 109-Millinocket, ME | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| AQCR 131: Anoka, Carver, Dakota, Hennepin, Ramsey, Scott, and Washington counties (Minneapolis-St. Paul), MN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| AQCR 237: Brown County: Green Bay sub-city area, WI | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| AQCR 238: Marathon County: Rothschild Sub-city area, Rib Mountain, Weston, WI | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| AQCR 238: Oneida County: Rhinelander Sub-city area, WI | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| AQCR 239: Milwaukee County: Milwaukee sub-city area, WI | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |

Appendix A Air Quality Non-Attainment Area Results

Table A1-70

Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Cumulative Impacts

Acrolein 2025

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| AQCR 240: Dane County: Madison sub-city area, WI | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Archuleta County; Pagosa Springs, CO | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Armstrong County: Madison Twp, Mahoning Twp, Boggs Twp, Washington Twp, Pine Twp, PA | SO ₂ (1971 24-hour/Annual) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Aroostock County; City of Presque Isle, ME | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Atlanta, GA | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Atlantic City Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Bakersfield Area, CA | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Baltimore Area, MD | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Baltimore, MD | Ozone (2008 8-hour) | Nonattainment, Moderate | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Baton Rouge, LA | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Beaver, PA | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Benton County; (part) TVA Johnsonville, TN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Billings Area, MT | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Billings, MT | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Birmingham, AL | PM2.5 (2006 24-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Boise-Northern Ada County Area, ID | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Bonner County; The Sandpoint Area, ID | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Boston Area, MA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Boyd County (part), KY | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Brooke; Follansbee area, WV | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Burlington Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Calaveras County, CA | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Campbell-Clermont Counties, KY-OH | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |

Table A1-70
Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Cumulative Impacts
Acrolein 2025

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|---|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Canton-Massillon, OH | PM2.5 (2006 24-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Central New Hampshire, NH | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Central Steptoe Valley, NV | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Charleston, WV | PM2.5 (2006 24-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Charlotte Area, NC | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Charlotte-Rock Hill, NC-SC | Ozone (2008 8-hour) | Maintenance, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Chicago-Naperville, IL-IN-WI | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Chico (Butte County), CA | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Chico Area, CA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Chico, CA | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Cincinnati, OH-KY-IN | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Clark County; Las Vegas planning area, NV | PM10 (1987 24-hour) | Maintenance, Serious | 100 | 0 | 0.00 | 0.00 | -0.01 | -0.01 |
| Cleveland Area, OH | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Cleveland, OH | PM2.5 (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Cleveland-Akron-Lorain, OH | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Cleveland-Akron-Lorain, OH | PM2.5 (2006 24-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | -0.01 | -0.01 |
| Cochise County; Paul Spur/Douglas planning area, AZ | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Colorado Springs Area, CO | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Columbus, OH | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Cook County; Lyons Township, IL | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Cook County; Southeast Chicago, IL | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Coshocton County; Franklin Township, OH | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Coso Junction, CA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Cuyahoga County (part), OH | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Cuyahoga County, OH | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |

Appendix A Air Quality Non-Attainment Area Results

Table A1-70

Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Cumulative Impacts

Acrolein 2025

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Dallas-Fort Worth, TX | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Delaware County, PA | PM2.5 (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Denver-Boulder Area, CO | CO (1971 8-hour) | Maintenance, Serious | 100 | 0 | 0.00 | 0.00 | -0.01 | -0.01 |
| Denver-Boulder-Greeley-Ft Collins-Loveland, CO | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Detroit Area, MI | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | -0.01 | -0.01 |
| Detroit, MI | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Detroit-Ann Arbor, MI | PM2.5 (2006 24-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | -0.02 | -0.02 |
| Dona Ana County; Anthony, NM | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Douglas, AZ | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Dukes County, MA | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Duluth Area, MN | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| East Chicago Area, IN | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| East Helena Area, MT | SO ₂ (1971 24-hour/Annual) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| East Kern County Area, CA | PM10 (1987 24-hour) | Nonattainment, Serious | 70 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| El Paso County, TX | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| El Paso, TX | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Eugene-Springfield Area, OR | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Fairbanks Area, AK | CO (1971 8-hour) | Maintenance, Serious | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Fairbanks, AK | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |

Table A1-70
Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Cumulative Impacts
Acrolein 2025

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|---|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Flathead County; Columbia Falls and vicinity, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Flathead County; Kalispell and vicinity, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Flathead County; Whitefish and vicinity, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Fort Collins Area, CO | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Freehold Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Fremont County; Canon City Area, CO | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Fresno Area, CA | CO (1971 8-hour) | Maintenance, Moderate > 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Grants Pass Area, OR | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Great Falls Area, MT | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Greater Connecticut, CT | Ozone (2008 8-hour) | Nonattainment, Moderate | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Greeley Area, CO | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Hancock and Brooke Counties (Part); The city of Weirton, WV | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Hancock County (Part) The city of Weirton, including Butler and Clay; Magisterial Districts, WV | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Harrisburg-Lebanon-Carlisle-York, PA | PM2.5 (2006 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Hartford-New Britain-Middletown Area, CT | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Hayden, AZ | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Hayden, AZ | SO ₂ (1971 24-hour/Annual) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Hayden, AZ | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Hillsborough County, FL | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Houston-Galveston-Brazoria, TX | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Humphreys County; (part) TVA Johnsonville, TN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Imperial Co, CA | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |

Appendix A Air Quality Non-Attainment Area Results

Table A1-70

Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Cumulative Impacts

Acrolein 2025

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Imperial County, CA | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Imperial County, CA | PM2.5 (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Imperial County; Imperial Valley planning area, CA | PM10 (1987 24-hour) | Nonattainment, Serious | 70 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Indian Wells, CA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Indiana, PA | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Indianapolis Area, IN | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Indianapolis, IN | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Inyo County; Owens Valley planning area, CA | PM10 (1987 24-hour) | Nonattainment, Serious | 70 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Jackson County, MO | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Jackson County; Medford-Ashland (including White City), OR | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Jamestown, NY | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Jefferson County, KY | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Jefferson County, MO | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Jefferson County; (part) Steubenville & Mingo Junction, OH | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Jefferson County; (part), OH | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Johnstown, PA | PM2.5 (2006 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Josephine County; Grants Pass, OR | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Juneau; Mendenhall Valley area, AK | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Kern County (Eastern Kern), CA | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| King County; Kent, WA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| King County; Seattle, WA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Klamath County; Klamath Falls, OR | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Klamath Falls Area, OR | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Klamath Falls, OR | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |

Table A1-70
Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Cumulative Impacts
Acrolein 2025

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Knoxville, TN | Ozone (2008 8-hour) | Maintenance, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Knoxville-Sevierville-La Follette, TN | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| La Porte County: (part), IN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lake County (part); Lakeview, OR | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lake County, OH | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lake County: (part), IN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lake County; (part) Eastlake, Timberlake, Lakeline, Willoughby, Mentor, OH | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lake County; Cities of East Chicago, Hammond, Whiting, and Gary, IN | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lake County; Polson, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lake County; Ronan, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lake Tahoe Nevada Area, NV | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lake Tahoe North Shore Area, CA | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lake Tahoe South Shore Area, CA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lancaster, PA | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lancaster, PA | PM2.5 (2006 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lane County (part); Oakridge, OR | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lane County; Eugene/Springfield, OR | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Las Vegas Area, NV | CO (1971 8-hour) | Maintenance, Serious | 100 | 0 | 0.00 | 0.00 | -0.01 | -0.01 |
| LaSalle County; Oglesby, IL | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Laurel Area, MT | SO ₂ (1971 24-hour/Annual) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lebanon County, PA | PM2.5 (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lemont, IL | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Liberty-Clairton, PA | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |

Appendix A Air Quality Non-Attainment Area Results

Table A1-70

Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Cumulative Impacts

Acrolein 2025

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Lincoln County; Libby and vicinity, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Logan, UT-ID | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Longmont Area, CO | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lorain County (part), OH | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Los Angeles, CA | PM2.5 (2006 24-hour) | Nonattainment, Serious | 100 | 0 | 0.00 | 0.01 | -0.03 | -0.03 |
| Los Angeles-San Bernardino Counties (West Mojave Desert), CA | Ozone (2008 8-hour) | Nonattainment, Severe 15 | 25 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Los Angeles-South Coast Air Basin Area, CA | CO (1971 8-hour) | Maintenance, Serious | 100 | 0 | 0.00 | 0.01 | -0.03 | -0.03 |
| Los Angeles-South Coast Air Basin Area, CA | NO ₂ (1971 Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.01 | -0.03 | -0.03 |
| Los Angeles-South Coast Air Basin, CA | Ozone (2008 8-hour) | Nonattainment, Extreme | 10 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Los Angeles-South Coast Air Basin, CA | PM2.5 (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.01 | -0.03 | -0.03 |
| Lowell Area, MA | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lucas County (part), OH | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Madison County; Granite City Township and Nameoki Township, IL | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Manchester Area, NH | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Maricopa and Pinal Counties; Phoenix planning area, AZ | PM10 (1987 24-hour) | Nonattainment, Serious | 70 | 0 | 0.00 | 0.00 | -0.01 | -0.01 |
| Marion County; Lawrence, Washington, and Warrant Townships, IN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Mariposa County, CA | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Marshall, WV | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Medford Area, OR | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Memphis Area, TN | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |

Table A1-70
Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Cumulative Impacts
Acrolein 2025

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|---|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Memphis, TN-MS-AR | Ozone (2008 8-hour) | Nonattainment TN & Maintenance MS/AR, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Miami, AZ | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Miami, AZ | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Miami, AZ | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Milwaukee-Racine, WI | PM2.5 (2006 24-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Minneapolis-St. Paul Area, MN | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.15 | 0.31 | 0.31 | 0.48 |
| Missoula Area, MT | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Missoula county; Missoula and vicinity, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Modesto Area, CA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Mohave County (part); Bullhead City, AZ | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Mono County; Mammoth Lake planning area, CA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Mono County; Mono Basin, CA | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Morenci, AZ | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Morgan County, IN | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Morongo Band of Mission Indians | Ozone (2008 8-hour) | Nonattainment, Serious | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Morristown Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Muscatine County; (part), IA | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Muscatine, IA | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Muskingum River, OH | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Nashua Area, NH | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Nassau County, FL | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Nevada County (Western part), CA | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| New Haven County, CT | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |

Appendix A Air Quality Non-Attainment Area Results

Table A1-70

Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Cumulative Impacts

Acrolein 2025

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| New Haven-Meriden-Waterbury Area, CT | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| New Manchester-Grant magisterial district in Hancock County, WV | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| New York County, NY | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| New York, NY-NJ-CT | PM2.5 (2006 24-hour) | Maintenance, -- | 100 | 0 | -0.01 | -0.01 | -0.05 | -0.05 |
| New York-N. New Jersey-Long Island Area, NY-NJ-CT | CO (1971 8-hour) | Maintenance, Moderate > 12.7ppm | 100 | 0 | 0.00 | 0.00 | -0.03 | -0.03 |
| New York-N. New Jersey-Long Island, NY-NJ-CT | Ozone (2008 8-hour) | Nonattainment, Moderate | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| NJ portion of the Northeast Pennsylvania-Upper Delaware Valley Interstate AQCR: (part), NJ | SO ₂ (1971 24-hour/Annual) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Nogales, AZ | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Oakridge, OR | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Ogden Area, UT | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Ogden Area, UT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Olmsted County; (part), MN | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Olmsted; City of Rochester, MN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |

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Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Cumulative Impacts
Acrolein 2025

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Pechanga Band of Luiseno Mission Indians of the Pechanga Reservation | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Pekin, IL | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Penns Grove Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Peoria County: Hollis Twp, IL | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Peoria County: Peoria, IL | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Perth Amboy Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Philadelphia-Camden County Area, PA-NJ | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Philadelphia-Wilmington, PA-NJ-DE | PM _{2.5} (2006 24-hour) | Maintenance, Moderate for PA and DE Subject to Former Subpart 1 for NJ | 100 | 0 | 0.00 | 0.00 | -0.01 | -0.01 |
| Philadelphia-Wilmington-Atlantic City, PA-NJ-MD-DE | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Phoenix Area, AZ | CO (1971 8-hour) | Maintenance, Serious | 100 | 0 | 0.00 | 0.00 | -0.01 | -0.01 |
| Phoenix-Mesa, AZ | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Pierce County; Tacoma, WA | PM ₁₀ (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Pima County; Ajo planning area, AZ | PM ₁₀ (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Pima County; Rillito planning area, AZ | PM ₁₀ (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Pinal and Gila Counties; Payson, AZ | PM ₁₀ (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Pinal County (part); West Pinal, AZ | PM ₁₀ (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Pitkin County; Aspen, CO | PM ₁₀ (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Pittsburgh Area, PA | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Pittsburgh-Beaver Valley, PA | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Pittsburgh-Beaver Valley, PA | PM _{2.5} (2006 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | -0.01 | -0.01 |
| Plumas County, CA | PM _{2.5} (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Polk County, TN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |

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| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|-------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Portland Area: Portland Metro Service District Boundary, OR | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Power-Bannock Counties; Fort Hall Indian Reservation, ID | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Power-Bannock Counties; Portneuf Valley Area, ID | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Provo Area, UT | CO (1971 8-hour) | Maintenance, Moderate > 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Provo, UT | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Prowers County; Lamar, CO | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Raleigh-Durham Area, NC | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Ramsey County; (part), MN | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Reading, PA | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Reno Area, NV | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Rhinelander, WI | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Riverside County (Coachella Valley), CA | Ozone (2008 8-hour) | Nonattainment, Severe 15 | 25 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Riverside County; Coachella Valley planning area, CA | PM10 (1987 24-hour) | Nonattainment, Serious | 70 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Riverside, Los Angeles, Orange, and San Bernardino Counties; South Coast Air Basin, CA | PM10 (1987 24-hour) | Maintenance, Serious | 100 | 0 | 0.00 | 0.01 | -0.03 | -0.03 |
| Rosebud County; Lame Deer, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Routt County (part); Steamboat Springs, CO | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Sacramento Area, CA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Sacramento County, CA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Sacramento Metro, CA | Ozone (2008 8-hour) | Nonattainment, Severe 15 | 25 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Sacramento, CA | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | -0.01 | -0.01 |
| Salem Area, OR | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Salt Lake City Area, UT | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Salt Lake City, UT | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | -0.01 | -0.01 |

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| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|---|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Salt Lake County, UT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Salt Lake County, UT | SO ₂ (1971 24-hour/Annual) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| San Bernardino County (part); excluding Searles Valley Planning area and South Coast Air Basin, CA | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| San Diego Area, CA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | -0.01 | -0.01 |
| San Diego County, CA | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| San Francisco Bay Area, CA | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| San Francisco Bay Area, CA | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | -0.02 | -0.02 |
| San Francisco-Oakland-San Jose Area, CA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | -0.02 | -0.02 |
| San Joaquin Valley Air Basin; Fresno, Kern, Kings, Madera, Merced, San Joaquin, Stanislaus, Tulare Counties, CA | PM10 (1987 24-hour) | Maintenance, Serious | 100 | 0 | 0.00 | 0.00 | -0.01 | -0.01 |
| San Joaquin Valley, CA | Ozone (2008 8-hour) | Nonattainment, Extreme | 10 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| San Joaquin Valley, CA | PM2.5 (2006 24-hour) | Nonattainment, Serious | 100 | 0 | 0.00 | 0.00 | -0.01 | -0.01 |
| San Joaquin Valley, CA | PM2.5 (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | -0.01 | -0.01 |
| San Luis Obispo (Eastern San Luis Obispo), CA | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| San Manuel, AZ | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| San Miguel County; Telluride, CO | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Sanders County (part); Thompson Falls and vicinity, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Santa Cruz County; Nogales planning area, AZ | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Seaford, DE | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Seattle-Tacoma Area, WA | CO (1971 8-hour) | Maintenance, Moderate > 12.7ppm | 100 | 0 | 0.00 | 0.00 | -0.01 | -0.01 |
| Seattle-Tacoma, WA | PM2.5 (2006 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Sheboygan County, WI | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |

Appendix A Air Quality Non-Attainment Area Results

Table A1-70

Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Cumulative Impacts

Acrolein 2025

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|---|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Sheridan County; City of Sheridan, WY | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Shoshone County (part); excluding Pinehurst, ID | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Shoshone County; City of Pinehurst, ID | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Silver Bow County; Butte, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Somerville Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Southwest Indiana, IN | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Spokane Area, WA | CO (1971 8-hour) | Maintenance, Serious | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Spokane County; (part), WA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Springfield Area, MA | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| St. Bernard Parish, LA | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| St. Louis Area, MO | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| St. Louis-St. Charles-Farmington, MO-IL | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Steubenville, OH-WV | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Steubenville-Weirton, OH-WV | PM2.5 (2006 24-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Stockton Area, CA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Sullivan County, TN | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Syracuse Area; Onondaga County, NY | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Tazewell County; Groveland Twp, IL | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Terre Haute, IN | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |

Table A1-70
Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Cumulative Impacts
Acrolein 2025

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|---|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Thurston County; Cities of Olympia, Tumwater, and Lacey, WA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Toms River Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Tooele County (part), UT | SO ₂ (1971 24-hour/Annual) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Trenton Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Trona, CA | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Tucson Area, AZ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Tuscan Buttes, CA | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Union County; LaGrande, OR | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Upper Green River Basin Area, WY | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Utah County, UT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Vancouver Area: Clark County (part), WA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Ventura County, CA | Ozone (2008 8-hour) | Nonattainment, Serious | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Vermillion County; Part of Clinton Township, IN | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Vigo County, IN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Walla Walla County; Wallula, WA | PM10 (1987 24-hour) | Maintenance, Serious | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Waltham Area, MA | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Warren County: Conewago Twp, PA | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Warren County: Warren Boro, Pleasant Twp, Glade Twp, PA | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Warren, PA | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Washington Area, DC-MD-VA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Washington, DC-MD-VA | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Washoe County; Reno planning area, NV | PM10 (1987 24-hour) | Nonattainment, Serious | 70 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |

Appendix A Air Quality Non-Attainment Area Results

Table A1-70

Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Cumulative Impacts

Acrolein 2025

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|---|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Wayne County: Boston, Center, Franklin, Wayne & Webster Townships, IN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Wayne County; (part), MI | PM ₁₀ (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| West Central Pinal County, AZ | PM _{2.5} (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| West Silver Valley, ID | PM _{2.5} (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Winston-Salem Area, NC | CO (1971 8-hour) | Maintenance, Moderate ≤ 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Worcester Area, MA | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Yakima Area, WA | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Yakima County; (part), WA | PM ₁₀ (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Yuba City-Marysville, CA | PM _{2.5} (2006 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Yuma County; Yuma planning area, AZ | PM ₁₀ (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |

^a Reductions are shown as positive values. Negative values are emissions increases. Values of less than 0.005 tons per year are rounded to zero.

^b Nonattainment or maintenance status as of 5/13/2016. Source: U.S. EPA, The Green Book Nonattainment Areas for Criteria Pollutants; <http://www.epa.gov/airquality/greenbook/>. "--" indicates that no severity classification has been established for the NAAQS pollutant.

^c Emissions thresholds in tons per year. Where the threshold differs by precursor pollutant, the smallest of the precursor thresholds is shown. These thresholds are provided for information only; a general conformity determination is not required for the Proposed Action. Source: 40 CFR 93.853.

Notes: CO = carbon monoxide; NAAQS = National Ambient Air Quality Standards; NO₂ = nitrogen dioxide; PM = particulate matter; SO₂ = sulfur dioxide

Table A1-71
Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Cumulative Impacts
Acrolein 2040

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Ada County; Boise, ID | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Adams, Denver, and Boulder Counties; Denver Metropolitan area, CO | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | -0.01 | 0.00 | -0.01 | -0.02 |
| Ajo, AZ | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Albuquerque Area, NM | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | -0.01 | -0.01 |
| Allegheny County Air Basin: Hazelwood monitor, PA | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Allegheny County, PA | PM2.5 (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | -0.01 | -0.01 |
| Allegheny County; The area including Liberty, Lincoln, Port Vue, and Glassport Boroughs and the City of Clairton, PA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Allegheny, PA | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Allentown, PA | PM2.5 (2006 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | -0.01 | -0.01 |
| Allentown-Bethlehem-Easton, PA | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Anchorage Area, AK | CO (1971 8-hour) | Maintenance, Serious | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Anchorage; Eagle River, AK | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| AQCR 012: Portions of Grant County, NM | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| AQCR 109-Millinocket, ME | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| AQCR 131: Anoka, Carver, Dakota, Hennepin, Ramsey, Scott, and Washington counties (Minneapolis-St. Paul), MN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| AQCR 237: Brown County: Green Bay sub-city area, WI | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| AQCR 238: Marathon County: Rothschild Sub-city area, Rib Mountain, Weston, WI | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| AQCR 238: Oneida County: Rhinelander Sub-city area, WI | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| AQCR 239: Milwaukee County: Milwaukee sub-city area, WI | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |

Appendix A Air Quality Non-Attainment Area Results

Table A1-71

Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Cumulative Impacts

Acrolein 2040

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| AQCR 240: Dane County: Madison sub-city area, WI | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Archuleta County; Pagosa Springs, CO | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Armstrong County: Madison Twp, Mahoning Twp, Boggs Twp, Washington Twp, Pine Twp, PA | SO ₂ (1971 24-hour/Annual) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Aroostock County; City of Presque Isle, ME | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Atlanta, GA | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Atlantic City Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Bakersfield Area, CA | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Baltimore Area, MD | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Baltimore, MD | Ozone (2008 8-hour) | Nonattainment, Moderate | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Baton Rouge, LA | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Beaver, PA | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Benton County; (part) TVA Johnsonville, TN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Billings Area, MT | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Billings, MT | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Birmingham, AL | PM2.5 (2006 24-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | -0.01 | -0.01 |
| Boise-Northern Ada County Area, ID | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Bonner County; The Sandpoint Area, ID | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Boston Area, MA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | -0.01 | -0.01 |
| Boyd County (part), KY | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Brooke; Follansbee area, WV | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Burlington Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Calaveras County, CA | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Campbell-Clermont Counties, KY-OH | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |

Table A1-71
Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Cumulative Impacts
Acrolein 2040

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|---|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Canton-Massillon, OH | PM2.5 (2006 24-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Central New Hampshire, NH | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Central Steptoe Valley, NV | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Charleston, WV | PM2.5 (2006 24-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Charlotte Area, NC | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | -0.01 | -0.01 |
| Charlotte-Rock Hill, NC-SC | Ozone (2008 8-hour) | Maintenance, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Chicago-Naperville, IL-IN-WI | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Chico (Butte County), CA | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Chico Area, CA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Chico, CA | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Cincinnati, OH-KY-IN | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Clark County; Las Vegas planning area, NV | PM10 (1987 24-hour) | Maintenance, Serious | 100 | 0 | -0.01 | 0.00 | -0.02 | -0.02 |
| Cleveland Area, OH | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | -0.01 | -0.01 |
| Cleveland, OH | PM2.5 (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | -0.01 | -0.01 |
| Cleveland-Akron-Lorain, OH | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Cleveland-Akron-Lorain, OH | PM2.5 (2006 24-hour) | Maintenance, -- | 100 | 0 | -0.01 | 0.00 | -0.03 | -0.03 |
| Cochise County; Paul Spur/Douglas planning area, AZ | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Colorado Springs Area, CO | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | -0.01 | -0.01 |
| Columbus, OH | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Cook County; Lyons Township, IL | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Cook County; Southeast Chicago, IL | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Coshocton County; Franklin Township, OH | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Coso Junction, CA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Cuyahoga County (part), OH | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Cuyahoga County, OH | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | -0.01 | -0.01 |

Appendix A Air Quality Non-Attainment Area Results

Table A1-71

Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Cumulative Impacts

Acrolein 2040

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Dallas-Fort Worth, TX | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Delaware County, PA | PM2.5 (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Denver-Boulder Area, CO | CO (1971 8-hour) | Maintenance, Serious | 100 | 0 | -0.01 | 0.00 | -0.02 | -0.03 |
| Denver-Boulder-Greeley-Ft Collins-Loveland, CO | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Detroit Area, MI | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | -0.01 | 0.00 | -0.01 | -0.01 |
| Detroit, MI | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Detroit-Ann Arbor, MI | PM2.5 (2006 24-hour) | Maintenance, -- | 100 | 0 | -0.02 | 0.01 | -0.05 | -0.05 |
| Dona Ana County; Anthony, NM | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Douglas, AZ | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Dukes County, MA | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Duluth Area, MN | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| East Chicago Area, IN | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| East Helena Area, MT | SO ₂ (1971 24-hour/Annual) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| East Kern County Area, CA | PM10 (1987 24-hour) | Nonattainment, Serious | 70 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| El Paso County, TX | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| El Paso, TX | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Eugene-Springfield Area, OR | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Fairbanks Area, AK | CO (1971 8-hour) | Maintenance, Serious | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Fairbanks, AK | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |

Table A1-71
Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Cumulative Impacts
Acrolein 2040

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|---|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Flathead County; Columbia Falls and vicinity, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Flathead County; Kalispell and vicinity, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Flathead County; Whitefish and vicinity, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Fort Collins Area, CO | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Freehold Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Fremont County; Canon City Area, CO | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Fresno Area, CA | CO (1971 8-hour) | Maintenance, Moderate > 12.7ppm | 100 | 0 | 0.00 | 0.00 | -0.01 | -0.01 |
| Grants Pass Area, OR | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Great Falls Area, MT | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Greater Connecticut, CT | Ozone (2008 8-hour) | Nonattainment, Moderate | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Greeley Area, CO | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Hancock and Brooke Counties (Part); The city of Weirton, WV | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Hancock County (Part) The city of Weirton, including Butler and Clay: Magisterial Districts, WV | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Harrisburg-Lebanon-Carlisle-York, PA | PM2.5 (2006 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | -0.01 | -0.01 |
| Hartford-New Britain-Middletown Area, CT | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | -0.01 | -0.01 |
| Hayden, AZ | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Hayden, AZ | SO ₂ (1971 24-hour/Annual) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Hayden, AZ | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Hillsborough County, FL | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Houston-Galveston-Brazoria, TX | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Humphreys County; (part) TVA Johnsonville, TN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Imperial Co, CA | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |

Appendix A Air Quality Non-Attainment Area Results

Table A1-71

Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Cumulative Impacts

Acrolein 2040

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Imperial County, CA | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Imperial County, CA | PM2.5 (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Imperial County; Imperial Valley planning area, CA | PM10 (1987 24-hour) | Nonattainment, Serious | 70 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Indian Wells, CA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Indiana, PA | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Indianapolis Area, IN | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Indianapolis, IN | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Inyo County; Owens Valley planning area, CA | PM10 (1987 24-hour) | Nonattainment, Serious | 70 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Jackson County, MO | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Jackson County; Medford-Ashland (including White City), OR | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Jamestown, NY | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Jefferson County, KY | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Jefferson County, MO | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Jefferson County; (part) Steubenville & Mingo Junction, OH | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Jefferson County; (part), OH | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Johnstown, PA | PM2.5 (2006 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Josephine County; Grants Pass, OR | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Juneau; Mendenhall Valley area, AK | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Kern County (Eastern Kern), CA | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| King County; Kent, WA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| King County; Seattle, WA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Klamath County; Klamath Falls, OR | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Klamath Falls Area, OR | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Klamath Falls, OR | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |

Table A1-71
Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Cumulative Impacts
Acrolein 2040

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Knoxville, TN | Ozone (2008 8-hour) | Maintenance, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Knoxville-Sevierville-La Follette, TN | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | -0.01 | -0.01 |
| La Porte County: (part), IN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lake County (part); Lakeview, OR | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lake County, OH | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lake County: (part), IN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lake County; (part) Eastlake, Timberlake, Lakeline, Willoughby, Mentor, OH | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lake County; Cities of East Chicago, Hammond, Whiting, and Gary, IN | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lake County; Polson, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lake County; Ronan, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lake Tahoe Nevada Area, NV | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lake Tahoe North Shore Area, CA | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lake Tahoe South Shore Area, CA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lancaster, PA | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lancaster, PA | PM2.5 (2006 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | -0.01 | -0.01 |
| Lane County (part); Oakridge, OR | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lane County; Eugene/Springfield, OR | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Las Vegas Area, NV | CO (1971 8-hour) | Maintenance, Serious | 100 | 0 | -0.01 | 0.00 | -0.02 | -0.02 |
| LaSalle County; Oglesby, IL | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Laurel Area, MT | SO ₂ (1971 24-hour/Annual) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lebanon County, PA | PM2.5 (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lemont, IL | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Liberty-Clairton, PA | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |

Appendix A Air Quality Non-Attainment Area Results

Table A1-71

Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Cumulative Impacts

Acrolein 2040

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Lincoln County; Libby and vicinity, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Logan, UT-ID | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Longmont Area, CO | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lorain County (part), OH | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Los Angeles, CA | PM2.5 (2006 24-hour) | Nonattainment, Serious | 100 | 0 | -0.03 | 0.08 | -0.10 | -0.08 |
| Los Angeles-San Bernardino Counties (West Mojave Desert), CA | Ozone (2008 8-hour) | Nonattainment, Severe 15 | 25 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Los Angeles-South Coast Air Basin Area, CA | CO (1971 8-hour) | Maintenance, Serious | 100 | 0 | -0.03 | 0.08 | -0.10 | -0.08 |
| Los Angeles-South Coast Air Basin Area, CA | NO ₂ (1971 Annual) | Maintenance, -- | 100 | 0 | -0.03 | 0.08 | -0.10 | -0.08 |
| Los Angeles-South Coast Air Basin, CA | Ozone (2008 8-hour) | Nonattainment, Extreme | 10 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Los Angeles-South Coast Air Basin, CA | PM2.5 (2012 Annual) | Nonattainment, Moderate | 100 | 0 | -0.03 | 0.08 | -0.10 | -0.08 |
| Lowell Area, MA | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lucas County (part), OH | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Madison County; Granite City Township and Nameoki Township, IL | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Manchester Area, NH | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Maricopa and Pinal Counties; Phoenix planning area, AZ | PM10 (1987 24-hour) | Nonattainment, Serious | 70 | 0 | -0.01 | 0.00 | -0.04 | -0.04 |
| Marion County; Lawrence, Washington, and Warrant Townships, IN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Mariposa County, CA | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Marshall, WV | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Medford Area, OR | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Memphis Area, TN | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | -0.01 | -0.01 |

Table A1-71
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Acrolein 2040

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|---|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Memphis, TN-MS-AR | Ozone (2008 8-hour) | Nonattainment TN & Maintenance MS/AR, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Miami, AZ | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Miami, AZ | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Miami, AZ | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Milwaukee-Racine, WI | PM2.5 (2006 24-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | -0.01 | -0.01 |
| Minneapolis-St. Paul Area, MN | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.50 | 1.28 | 1.03 | 1.47 |
| Missoula Area, MT | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Missoula county; Missoula and vicinity, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Modesto Area, CA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Mohave County (part); Bullhead City, AZ | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Mono County; Mammoth Lake planning area, CA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Mono County; Mono Basin, CA | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Morenci, AZ | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Morgan County, IN | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Morongo Band of Mission Indians | Ozone (2008 8-hour) | Nonattainment, Serious | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Morristown Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Muscatine County; (part), IA | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Muscatine, IA | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Muskingum River, OH | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Nashua Area, NH | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Nassau County, FL | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Nevada County (Western part), CA | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| New Haven County, CT | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |

Appendix A Air Quality Non-Attainment Area Results

Table A1-71

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| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| New Haven-Meriden-Waterbury Area, CT | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | -0.01 | -0.01 |
| New Manchester-Grant magisterial district in Hancock County, WV | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| New York County, NY | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | -0.01 | -0.01 |
| New York, NY-NJ-CT | PM2.5 (2006 24-hour) | Maintenance, -- | 100 | 0 | -0.06 | 0.02 | -0.16 | -0.16 |
| New York-N. New Jersey-Long Island Area, NY-NJ-CT | CO (1971 8-hour) | Maintenance, Moderate > 12.7ppm | 100 | 0 | -0.03 | 0.01 | -0.09 | -0.09 |
| New York-N. New Jersey-Long Island, NY-NJ-CT | Ozone (2008 8-hour) | Nonattainment, Moderate | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| NJ portion of the Northeast Pennsylvania-Upper Delaware Valley Interstate AQCR: (part), NJ | SO ₂ (1971 24-hour/Annual) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Nogales, AZ | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Oakridge, OR | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Ogden Area, UT | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Ogden Area, UT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Olmsted County; (part), MN | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Olmsted; City of Rochester, MN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |

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Acrolein 2040

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Pechanga Band of Luiseno Mission Indians of the Pechanga Reservation | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Pekin, IL | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Penns Grove Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Peoria County: Hollis Twp, IL | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Peoria County: Peoria, IL | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Perth Amboy Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Philadelphia-Camden County Area, PA-NJ | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | -0.01 | -0.01 |
| Philadelphia-Wilmington, PA-NJ-DE | PM _{2.5} (2006 24-hour) | Maintenance, Moderate for PA and DE Subject to Former Subpart 1 for NJ | 100 | 0 | -0.02 | 0.00 | -0.04 | -0.04 |
| Philadelphia-Wilmington-Atlantic City, PA-NJ-MD-DE | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Phoenix Area, AZ | CO (1971 8-hour) | Maintenance, Serious | 100 | 0 | -0.01 | 0.00 | -0.03 | -0.03 |
| Phoenix-Mesa, AZ | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Pierce County; Tacoma, WA | PM ₁₀ (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Pima County; Ajo planning area, AZ | PM ₁₀ (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Pima County; Rillito planning area, AZ | PM ₁₀ (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Pinal and Gila Counties; Payson, AZ | PM ₁₀ (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Pinal County (part); West Pinal, AZ | PM ₁₀ (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Pitkin County; Aspen, CO | PM ₁₀ (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Pittsburgh Area, PA | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Pittsburgh-Beaver Valley, PA | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Pittsburgh-Beaver Valley, PA | PM _{2.5} (2006 24-hour) | Maintenance, Moderate | 100 | 0 | -0.01 | 0.00 | -0.02 | -0.02 |
| Plumas County, CA | PM _{2.5} (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Polk County, TN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |

Appendix A Air Quality Non-Attainment Area Results

Table A1-71

Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Cumulative Impacts

Acrolein 2040

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|-------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Portland Area: Portland Metro Service District Boundary, OR | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | -0.01 | -0.01 |
| Power-Bannock Counties; Fort Hall Indian Reservation, ID | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Power-Bannock Counties; Portneuf Valley Area, ID | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Provo Area, UT | CO (1971 8-hour) | Maintenance, Moderate > 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Provo, UT | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Prowers County; Lamar, CO | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Raleigh-Durham Area, NC | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | -0.01 | 0.00 | -0.01 | -0.01 |
| Ramsey County; (part), MN | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Reading, PA | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Reno Area, NV | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Rhineland, WI | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Riverside County (Coachella Valley), CA | Ozone (2008 8-hour) | Nonattainment, Severe 15 | 25 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Riverside County; Coachella Valley planning area, CA | PM10 (1987 24-hour) | Nonattainment, Serious | 70 | 0 | 0.00 | 0.00 | 0.00 | -0.01 |
| Riverside, Los Angeles, Orange, and San Bernardino Counties; South Coast Air Basin, CA | PM10 (1987 24-hour) | Maintenance, Serious | 100 | 0 | -0.03 | 0.08 | -0.10 | -0.08 |
| Rosebud County; Lame Deer, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Routt County (part); Steamboat Springs, CO | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Sacramento Area, CA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | -0.01 | -0.01 |
| Sacramento County, CA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | -0.01 | -0.01 |
| Sacramento Metro, CA | Ozone (2008 8-hour) | Nonattainment, Severe 15 | 25 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Sacramento, CA | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | -0.01 | 0.00 | -0.02 | -0.02 |
| Salem Area, OR | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Salt Lake City Area, UT | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Salt Lake City, UT | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | -0.01 | 0.00 | -0.02 | -0.02 |

Table A1-71

Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Cumulative Impacts

Acrolein 2040

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|---|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Salt Lake County, UT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | -0.01 | -0.01 |
| Salt Lake County, UT | SO ₂ (1971 24-hour/Annual) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| San Bernardino County (part); excluding Searles Valley Planning area and South Coast Air Basin, CA | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | -0.01 | -0.01 |
| San Diego Area, CA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | -0.01 | 0.00 | -0.03 | -0.03 |
| San Diego County, CA | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| San Francisco Bay Area, CA | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| San Francisco Bay Area, CA | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | -0.02 | 0.01 | -0.06 | -0.06 |
| San Francisco-Oakland-San Jose Area, CA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | -0.02 | 0.01 | -0.06 | -0.06 |
| San Joaquin Valley Air Basin; Fresno, Kern, Kings, Madera, Merced, San Joaquin, Stanislaus, Tulare Counties, CA | PM10 (1987 24-hour) | Maintenance, Serious | 100 | 0 | -0.02 | 0.01 | -0.04 | -0.04 |
| San Joaquin Valley, CA | Ozone (2008 8-hour) | Nonattainment, Extreme | 10 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| San Joaquin Valley, CA | PM2.5 (2006 24-hour) | Nonattainment, Serious | 100 | 0 | -0.02 | 0.01 | -0.04 | -0.04 |
| San Joaquin Valley, CA | PM2.5 (2012 Annual) | Nonattainment, Moderate | 100 | 0 | -0.02 | 0.01 | -0.04 | -0.04 |
| San Luis Obispo (Eastern San Luis Obispo), CA | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| San Manuel, AZ | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| San Miguel County; Telluride, CO | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Sanders County (part); Thompson Falls and vicinity, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Santa Cruz County; Nogales planning area, AZ | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Seaford, DE | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Seattle-Tacoma Area, WA | CO (1971 8-hour) | Maintenance, Moderate > 12.7ppm | 100 | 0 | -0.01 | 0.00 | -0.03 | -0.03 |
| Seattle-Tacoma, WA | PM2.5 (2006 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Sheboygan County, WI | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |

Appendix A Air Quality Non-Attainment Area Results

Table A1-71

Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Cumulative Impacts

Acrolein 2040

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|---|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Sheridan County; City of Sheridan, WY | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Shoshone County (part); excluding Pinehurst, ID | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Shoshone County; City of Pinehurst, ID | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Silver Bow County; Butte, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Somerville Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Southwest Indiana, IN | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Spokane Area, WA | CO (1971 8-hour) | Maintenance, Serious | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Spokane County; (part), WA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Springfield Area, MA | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| St. Bernard Parish, LA | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| St. Louis Area, MO | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | -0.01 | -0.01 |
| St. Louis-St. Charles-Farmington, MO-IL | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Steubenville, OH-WV | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Steubenville-Weirton, OH-WV | PM2.5 (2006 24-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Stockton Area, CA | CO (1971 8-hour) | Maintenance, Moderate ≤ 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Sullivan County, TN | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Syracuse Area; Onondaga County, NY | CO (1971 8-hour) | Maintenance, Moderate ≤ 12.7ppm | 100 | 0 | 0.00 | 0.00 | -0.01 | -0.01 |
| Tazewell County; Groveland Twp, IL | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Terre Haute, IN | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |

Table A1-71

Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Cumulative Impacts

Acrolein 2040

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|---|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Thurston County; Cities of Olympia, Tumwater, and Lacey, WA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Toms River Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Tooele County (part), UT | SO ₂ (1971 24-hour/Annual) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Trenton Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Trona, CA | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Tucson Area, AZ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | -0.01 | -0.01 |
| Tuscan Buttes, CA | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Union County; LaGrande, OR | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Upper Green River Basin Area, WY | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Utah County, UT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Vancouver Area: Clark County (part), WA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Ventura County, CA | Ozone (2008 8-hour) | Nonattainment, Serious | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Vermillion County; Part of Clinton Township, IN | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Vigo County, IN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Walla Walla County; Wallula, WA | PM10 (1987 24-hour) | Maintenance, Serious | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Waltham Area, MA | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Warren County: Conewago Twp, PA | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Warren County: Warren Boro, Pleasant Twp, Glade Twp, PA | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Warren, PA | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Washington Area, DC-MD-VA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | -0.01 | -0.01 |
| Washington, DC-MD-VA | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Washoe County; Reno planning area, NV | PM10 (1987 24-hour) | Nonattainment, Serious | 70 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |

Appendix A Air Quality Non-Attainment Area Results

Table A1-71

Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Cumulative Impacts

Acrolein 2040

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|---|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Wayne County: Boston, Center, Franklin, Wayne & Webster Townships, IN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Wayne County; (part), MI | PM ₁₀ (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| West Central Pinal County, AZ | PM _{2.5} (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| West Silver Valley, ID | PM _{2.5} (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Winston-Salem Area, NC | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Worcester Area, MA | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Yakima Area, WA | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Yakima County; (part), WA | PM ₁₀ (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Yuba City-Marysville, CA | PM _{2.5} (2006 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Yuma County; Yuma planning area, AZ | PM ₁₀ (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |

^a Reductions are shown as positive values. Negative values are emissions increases. Values of less than 0.005 tons per year are rounded to zero.

^b Nonattainment or maintenance status as of 5/13/2016. Source: U.S. EPA, The Green Book Nonattainment Areas for Criteria Pollutants; <http://www.epa.gov/airquality/greenbook/>. "--" indicates that no severity classification has been established for the NAAQS pollutant.

^c Emissions thresholds in tons per year. Where the threshold differs by precursor pollutant, the smallest of the precursor thresholds is shown. These thresholds are provided for information only; a general conformity determination is not required for the Proposed Action. Source: 40 CFR 93.853.

Notes: CO = carbon monoxide; NAAQS = National Ambient Air Quality Standards; NO₂ = nitrogen dioxide; PM = particulate matter; SO₂ = sulfur dioxide

Table A1-72
Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Cumulative Impacts
Acrolein 2050

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Ada County; Boise, ID | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Adams, Denver, and Boulder Counties; Denver Metropolitan area, CO | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | -0.01 | 0.01 | -0.02 | -0.02 |
| Ajo, AZ | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Albuquerque Area, NM | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | -0.01 | -0.01 |
| Allegheny County Air Basin: Hazelwood monitor, PA | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Allegheny County, PA | PM2.5 (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | -0.01 | -0.01 |
| Allegheny County; The area including Liberty, Lincoln, Port Vue, and Glassport Boroughs and the City of Clairton, PA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Allegheny, PA | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Allentown, PA | PM2.5 (2006 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | -0.01 | -0.01 |
| Allentown-Bethlehem-Easton, PA | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Anchorage Area, AK | CO (1971 8-hour) | Maintenance, Serious | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Anchorage; Eagle River, AK | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| AQCR 012: Portions of Grant County, NM | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| AQCR 109-Millinocket, ME | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| AQCR 131: Anoka, Carver, Dakota, Hennepin, Ramsey, Scott, and Washington counties (Minneapolis-St. Paul), MN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| AQCR 237: Brown County: Green Bay sub-city area, WI | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| AQCR 238: Marathon County: Rothschild Sub-city area, Rib Mountain, Weston, WI | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| AQCR 238: Oneida County: Rhinelander Sub-city area, WI | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| AQCR 239: Milwaukee County: Milwaukee sub-city area, WI | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |

Appendix A Air Quality Non-Attainment Area Results

Table A1-72

Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Cumulative Impacts

Acrolein 2050

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| AQCR 240: Dane County: Madison sub-city area, WI | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Archuleta County; Pagosa Springs, CO | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Armstrong County: Madison Twp, Mahoning Twp, Boggs Twp, Washington Twp, Pine Twp, PA | SO ₂ (1971 24-hour/Annual) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Aroostock County; City of Presque Isle, ME | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Atlanta, GA | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Atlantic City Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Bakersfield Area, CA | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Baltimore Area, MD | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Baltimore, MD | Ozone (2008 8-hour) | Nonattainment, Moderate | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Baton Rouge, LA | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Beaver, PA | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Benton County; (part) TVA Johnsonville, TN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Billings Area, MT | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Billings, MT | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Birmingham, AL | PM2.5 (2006 24-hour) | Maintenance, -- | 100 | 0 | -0.01 | 0.00 | -0.01 | -0.01 |
| Boise-Northern Ada County Area, ID | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Bonner County; The Sandpoint Area, ID | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Boston Area, MA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | -0.01 | -0.01 |
| Boyd County (part), KY | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Brooke; Follansbee area, WV | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Burlington Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Calaveras County, CA | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Campbell-Clermont Counties, KY-OH | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |

Table A1-72
Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Cumulative Impacts
Acrolein 2050

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|---|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Canton-Massillon, OH | PM2.5 (2006 24-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.01 | 0.00 | 0.00 |
| Central New Hampshire, NH | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Central Steptoe Valley, NV | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Charleston, WV | PM2.5 (2006 24-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Charlotte Area, NC | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | -0.01 | 0.00 | -0.01 | -0.01 |
| Charlotte-Rock Hill, NC-SC | Ozone (2008 8-hour) | Maintenance, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Chicago-Naperville, IL-IN-WI | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Chico (Butte County), CA | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Chico Area, CA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Chico, CA | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Cincinnati, OH-KY-IN | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Clark County; Las Vegas planning area, NV | PM10 (1987 24-hour) | Maintenance, Serious | 100 | 0 | -0.01 | 0.01 | -0.02 | -0.02 |
| Cleveland Area, OH | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | -0.01 | -0.01 |
| Cleveland, OH | PM2.5 (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | -0.01 | -0.01 |
| Cleveland-Akron-Lorain, OH | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Cleveland-Akron-Lorain, OH | PM2.5 (2006 24-hour) | Maintenance, -- | 100 | 0 | -0.01 | 0.01 | -0.03 | -0.03 |
| Cochise County; Paul Spur/Douglas planning area, AZ | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Colorado Springs Area, CO | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | -0.01 | -0.01 |
| Columbus, OH | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Cook County; Lyons Township, IL | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Cook County; Southeast Chicago, IL | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Coshocton County; Franklin Township, OH | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Coso Junction, CA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Cuyahoga County (part), OH | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Cuyahoga County, OH | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | -0.01 | -0.01 |

Appendix A Air Quality Non-Attainment Area Results

Table A1-72

Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Cumulative Impacts

Acrolein 2050

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Dallas-Fort Worth, TX | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Delaware County, PA | PM2.5 (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Denver-Boulder Area, CO | CO (1971 8-hour) | Maintenance, Serious | 100 | 0 | -0.01 | 0.01 | -0.03 | -0.03 |
| Denver-Boulder-Greeley-Ft Collins-Loveland, CO | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Detroit Area, MI | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | -0.01 | 0.00 | -0.01 | -0.01 |
| Detroit, MI | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Detroit-Ann Arbor, MI | PM2.5 (2006 24-hour) | Maintenance, -- | 100 | 0 | -0.02 | 0.02 | -0.05 | -0.05 |
| Dona Ana County; Anthony, NM | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Douglas, AZ | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Dukes County, MA | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Duluth Area, MN | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| East Chicago Area, IN | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| East Helena Area, MT | SO ₂ (1971 24-hour/Annual) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| East Kern County Area, CA | PM10 (1987 24-hour) | Nonattainment, Serious | 70 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| El Paso County, TX | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| El Paso, TX | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Eugene-Springfield Area, OR | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Fairbanks Area, AK | CO (1971 8-hour) | Maintenance, Serious | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Fairbanks, AK | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |

Table A1-72
Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Cumulative Impacts
Acrolein 2050

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|---|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Flathead County; Columbia Falls and vicinity, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Flathead County; Kalispell and vicinity, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Flathead County; Whitefish and vicinity, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Fort Collins Area, CO | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Freehold Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Fremont County; Canon City Area, CO | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Fresno Area, CA | CO (1971 8-hour) | Maintenance, Moderate > 12.7ppm | 100 | 0 | 0.00 | 0.00 | -0.01 | -0.01 |
| Grants Pass Area, OR | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Great Falls Area, MT | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Greater Connecticut, CT | Ozone (2008 8-hour) | Nonattainment, Moderate | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Greeley Area, CO | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Hancock and Brooke Counties (Part); The city of Weirton, WV | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Hancock County (Part) The city of Weirton, including Butler and Clay; Magisterial Districts, WV | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Harrisburg-Lebanon-Carlisle-York, PA | PM2.5 (2006 24-hour) | Maintenance, Moderate | 100 | 0 | -0.01 | 0.00 | -0.01 | -0.01 |
| Hartford-New Britain-Middletown Area, CT | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | -0.01 | -0.01 |
| Hayden, AZ | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Hayden, AZ | SO ₂ (1971 24-hour/Annual) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Hayden, AZ | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Hillsborough County, FL | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Houston-Galveston-Brazoria, TX | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Humphreys County; (part) TVA Johnsonville, TN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Imperial Co, CA | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |

Appendix A Air Quality Non-Attainment Area Results

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Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Cumulative Impacts

Acrolein 2050

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Imperial County, CA | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Imperial County, CA | PM2.5 (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Imperial County; Imperial Valley planning area, CA | PM10 (1987 24-hour) | Nonattainment, Serious | 70 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Indian Wells, CA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Indiana, PA | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Indianapolis Area, IN | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Indianapolis, IN | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Inyo County; Owens Valley planning area, CA | PM10 (1987 24-hour) | Nonattainment, Serious | 70 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Jackson County, MO | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Jackson County; Medford-Ashland (including White City), OR | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Jamestown, NY | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Jefferson County, KY | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Jefferson County, MO | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Jefferson County; (part) Steubenville & Mingo Junction, OH | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Jefferson County; (part), OH | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Johnstown, PA | PM2.5 (2006 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Josephine County; Grants Pass, OR | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Juneau; Mendenhall Valley area, AK | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Kern County (Eastern Kern), CA | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| King County; Kent, WA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| King County; Seattle, WA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Klamath County; Klamath Falls, OR | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Klamath Falls Area, OR | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Klamath Falls, OR | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |

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|--|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Knoxville, TN | Ozone (2008 8-hour) | Maintenance, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Knoxville-Sevierville-La Follette, TN | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | -0.01 | -0.01 |
| La Porte County: (part), IN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lake County (part); Lakeview, OR | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lake County, OH | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lake County: (part), IN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lake County; (part) Eastlake, Timberlake, Lakeline, Willoughby, Mentor, OH | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lake County; Cities of East Chicago, Hammond, Whiting, and Gary, IN | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lake County; Polson, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lake County; Ronan, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lake Tahoe Nevada Area, NV | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lake Tahoe North Shore Area, CA | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lake Tahoe South Shore Area, CA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lancaster, PA | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lancaster, PA | PM2.5 (2006 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | -0.01 | -0.01 |
| Lane County (part); Oakridge, OR | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lane County; Eugene/Springfield, OR | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Las Vegas Area, NV | CO (1971 8-hour) | Maintenance, Serious | 100 | 0 | -0.01 | 0.01 | -0.02 | -0.02 |
| LaSalle County; Oglesby, IL | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Laurel Area, MT | SO ₂ (1971 24-hour/Annual) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lebanon County, PA | PM2.5 (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lemont, IL | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Liberty-Clairton, PA | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |

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|--|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Lincoln County; Libby and vicinity, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Logan, UT-ID | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Longmont Area, CO | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lorain County (part), OH | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Los Angeles, CA | PM2.5 (2006 24-hour) | Nonattainment, Serious | 100 | 0 | -0.03 | 0.13 | -0.09 | -0.07 |
| Los Angeles-San Bernardino Counties (West Mojave Desert), CA | Ozone (2008 8-hour) | Nonattainment, Severe 15 | 25 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Los Angeles-South Coast Air Basin Area, CA | CO (1971 8-hour) | Maintenance, Serious | 100 | 0 | -0.03 | 0.13 | -0.09 | -0.07 |
| Los Angeles-South Coast Air Basin Area, CA | NO ₂ (1971 Annual) | Maintenance, -- | 100 | 0 | -0.03 | 0.13 | -0.09 | -0.07 |
| Los Angeles-South Coast Air Basin, CA | Ozone (2008 8-hour) | Nonattainment, Extreme | 10 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Los Angeles-South Coast Air Basin, CA | PM2.5 (2012 Annual) | Nonattainment, Moderate | 100 | 0 | -0.03 | 0.13 | -0.09 | -0.07 |
| Lowell Area, MA | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lucas County (part), OH | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Madison County; Granite City Township and Nameoki Township, IL | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Manchester Area, NH | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Maricopa and Pinal Counties; Phoenix planning area, AZ | PM10 (1987 24-hour) | Nonattainment, Serious | 70 | 0 | -0.01 | 0.01 | -0.04 | -0.04 |
| Marion County; Lawrence, Washington, and Warrant Townships, IN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Mariposa County, CA | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Marshall, WV | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Medford Area, OR | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Memphis Area, TN | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | -0.01 | -0.01 |

Table A1-72
Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Cumulative Impacts
Acrolein 2050

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|---|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Memphis, TN-MS-AR | Ozone (2008 8-hour) | Nonattainment TN & Maintenance MS/AR, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Miami, AZ | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Miami, AZ | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Miami, AZ | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Milwaukee-Racine, WI | PM2.5 (2006 24-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | -0.01 | -0.01 |
| Minneapolis-St. Paul Area, MN | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.58 | 1.50 | 1.19 | 1.69 |
| Missoula Area, MT | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Missoula county; Missoula and vicinity, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Modesto Area, CA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Mohave County (part); Bullhead City, AZ | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Mono County; Mammoth Lake planning area, CA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Mono County; Mono Basin, CA | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Morenci, AZ | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Morgan County, IN | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Morongo Band of Mission Indians | Ozone (2008 8-hour) | Nonattainment, Serious | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Morristown Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Muscatine County; (part), IA | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Muscatine, IA | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Muskingum River, OH | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Nashua Area, NH | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Nassau County, FL | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Nevada County (Western part), CA | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| New Haven County, CT | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |

Appendix A Air Quality Non-Attainment Area Results

Table A1-72

Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Cumulative Impacts

Acrolein 2050

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| New Haven-Meriden-Waterbury Area, CT | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | -0.01 | -0.01 |
| New Manchester-Grant magisterial district in Hancock County, WV | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| New York County, NY | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | -0.01 | -0.01 |
| New York, NY-NJ-CT | PM2.5 (2006 24-hour) | Maintenance, -- | 100 | 0 | -0.06 | 0.05 | -0.16 | -0.16 |
| New York-N. New Jersey-Long Island Area, NY-NJ-CT | CO (1971 8-hour) | Maintenance, Moderate > 12.7ppm | 100 | 0 | -0.04 | 0.03 | -0.09 | -0.09 |
| New York-N. New Jersey-Long Island, NY-NJ-CT | Ozone (2008 8-hour) | Nonattainment, Moderate | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| NJ portion of the Northeast Pennsylvania-Upper Delaware Valley Interstate AQCR: (part), NJ | SO ₂ (1971 24-hour/Annual) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Nogales, AZ | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Oakridge, OR | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Ogden Area, UT | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Ogden Area, UT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Olmsted County; (part), MN | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Olmsted; City of Rochester, MN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |

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Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Cumulative Impacts
Acrolein 2050

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Pechanga Band of Luiseno Mission Indians of the Pechanga Reservation | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Pekin, IL | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Penns Grove Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Peoria County: Hollis Twp, IL | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Peoria County: Peoria, IL | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Perth Amboy Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Philadelphia-Camden County Area, PA-NJ | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | -0.01 | -0.01 |
| Philadelphia-Wilmington, PA-NJ-DE | PM _{2.5} (2006 24-hour) | Maintenance, Moderate for PA and DE Subject to Former Subpart 1 for NJ | 100 | 0 | -0.02 | 0.01 | -0.04 | -0.04 |
| Philadelphia-Wilmington-Atlantic City, PA-NJ-MD-DE | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Phoenix Area, AZ | CO (1971 8-hour) | Maintenance, Serious | 100 | 0 | -0.01 | 0.01 | -0.04 | -0.04 |
| Phoenix-Mesa, AZ | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Pierce County; Tacoma, WA | PM ₁₀ (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Pima County; Ajo planning area, AZ | PM ₁₀ (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Pima County; Rillito planning area, AZ | PM ₁₀ (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Pinal and Gila Counties; Payson, AZ | PM ₁₀ (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Pinal County (part); West Pinal, AZ | PM ₁₀ (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Pitkin County; Aspen, CO | PM ₁₀ (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Pittsburgh Area, PA | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Pittsburgh-Beaver Valley, PA | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Pittsburgh-Beaver Valley, PA | PM _{2.5} (2006 24-hour) | Maintenance, Moderate | 100 | 0 | -0.01 | 0.01 | -0.02 | -0.02 |
| Plumas County, CA | PM _{2.5} (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Polk County, TN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |

Appendix A Air Quality Non-Attainment Area Results

Table A1-72

Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Cumulative Impacts

Acrolein 2050

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|-------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Portland Area: Portland Metro Service District Boundary, OR | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | -0.01 | -0.01 |
| Power-Bannock Counties; Fort Hall Indian Reservation, ID | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Power-Bannock Counties; Portneuf Valley Area, ID | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Provo Area, UT | CO (1971 8-hour) | Maintenance, Moderate > 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Provo, UT | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Prowers County; Lamar, CO | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Raleigh-Durham Area, NC | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | -0.01 | 0.00 | -0.01 | -0.01 |
| Ramsey County; (part), MN | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Reading, PA | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Reno Area, NV | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Rhinelander, WI | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Riverside County (Coachella Valley), CA | Ozone (2008 8-hour) | Nonattainment, Severe 15 | 25 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Riverside County; Coachella Valley planning area, CA | PM10 (1987 24-hour) | Nonattainment, Serious | 70 | 0 | 0.00 | 0.00 | -0.01 | -0.01 |
| Riverside, Los Angeles, Orange, and San Bernardino Counties; South Coast Air Basin, CA | PM10 (1987 24-hour) | Maintenance, Serious | 100 | 0 | -0.03 | 0.13 | -0.09 | -0.07 |
| Rosebud County; Lame Deer, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Routt County (part); Steamboat Springs, CO | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Sacramento Area, CA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | -0.01 | 0.00 | -0.01 | -0.01 |
| Sacramento County, CA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | -0.01 | -0.01 |
| Sacramento Metro, CA | Ozone (2008 8-hour) | Nonattainment, Severe 15 | 25 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Sacramento, CA | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | -0.01 | 0.01 | -0.02 | -0.02 |
| Salem Area, OR | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Salt Lake City Area, UT | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Salt Lake City, UT | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | -0.01 | 0.01 | -0.02 | -0.02 |

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Acrolein 2050

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|---|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Salt Lake County, UT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | -0.01 | -0.01 |
| Salt Lake County, UT | SO ₂ (1971 24-hour/Annual) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| San Bernardino County (part); excluding Searles Valley Planning area and South Coast Air Basin, CA | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | -0.01 | -0.01 |
| San Diego Area, CA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | -0.01 | 0.01 | -0.03 | -0.03 |
| San Diego County, CA | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| San Francisco Bay Area, CA | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| San Francisco Bay Area, CA | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | -0.03 | 0.02 | -0.07 | -0.07 |
| San Francisco-Oakland-San Jose Area, CA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | -0.02 | 0.02 | -0.06 | -0.06 |
| San Joaquin Valley Air Basin; Fresno, Kern, Kings, Madera, Merced, San Joaquin, Stanislaus, Tulare Counties, CA | PM10 (1987 24-hour) | Maintenance, Serious | 100 | 0 | -0.02 | 0.02 | -0.04 | -0.04 |
| San Joaquin Valley, CA | Ozone (2008 8-hour) | Nonattainment, Extreme | 10 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| San Joaquin Valley, CA | PM2.5 (2006 24-hour) | Nonattainment, Serious | 100 | 0 | -0.02 | 0.02 | -0.04 | -0.04 |
| San Joaquin Valley, CA | PM2.5 (2012 Annual) | Nonattainment, Moderate | 100 | 0 | -0.02 | 0.02 | -0.04 | -0.04 |
| San Luis Obispo (Eastern San Luis Obispo), CA | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| San Manuel, AZ | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| San Miguel County; Telluride, CO | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Sanders County (part); Thompson Falls and vicinity, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Santa Cruz County; Nogales planning area, AZ | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Seaford, DE | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Seattle-Tacoma Area, WA | CO (1971 8-hour) | Maintenance, Moderate > 12.7ppm | 100 | 0 | -0.01 | 0.01 | -0.03 | -0.03 |
| Seattle-Tacoma, WA | PM2.5 (2006 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Sheboygan County, WI | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |

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|---|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Sheridan County; City of Sheridan, WY | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Shoshone County (part); excluding Pinehurst, ID | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Shoshone County; City of Pinehurst, ID | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Silver Bow County; Butte, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Somerville Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Southwest Indiana, IN | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Spokane Area, WA | CO (1971 8-hour) | Maintenance, Serious | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Spokane County; (part), WA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Springfield Area, MA | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| St. Bernard Parish, LA | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| St. Louis Area, MO | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | -0.01 | -0.01 |
| St. Louis-St. Charles-Farmington, MO-IL | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Steubenville, OH-WV | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Steubenville-Weirton, OH-WV | PM2.5 (2006 24-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Stockton Area, CA | CO (1971 8-hour) | Maintenance, Moderate ≤ 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Sullivan County, TN | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Syracuse Area; Onondaga County, NY | CO (1971 8-hour) | Maintenance, Moderate ≤ 12.7ppm | 100 | 0 | 0.00 | 0.00 | -0.01 | -0.01 |
| Tazewell County; Groveland Twp, IL | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Terre Haute, IN | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |

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Acrolein 2050

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|---|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Thurston County; Cities of Olympia, Tumwater, and Lacey, WA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Toms River Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Tooele County (part), UT | SO ₂ (1971 24-hour/Annual) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Trenton Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Trona, CA | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Tucson Area, AZ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | -0.01 | -0.01 |
| Tuscan Buttes, CA | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Union County; LaGrande, OR | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Upper Green River Basin Area, WY | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Utah County, UT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Vancouver Area: Clark County (part), WA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Ventura County, CA | Ozone (2008 8-hour) | Nonattainment, Serious | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Vermillion County; Part of Clinton Township, IN | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Vigo County, IN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Walla Walla County; Wallula, WA | PM10 (1987 24-hour) | Maintenance, Serious | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Waltham Area, MA | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Warren County: Conewago Twp, PA | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Warren County: Warren Boro, Pleasant Twp, Glade Twp, PA | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Warren, PA | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Washington Area, DC-MD-VA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | -0.01 | -0.01 |
| Washington, DC-MD-VA | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Washoe County; Reno planning area, NV | PM10 (1987 24-hour) | Nonattainment, Serious | 70 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |

Appendix A Air Quality Non-Attainment Area Results

Table A1-72

Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Cumulative Impacts

Acrolein 2050

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|---|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Wayne County: Boston, Center, Franklin, Wayne & Webster Townships, IN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Wayne County; (part), MI | PM ₁₀ (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| West Central Pinal County, AZ | PM _{2.5} (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| West Silver Valley, ID | PM _{2.5} (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Winston-Salem Area, NC | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Worcester Area, MA | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Yakima Area, WA | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Yakima County; (part), WA | PM ₁₀ (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Yuba City-Marysville, CA | PM _{2.5} (2006 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Yuma County; Yuma planning area, AZ | PM ₁₀ (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |

^a Reductions are shown as positive values. Negative values are emissions increases. Values of less than 0.005 tons per year are rounded to zero.

^b Nonattainment or maintenance status as of 5/13/2016. Source: U.S. EPA, The Green Book Nonattainment Areas for Criteria Pollutants; <http://www.epa.gov/airquality/greenbook/>. "--" indicates that no severity classification has been established for the NAAQS pollutant.

^c Emissions thresholds in tons per year. Where the threshold differs by precursor pollutant, the smallest of the precursor thresholds is shown. These thresholds are provided for information only; a general conformity determination is not required for the Proposed Action. Source: 40 CFR 93.853.

Notes: CO = carbon monoxide; NAAQS = National Ambient Air Quality Standards; NO₂ = nitrogen dioxide; PM = particulate matter; SO₂ = sulfur dioxide

Table A1-73
Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Cumulative Impacts
Benzene 2018

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Ada County; Boise, ID | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Adams, Denver, and Boulder Counties; Denver Metropolitan area, CO | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.01 | 0.01 | 0.01 | 0.01 |
| Ajo, AZ | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Albuquerque Area, NM | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Allegheny County Air Basin: Hazelwood monitor, PA | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Allegheny County, PA | PM2.5 (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Allegheny County; The area including Liberty, Lincoln, Port Vue, and Glassport Boroughs and the City of Clairton, PA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Allegheny, PA | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Allentown, PA | PM2.5 (2006 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Allentown-Bethlehem-Easton, PA | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Anchorage Area, AK | CO (1971 8-hour) | Maintenance, Serious | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Anchorage; Eagle River, AK | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| AQCR 012: Portions of Grant County, NM | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| AQCR 109-Millinocket, ME | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| AQCR 131: Anoka, Carver, Dakota, Hennepin, Ramsey, Scott, and Washington counties (Minneapolis-St. Paul), MN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| AQCR 237: Brown County: Green Bay sub-city area, WI | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| AQCR 238: Marathon County: Rothschild Sub-city area, Rib Mountain, Weston, WI | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| AQCR 238: Oneida County: Rhinelander Sub-city area, WI | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| AQCR 239: Milwaukee County: Milwaukee sub-city area, WI | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |

Appendix A Air Quality Non-Attainment Area Results

Table A1-73

Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Cumulative Impacts

Benzene 2018

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| AQCR 240: Dane County: Madison sub-city area, WI | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Archuleta County; Pagosa Springs, CO | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Armstrong County: Madison Twp, Mahoning Twp, Boggs Twp, Washington Twp, Pine Twp, PA | SO ₂ (1971 24-hour/Annual) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Aroostock County; City of Presque Isle, ME | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Atlanta, GA | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Atlantic City Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Bakersfield Area, CA | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Baltimore Area, MD | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Baltimore, MD | Ozone (2008 8-hour) | Nonattainment, Moderate | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Baton Rouge, LA | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Beaver, PA | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Benton County; (part) TVA Johnsonville, TN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Billings Area, MT | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Billings, MT | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Birmingham, AL | PM2.5 (2006 24-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Boise-Northern Ada County Area, ID | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Bonner County; The Sandpoint Area, ID | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Boston Area, MA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Boyd County (part), KY | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Brooke; Follansbee area, WV | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Burlington Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Calaveras County, CA | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Campbell-Clermont Counties, KY-OH | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |

Table A1-73
Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Cumulative Impacts
Benzene 2018

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|---|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Canton-Massillon, OH | PM2.5 (2006 24-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Central New Hampshire, NH | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Central Steptoe Valley, NV | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Charleston, WV | PM2.5 (2006 24-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Charlotte Area, NC | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Charlotte-Rock Hill, NC-SC | Ozone (2008 8-hour) | Maintenance, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Chicago-Naperville, IL-IN-WI | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Chico (Butte County), CA | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Chico Area, CA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Chico, CA | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Cincinnati, OH-KY-IN | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Clark County; Las Vegas planning area, NV | PM10 (1987 24-hour) | Maintenance, Serious | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Cleveland Area, OH | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Cleveland, OH | PM2.5 (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Cleveland-Akron-Lorain, OH | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Cleveland-Akron-Lorain, OH | PM2.5 (2006 24-hour) | Maintenance, -- | 100 | 0 | 0.01 | 0.01 | 0.01 | 0.01 |
| Cochise County; Paul Spur/Douglas planning area, AZ | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Colorado Springs Area, CO | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Columbus, OH | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Cook County; Lyons Township, IL | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Cook County; Southeast Chicago, IL | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Coshocton County; Franklin Township, OH | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Coso Junction, CA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Cuyahoga County (part), OH | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Cuyahoga County, OH | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |

Appendix A Air Quality Non-Attainment Area Results

Table A1-73

Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Cumulative Impacts

Benzene 2018

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Dallas-Fort Worth, TX | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Delaware County, PA | PM2.5 (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Denver-Boulder Area, CO | CO (1971 8-hour) | Maintenance, Serious | 100 | 0 | 0.01 | 0.01 | 0.01 | 0.02 |
| Denver-Boulder-Greeley-Ft Collins-Loveland, CO | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Detroit Area, MI | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.01 | 0.01 | 0.01 | 0.01 |
| Detroit, MI | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Detroit-Ann Arbor, MI | PM2.5 (2006 24-hour) | Maintenance, -- | 100 | 0 | 0.01 | 0.02 | 0.02 | 0.02 |
| Dona Ana County; Anthony, NM | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Douglas, AZ | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Dukes County, MA | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Duluth Area, MN | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| East Chicago Area, IN | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| East Helena Area, MT | SO ₂ (1971 24-hour/Annual) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| East Kern County Area, CA | PM10 (1987 24-hour) | Nonattainment, Serious | 70 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| El Paso County, TX | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| El Paso, TX | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Eugene-Springfield Area, OR | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Fairbanks Area, AK | CO (1971 8-hour) | Maintenance, Serious | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Fairbanks, AK | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |

Table A1-73
Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Cumulative Impacts
Benzene 2018

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|---|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Flathead County; Columbia Falls and vicinity, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Flathead County; Kalispell and vicinity, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Flathead County; Whitefish and vicinity, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Fort Collins Area, CO | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Freehold Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Fremont County; Canon City Area, CO | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Fresno Area, CA | CO (1971 8-hour) | Maintenance, Moderate > 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Grants Pass Area, OR | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Great Falls Area, MT | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Greater Connecticut, CT | Ozone (2008 8-hour) | Nonattainment, Moderate | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Greeley Area, CO | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Hancock and Brooke Counties (Part); The city of Weirton, WV | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Hancock County (Part) The city of Weirton, including Butler and Clay: Magisterial Districts, WV | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Harrisburg-Lebanon-Carlisle-York, PA | PM2.5 (2006 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Hartford-New Britain-Middletown Area, CT | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Hayden, AZ | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Hayden, AZ | SO ₂ (1971 24-hour/Annual) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Hayden, AZ | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Hillsborough County, FL | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Houston-Galveston-Brazoria, TX | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Humphreys County; (part) TVA Johnsonville, TN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Imperial Co, CA | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |

Appendix A Air Quality Non-Attainment Area Results

Table A1-73

Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Cumulative Impacts

Benzene 2018

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Imperial County, CA | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Imperial County, CA | PM2.5 (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Imperial County; Imperial Valley planning area, CA | PM10 (1987 24-hour) | Nonattainment, Serious | 70 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Indian Wells, CA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Indiana, PA | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Indianapolis Area, IN | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Indianapolis, IN | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Inyo County; Owens Valley planning area, CA | PM10 (1987 24-hour) | Nonattainment, Serious | 70 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Jackson County, MO | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Jackson County; Medford-Ashland (including White City), OR | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Jamestown, NY | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Jefferson County, KY | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Jefferson County, MO | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Jefferson County; (part) Steubenville & Mingo Junction, OH | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Jefferson County; (part), OH | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Johnstown, PA | PM2.5 (2006 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Josephine County; Grants Pass, OR | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Juneau; Mendenhall Valley area, AK | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Kern County (Eastern Kern), CA | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| King County; Kent, WA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| King County; Seattle, WA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Klamath County; Klamath Falls, OR | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Klamath Falls Area, OR | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Klamath Falls, OR | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |

Table A1-73
Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Cumulative Impacts
Benzene 2018

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Knoxville, TN | Ozone (2008 8-hour) | Maintenance, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Knoxville-Sevierville-La Follette, TN | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| La Porte County: (part), IN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lake County (part); Lakeview, OR | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lake County, OH | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lake County: (part), IN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lake County; (part) Eastlake, Timberlake, Lakeline, Willoughby, Mentor, OH | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lake County; Cities of East Chicago, Hammond, Whiting, and Gary, IN | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lake County; Polson, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lake County; Ronan, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lake Tahoe Nevada Area, NV | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lake Tahoe North Shore Area, CA | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lake Tahoe South Shore Area, CA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lancaster, PA | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lancaster, PA | PM2.5 (2006 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lane County (part); Oakridge, OR | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lane County; Eugene/Springfield, OR | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Las Vegas Area, NV | CO (1971 8-hour) | Maintenance, Serious | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| LaSalle County; Oglesby, IL | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Laurel Area, MT | SO ₂ (1971 24-hour/Annual) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lebanon County, PA | PM2.5 (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lemont, IL | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Liberty-Clairton, PA | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |

Appendix A Air Quality Non-Attainment Area Results

Table A1-73

Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Cumulative Impacts

Benzene 2018

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Lincoln County; Libby and vicinity, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Logan, UT-ID | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Longmont Area, CO | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lorain County (part), OH | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Los Angeles, CA | PM2.5 (2006 24-hour) | Nonattainment, Serious | 100 | 0 | 0.04 | 0.04 | 0.04 | 0.03 |
| Los Angeles-San Bernardino Counties (West Mojave Desert), CA | Ozone (2008 8-hour) | Nonattainment, Severe 15 | 25 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Los Angeles-South Coast Air Basin Area, CA | CO (1971 8-hour) | Maintenance, Serious | 100 | 0 | 0.04 | 0.04 | 0.04 | 0.03 |
| Los Angeles-South Coast Air Basin Area, CA | NO ₂ (1971 Annual) | Maintenance, -- | 100 | 0 | 0.04 | 0.04 | 0.04 | 0.03 |
| Los Angeles-South Coast Air Basin, CA | Ozone (2008 8-hour) | Nonattainment, Extreme | 10 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Los Angeles-South Coast Air Basin, CA | PM2.5 (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 0.04 | 0.04 | 0.04 | 0.03 |
| Lowell Area, MA | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lucas County (part), OH | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Madison County; Granite City Township and Nameoki Township, IL | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Manchester Area, NH | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Maricopa and Pinal Counties; Phoenix planning area, AZ | PM10 (1987 24-hour) | Nonattainment, Serious | 70 | 0 | 0.01 | 0.01 | 0.01 | 0.01 |
| Marion County; Lawrence, Washington, and Warrant Townships, IN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Mariposa County, CA | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Marshall, WV | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Medford Area, OR | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Memphis Area, TN | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |

Table A1-73
Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Cumulative Impacts
Benzene 2018

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|---|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Memphis, TN-MS-AR | Ozone (2008 8-hour) | Nonattainment TN & Maintenance MS/AR, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Miami, AZ | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Miami, AZ | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Miami, AZ | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Milwaukee-Racine, WI | PM2.5 (2006 24-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Minneapolis-St. Paul Area, MN | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.01 | 0.01 | 0.01 | 0.01 |
| Missoula Area, MT | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Missoula county; Missoula and vicinity, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Modesto Area, CA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Mohave County (part); Bullhead City, AZ | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Mono County; Mammoth Lake planning area, CA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Mono County; Mono Basin, CA | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Morenci, AZ | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Morgan County, IN | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Morongo Band of Mission Indians | Ozone (2008 8-hour) | Nonattainment, Serious | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Morristown Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Muscatine County; (part), IA | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Muscatine, IA | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Muskingum River, OH | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Nashua Area, NH | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Nassau County, FL | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Nevada County (Western part), CA | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| New Haven County, CT | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |

Appendix A Air Quality Non-Attainment Area Results

Table A1-73

Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Cumulative Impacts

Benzene 2018

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| New Haven-Meriden-Waterbury Area, CT | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| New Manchester-Grant magisterial district in Hancock County, WV | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| New York County, NY | PM ₁₀ (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| New York, NY-NJ-CT | PM _{2.5} (2006 24-hour) | Maintenance, -- | 100 | 0 | 0.04 | 0.04 | 0.04 | 0.04 |
| New York-N. New Jersey-Long Island Area, NY-NJ-CT | CO (1971 8-hour) | Maintenance, Moderate > 12.7ppm | 100 | 0 | 0.02 | 0.03 | 0.03 | 0.03 |
| New York-N. New Jersey-Long Island, NY-NJ-CT | Ozone (2008 8-hour) | Nonattainment, Moderate | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| NJ portion of the Northeast Pennsylvania-Upper Delaware Valley Interstate AQCR: (part), NJ | SO ₂ (1971 24-hour/Annual) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Nogales, AZ | PM _{2.5} (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Oakridge, OR | PM _{2.5} (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Ogden Area, UT | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Ogden Area, UT | PM ₁₀ (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Olmsted County; (part), MN | PM ₁₀ (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Olmsted; City of Rochester, MN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |

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Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Cumulative Impacts

Benzene 2018

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Pechanga Band of Luiseno Mission Indians of the Pechanga Reservation | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Pekin, IL | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Penns Grove Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Peoria County: Hollis Twp, IL | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Peoria County: Peoria, IL | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Perth Amboy Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Philadelphia-Camden County Area, PA-NJ | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.01 | 0.01 | 0.01 | 0.01 |
| Philadelphia-Wilmington, PA-NJ-DE | PM _{2.5} (2006 24-hour) | Maintenance, Moderate for PA and DE Subject to Former Subpart 1 for NJ | 100 | 0 | 0.01 | 0.02 | 0.02 | 0.02 |
| Philadelphia-Wilmington-Atlantic City, PA-NJ-MD-DE | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Phoenix Area, AZ | CO (1971 8-hour) | Maintenance, Serious | 100 | 0 | 0.01 | 0.01 | 0.01 | 0.01 |
| Phoenix-Mesa, AZ | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Pierce County; Tacoma, WA | PM ₁₀ (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Pima County; Ajo planning area, AZ | PM ₁₀ (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Pima County; Rillito planning area, AZ | PM ₁₀ (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Pinal and Gila Counties; Payson, AZ | PM ₁₀ (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Pinal County (part); West Pinal, AZ | PM ₁₀ (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Pitkin County; Aspen, CO | PM ₁₀ (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Pittsburgh Area, PA | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Pittsburgh-Beaver Valley, PA | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Pittsburgh-Beaver Valley, PA | PM _{2.5} (2006 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.01 | 0.00 | 0.01 |
| Plumas County, CA | PM _{2.5} (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Polk County, TN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |

Appendix A Air Quality Non-Attainment Area Results

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Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Cumulative Impacts

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| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|-------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Portland Area: Portland Metro Service District Boundary, OR | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Power-Bannock Counties; Fort Hall Indian Reservation, ID | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Power-Bannock Counties; Portneuf Valley Area, ID | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Provo Area, UT | CO (1971 8-hour) | Maintenance, Moderate > 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Provo, UT | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Prowers County; Lamar, CO | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Raleigh-Durham Area, NC | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Ramsey County; (part), MN | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Reading, PA | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Reno Area, NV | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Rhinelander, WI | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Riverside County (Coachella Valley), CA | Ozone (2008 8-hour) | Nonattainment, Severe 15 | 25 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Riverside County; Coachella Valley planning area, CA | PM10 (1987 24-hour) | Nonattainment, Serious | 70 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Riverside, Los Angeles, Orange, and San Bernardino Counties; South Coast Air Basin, CA | PM10 (1987 24-hour) | Maintenance, Serious | 100 | 0 | 0.04 | 0.04 | 0.04 | 0.03 |
| Rosebud County; Lame Deer, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Routt County (part); Steamboat Springs, CO | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Sacramento Area, CA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Sacramento County, CA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Sacramento Metro, CA | Ozone (2008 8-hour) | Nonattainment, Severe 15 | 25 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Sacramento, CA | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.01 | 0.01 | 0.01 | 0.01 |
| Salem Area, OR | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Salt Lake City Area, UT | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Salt Lake City, UT | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.01 |

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Benzene 2018

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|---|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Salt Lake County, UT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Salt Lake County, UT | SO ₂ (1971 24-hour/Annual) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| San Bernardino County (part); excluding Searles Valley Planning area and South Coast Air Basin, CA | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| San Diego Area, CA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.01 | 0.01 | 0.01 | 0.01 |
| San Diego County, CA | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| San Francisco Bay Area, CA | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| San Francisco Bay Area, CA | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.02 | 0.02 | 0.02 | 0.02 |
| San Francisco-Oakland-San Jose Area, CA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.02 | 0.02 | 0.02 | 0.02 |
| San Joaquin Valley Air Basin; Fresno, Kern, Kings, Madera, Merced, San Joaquin, Stanislaus, Tulare Counties, CA | PM10 (1987 24-hour) | Maintenance, Serious | 100 | 0 | 0.01 | 0.01 | 0.01 | 0.01 |
| San Joaquin Valley, CA | Ozone (2008 8-hour) | Nonattainment, Extreme | 10 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| San Joaquin Valley, CA | PM2.5 (2006 24-hour) | Nonattainment, Serious | 100 | 0 | 0.01 | 0.01 | 0.01 | 0.01 |
| San Joaquin Valley, CA | PM2.5 (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 0.01 | 0.01 | 0.01 | 0.01 |
| San Luis Obispo (Eastern San Luis Obispo), CA | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| San Manuel, AZ | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| San Miguel County; Telluride, CO | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Sanders County (part); Thompson Falls and vicinity, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Santa Cruz County; Nogales planning area, AZ | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Seaford, DE | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Seattle-Tacoma Area, WA | CO (1971 8-hour) | Maintenance, Moderate > 12.7ppm | 100 | 0 | 0.01 | 0.01 | 0.01 | 0.01 |
| Seattle-Tacoma, WA | PM2.5 (2006 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Sheboygan County, WI | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |

Appendix A Air Quality Non-Attainment Area Results

Table A1-73

Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Cumulative Impacts

Benzene 2018

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|---|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Sheridan County; City of Sheridan, WY | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Shoshone County (part); excluding Pinehurst, ID | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Shoshone County; City of Pinehurst, ID | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Silver Bow County; Butte, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Somerville Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Southwest Indiana, IN | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Spokane Area, WA | CO (1971 8-hour) | Maintenance, Serious | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Spokane County; (part), WA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Springfield Area, MA | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| St. Bernard Parish, LA | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| St. Louis Area, MO | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| St. Louis-St. Charles-Farmington, MO-IL | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Steubenville, OH-WV | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Steubenville-Weirton, OH-WV | PM2.5 (2006 24-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Stockton Area, CA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Sullivan County, TN | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Syracuse Area; Onondaga County, NY | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Tazewell County; Groveland Twp, IL | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Terre Haute, IN | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |

Table A1-73
Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Cumulative Impacts
Benzene 2018

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|---|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Thurston County; Cities of Olympia, Tumwater, and Lacey, WA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Toms River Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Tooele County (part), UT | SO ₂ (1971 24-hour/Annual) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Trenton Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Trona, CA | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Tucson Area, AZ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Tuscan Buttes, CA | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Union County; LaGrande, OR | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Upper Green River Basin Area, WY | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Utah County, UT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Vancouver Area: Clark County (part), WA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Ventura County, CA | Ozone (2008 8-hour) | Nonattainment, Serious | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Vermillion County; Part of Clinton Township, IN | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Vigo County, IN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Walla Walla County; Wallula, WA | PM10 (1987 24-hour) | Maintenance, Serious | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Waltham Area, MA | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Warren County: Conewago Twp, PA | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Warren County: Warren Boro, Pleasant Twp, Glade Twp, PA | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Warren, PA | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Washington Area, DC-MD-VA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Washington, DC-MD-VA | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Washoe County; Reno planning area, NV | PM10 (1987 24-hour) | Nonattainment, Serious | 70 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |

Appendix A Air Quality Non-Attainment Area Results

Table A1-73

Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Cumulative Impacts

Benzene 2018

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|---|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Wayne County: Boston, Center, Franklin, Wayne & Webster Townships, IN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Wayne County; (part), MI | PM ₁₀ (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| West Central Pinal County, AZ | PM _{2.5} (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| West Silver Valley, ID | PM _{2.5} (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Winston-Salem Area, NC | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Worcester Area, MA | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Yakima Area, WA | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Yakima County; (part), WA | PM ₁₀ (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Yuba City-Marysville, CA | PM _{2.5} (2006 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Yuma County; Yuma planning area, AZ | PM ₁₀ (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |

^a Reductions are shown as positive values. Negative values are emissions increases. Values of less than 0.005 tons per year are rounded to zero.

^b Nonattainment or maintenance status as of 5/13/2016. Source: U.S. EPA, The Green Book Nonattainment Areas for Criteria Pollutants; <http://www.epa.gov/airquality/greenbook/>. "--" indicates that no severity classification has been established for the NAAQS pollutant.

^c Emissions thresholds in tons per year. Where the threshold differs by precursor pollutant, the smallest of the precursor thresholds is shown. These thresholds are provided for information only; a general conformity determination is not required for the Proposed Action. Source: 40 CFR 93.853.

Notes: CO = carbon monoxide; NAAQS = National Ambient Air Quality Standards; NO₂ = nitrogen dioxide; PM = particulate matter; SO₂ = sulfur dioxide

Table A1-74

Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Cumulative Impacts

Benzene 2025

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Ada County; Boise, ID | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.01 | 0.03 | 0.03 | 0.05 |
| Adams, Denver, and Boulder Counties; Denver Metropolitan area, CO | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.06 | 0.14 | 0.15 | 0.22 |
| Ajo, AZ | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Albuquerque Area, NM | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.01 | 0.03 | 0.03 | 0.05 |
| Allegheny County Air Basin: Hazelwood monitor, PA | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Allegheny County, PA | PM2.5 (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 0.01 | 0.02 | 0.02 | 0.04 |
| Allegheny County; The area including Liberty, Lincoln, Port Vue, and Glassport Boroughs and the City of Clairton, PA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Allegheny, PA | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Allentown, PA | PM2.5 (2006 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.01 | 0.01 | 0.02 |
| Allentown-Bethlehem-Easton, PA | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Anchorage Area, AK | CO (1971 8-hour) | Maintenance, Serious | 100 | 0 | 0.02 | 0.04 | 0.04 | 0.06 |
| Anchorage; Eagle River, AK | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| AQCR 012: Portions of Grant County, NM | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| AQCR 109-Millinocket, ME | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| AQCR 131: Anoka, Carver, Dakota, Hennepin, Ramsey, Scott, and Washington counties (Minneapolis-St. Paul), MN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| AQCR 237: Brown County: Green Bay sub-city area, WI | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| AQCR 238: Marathon County: Rothschild Sub-city area, Rib Mountain, Weston, WI | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| AQCR 238: Oneida County: Rhinelander Sub-city area, WI | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| AQCR 239: Milwaukee County: Milwaukee sub-city area, WI | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |

Appendix A Air Quality Non-Attainment Area Results

Table A1-74

Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Cumulative Impacts

Benzene 2025

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| AQCR 240: Dane County: Madison sub-city area, WI | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Archuleta County; Pagosa Springs, CO | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Armstrong County: Madison Twp, Mahoning Twp, Boggs Twp, Washington Twp, Pine Twp, PA | SO ₂ (1971 24-hour/Annual) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Aroostock County; City of Presque Isle, ME | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Atlanta, GA | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Atlantic City Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Bakersfield Area, CA | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.01 | 0.02 | 0.02 | 0.03 |
| Baltimore Area, MD | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Baltimore, MD | Ozone (2008 8-hour) | Nonattainment, Moderate | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Baton Rouge, LA | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Beaver, PA | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Benton County; (part) TVA Johnsonville, TN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Billings Area, MT | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.02 | 0.04 | 0.04 | 0.06 |
| Billings, MT | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.02 | 0.03 | 0.03 | 0.05 |
| Birmingham, AL | PM2.5 (2006 24-hour) | Maintenance, -- | 100 | 0 | 0.02 | 0.04 | 0.05 | 0.07 |
| Boise-Northern Ada County Area, ID | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.01 | 0.03 | 0.03 | 0.05 |
| Bonner County; The Sandpoint Area, ID | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Boston Area, MA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.01 | 0.02 | 0.03 | 0.04 |
| Boyd County (part), KY | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Brooke; Follansbee area, WV | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Burlington Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Calaveras County, CA | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Campbell-Clermont Counties, KY-OH | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |

Table A1-74

Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Cumulative Impacts

Benzene 2025

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|---|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Canton-Massillon, OH | PM2.5 (2006 24-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.01 | 0.01 | 0.01 |
| Central New Hampshire, NH | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Central Steptoe Valley, NV | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Charleston, WV | PM2.5 (2006 24-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.01 | 0.01 | 0.02 |
| Charlotte Area, NC | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.01 | 0.02 | 0.02 | 0.03 |
| Charlotte-Rock Hill, NC-SC | Ozone (2008 8-hour) | Maintenance, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Chicago-Naperville, IL-IN-WI | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Chico (Butte County), CA | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Chico Area, CA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Chico, CA | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Cincinnati, OH-KY-IN | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Clark County; Las Vegas planning area, NV | PM10 (1987 24-hour) | Maintenance, Serious | 100 | 0 | 0.01 | 0.02 | 0.03 | 0.04 |
| Cleveland Area, OH | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.01 | 0.03 | 0.03 | 0.05 |
| Cleveland, OH | PM2.5 (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 0.02 | 0.04 | 0.04 | 0.06 |
| Cleveland-Akron-Lorain, OH | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Cleveland-Akron-Lorain, OH | PM2.5 (2006 24-hour) | Maintenance, -- | 100 | 0 | 0.02 | 0.07 | 0.07 | 0.11 |
| Cochise County; Paul Spur/Douglas planning area, AZ | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Colorado Springs Area, CO | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.03 | 0.06 | 0.06 | 0.09 |
| Columbus, OH | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Cook County; Lyons Township, IL | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Cook County; Southeast Chicago, IL | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Coshocton County; Franklin Township, OH | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Coso Junction, CA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Cuyahoga County (part), OH | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Cuyahoga County, OH | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.01 | 0.03 | 0.03 | 0.05 |

Appendix A Air Quality Non-Attainment Area Results

Table A1-74

Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Cumulative Impacts

Benzene 2025

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Dallas-Fort Worth, TX | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Delaware County, PA | PM2.5 (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 0.02 | 0.04 | 0.04 | 0.06 |
| Denver-Boulder Area, CO | CO (1971 8-hour) | Maintenance, Serious | 100 | 0 | 0.12 | 0.26 | 0.27 | 0.41 |
| Denver-Boulder-Greeley-Ft Collins-Loveland, CO | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Detroit Area, MI | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.02 | 0.06 | 0.06 | 0.09 |
| Detroit, MI | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.01 | 0.01 | 0.02 |
| Detroit-Ann Arbor, MI | PM2.5 (2006 24-hour) | Maintenance, -- | 100 | 0 | 0.06 | 0.16 | 0.17 | 0.25 |
| Dona Ana County; Anthony, NM | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Douglas, AZ | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Dukes County, MA | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Duluth Area, MN | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.01 | 0.01 | 0.02 |
| East Chicago Area, IN | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.02 | 0.03 | 0.04 | 0.05 |
| East Helena Area, MT | SO ₂ (1971 24-hour/Annual) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| East Kern County Area, CA | PM10 (1987 24-hour) | Nonattainment, Serious | 70 | 0 | 0.01 | 0.01 | 0.01 | 0.02 |
| El Paso County, TX | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.01 | 0.02 | 0.02 | 0.03 |
| El Paso, TX | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.01 | 0.01 | 0.01 |
| Eugene-Springfield Area, OR | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.01 | 0.01 | 0.01 |
| Fairbanks Area, AK | CO (1971 8-hour) | Maintenance, Serious | 100 | 0 | 0.01 | 0.01 | 0.01 | 0.02 |
| Fairbanks, AK | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.01 | 0.02 | 0.02 | 0.03 |

Table A1-74
Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Cumulative Impacts
Benzene 2025

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|---|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Flathead County; Columbia Falls and vicinity, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Flathead County; Kalispell and vicinity, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Flathead County; Whitefish and vicinity, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Fort Collins Area, CO | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.01 | 0.01 | 0.02 |
| Freehold Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Fremont County; Canon City Area, CO | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Fresno Area, CA | CO (1971 8-hour) | Maintenance, Moderate > 12.7ppm | 100 | 0 | 0.00 | 0.01 | 0.01 | 0.01 |
| Grants Pass Area, OR | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Great Falls Area, MT | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Greater Connecticut, CT | Ozone (2008 8-hour) | Nonattainment, Moderate | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Greeley Area, CO | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.02 | 0.04 | 0.04 | 0.06 |
| Hancock and Brooke Counties (Part); The city of Weirton, WV | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Hancock County (Part) The city of Weirton, including Butler and Clay: Magisterial Districts, WV | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Harrisburg-Lebanon-Carlisle-York, PA | PM2.5 (2006 24-hour) | Maintenance, Moderate | 100 | 0 | 0.01 | 0.03 | 0.03 | 0.05 |
| Hartford-New Britain-Middletown Area, CT | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.01 | 0.02 | 0.02 | 0.03 |
| Hayden, AZ | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Hayden, AZ | SO ₂ (1971 24-hour/Annual) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Hayden, AZ | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Hillsborough County, FL | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Houston-Galveston-Brazoria, TX | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Humphreys County; (part) TVA Johnsonville, TN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Imperial Co, CA | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |

Appendix A Air Quality Non-Attainment Area Results

Table A1-74

Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Cumulative Impacts

Benzene 2025

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Imperial County, CA | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Imperial County, CA | PM2.5 (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Imperial County; Imperial Valley planning area, CA | PM10 (1987 24-hour) | Nonattainment, Serious | 70 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Indian Wells, CA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.01 | 0.01 | 0.01 | 0.02 |
| Indiana, PA | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Indianapolis Area, IN | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Indianapolis, IN | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.01 | 0.01 | 0.02 |
| Inyo County; Owens Valley planning area, CA | PM10 (1987 24-hour) | Nonattainment, Serious | 70 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Jackson County, MO | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.01 |
| Jackson County; Medford-Ashland (including White City), OR | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.01 | 0.01 | 0.01 |
| Jamestown, NY | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Jefferson County, KY | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Jefferson County, MO | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.01 |
| Jefferson County; (part) Steubenville & Mingo Junction, OH | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Jefferson County; (part), OH | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Johnstown, PA | PM2.5 (2006 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Josephine County; Grants Pass, OR | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Juneau; Mendenhall Valley area, AK | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Kern County (Eastern Kern), CA | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| King County; Kent, WA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| King County; Seattle, WA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Klamath County; Klamath Falls, OR | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Klamath Falls Area, OR | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Klamath Falls, OR | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |

Table A1-74
Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Cumulative Impacts
Benzene 2025

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Knoxville, TN | Ozone (2008 8-hour) | Maintenance, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Knoxville-Sevierville-La Follette, TN | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.02 | 0.04 | 0.04 | 0.06 |
| La Porte County: (part), IN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lake County (part); Lakeview, OR | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lake County, OH | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.01 | 0.01 | 0.01 |
| Lake County: (part), IN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lake County; (part) Eastlake, Timberlake, Lakeline, Willoughby, Mentor, OH | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lake County; Cities of East Chicago, Hammond, Whiting, and Gary, IN | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.02 | 0.04 | 0.04 | 0.06 |
| Lake County; Polson, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lake County; Ronan, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lake Tahoe Nevada Area, NV | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lake Tahoe North Shore Area, CA | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lake Tahoe South Shore Area, CA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lancaster, PA | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lancaster, PA | PM2.5 (2006 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.01 | 0.01 | 0.01 |
| Lane County (part); Oakridge, OR | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lane County; Eugene/Springfield, OR | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.01 | 0.01 | 0.01 |
| Las Vegas Area, NV | CO (1971 8-hour) | Maintenance, Serious | 100 | 0 | 0.01 | 0.02 | 0.03 | 0.04 |
| LaSalle County; Oglesby, IL | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Laurel Area, MT | SO ₂ (1971 24-hour/Annual) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lebanon County, PA | PM2.5 (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.01 | 0.01 | 0.01 |
| Lemont, IL | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.01 | 0.01 | 0.01 |
| Liberty-Clairton, PA | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |

Appendix A Air Quality Non-Attainment Area Results

Table A1-74

Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Cumulative Impacts

Benzene 2025

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Lincoln County; Libby and vicinity, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Logan, UT-ID | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.01 |
| Longmont Area, CO | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.01 | 0.01 | 0.01 |
| Lorain County (part), OH | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Los Angeles, CA | PM2.5 (2006 24-hour) | Nonattainment, Serious | 100 | 0 | 0.04 | 0.18 | 0.18 | 0.29 |
| Los Angeles-San Bernardino Counties (West Mojave Desert), CA | Ozone (2008 8-hour) | Nonattainment, Severe 15 | 25 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Los Angeles-South Coast Air Basin Area, CA | CO (1971 8-hour) | Maintenance, Serious | 100 | 0 | 0.04 | 0.18 | 0.18 | 0.29 |
| Los Angeles-South Coast Air Basin Area, CA | NO ₂ (1971 Annual) | Maintenance, -- | 100 | 0 | 0.04 | 0.18 | 0.18 | 0.29 |
| Los Angeles-South Coast Air Basin, CA | Ozone (2008 8-hour) | Nonattainment, Extreme | 10 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Los Angeles-South Coast Air Basin, CA | PM2.5 (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 0.04 | 0.18 | 0.18 | 0.29 |
| Lowell Area, MA | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lucas County (part), OH | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Madison County; Granite City Township and Nameoki Township, IL | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Manchester Area, NH | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Maricopa and Pinal Counties; Phoenix planning area, AZ | PM10 (1987 24-hour) | Nonattainment, Serious | 70 | 0 | 0.01 | 0.05 | 0.05 | 0.09 |
| Marion County; Lawrence, Washington, and Warrant Townships, IN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Mariposa County, CA | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Marshall, WV | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Medford Area, OR | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.01 |
| Memphis Area, TN | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.01 | 0.02 | 0.02 | 0.04 |

Table A1-74
Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Cumulative Impacts
Benzene 2025

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|---|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Memphis, TN-MS-AR | Ozone (2008 8-hour) | Nonattainment TN & Maintenance MS/AR, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Miami, AZ | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Miami, AZ | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Miami, AZ | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Milwaukee-Racine, WI | PM2.5 (2006 24-hour) | Maintenance, -- | 100 | 0 | 0.01 | 0.02 | 0.02 | 0.04 |
| Minneapolis-St. Paul Area, MN | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.09 | 0.20 | 0.21 | 0.32 |
| Missoula Area, MT | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.01 | 0.01 | 0.01 |
| Missoula county; Missoula and vicinity, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.01 | 0.01 | 0.01 |
| Modesto Area, CA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.01 | 0.01 | 0.01 |
| Mohave County (part); Bullhead City, AZ | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.01 |
| Mono County; Mammoth Lake planning area, CA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Mono County; Mono Basin, CA | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Morenci, AZ | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Morgan County, IN | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Morongo Band of Mission Indians | Ozone (2008 8-hour) | Nonattainment, Serious | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Morristown Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Muscatine County; (part), IA | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Muscatine, IA | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Muskingum River, OH | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Nashua Area, NH | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Nassau County, FL | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Nevada County (Western part), CA | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| New Haven County, CT | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |

Appendix A Air Quality Non-Attainment Area Results

Table A1-74

Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Cumulative Impacts

Benzene 2025

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| New Haven-Meriden-Waterbury Area, CT | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.01 | 0.02 | 0.02 | 0.03 |
| New Manchester-Grant magisterial district in Hancock County, WV | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| New York County, NY | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.01 | 0.02 | 0.02 | 0.03 |
| New York, NY-NJ-CT | PM2.5 (2006 24-hour) | Maintenance, -- | 100 | 0 | 0.14 | 0.38 | 0.39 | 0.61 |
| New York-N. New Jersey-Long Island Area, NY-NJ-CT | CO (1971 8-hour) | Maintenance, Moderate > 12.7ppm | 100 | 0 | 0.08 | 0.23 | 0.24 | 0.36 |
| New York-N. New Jersey-Long Island, NY-NJ-CT | Ozone (2008 8-hour) | Nonattainment, Moderate | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| NJ portion of the Northeast Pennsylvania-Upper Delaware Valley Interstate AQCR: (part), NJ | SO ₂ (1971 24-hour/Annual) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Nogales, AZ | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Oakridge, OR | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Ogden Area, UT | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Ogden Area, UT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Olmsted County; (part), MN | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Olmsted; City of Rochester, MN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |

Table A1-74
Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Cumulative Impacts
Benzene 2025

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Pechanga Band of Luiseno Mission Indians of the Pechanga Reservation | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Pekin, IL | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Penns Grove Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Peoria County: Hollis Twp, IL | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Peoria County: Peoria, IL | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Perth Amboy Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Philadelphia-Camden County Area, PA-NJ | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.07 | 0.15 | 0.16 | 0.23 |
| Philadelphia-Wilmington, PA-NJ-DE | PM _{2.5} (2006 24-hour) | Maintenance, Moderate for PA and DE Subject to Former Subpart 1 for NJ | 100 | 0 | 0.11 | 0.25 | 0.27 | 0.40 |
| Philadelphia-Wilmington-Atlantic City, PA-NJ-MD-DE | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Phoenix Area, AZ | CO (1971 8-hour) | Maintenance, Serious | 100 | 0 | 0.01 | 0.05 | 0.05 | 0.08 |
| Phoenix-Mesa, AZ | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Pierce County; Tacoma, WA | PM ₁₀ (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Pima County; Ajo planning area, AZ | PM ₁₀ (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Pima County; Rillito planning area, AZ | PM ₁₀ (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Pinal and Gila Counties; Payson, AZ | PM ₁₀ (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Pinal County (part); West Pinal, AZ | PM ₁₀ (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.01 | 0.01 | 0.01 |
| Pitkin County; Aspen, CO | PM ₁₀ (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Pittsburgh Area, PA | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.01 | 0.01 | 0.01 |
| Pittsburgh-Beaver Valley, PA | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Pittsburgh-Beaver Valley, PA | PM _{2.5} (2006 24-hour) | Maintenance, Moderate | 100 | 0 | 0.02 | 0.04 | 0.04 | 0.07 |
| Plumas County, CA | PM _{2.5} (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Polk County, TN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |

Appendix A Air Quality Non-Attainment Area Results

Table A1-74

Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Cumulative Impacts

Benzene 2025

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|-------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Portland Area: Portland Metro Service District Boundary, OR | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.01 | 0.02 | 0.02 | 0.04 |
| Power-Bannock Counties; Fort Hall Indian Reservation, ID | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Power-Bannock Counties; Portneuf Valley Area, ID | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.01 | 0.01 | 0.01 |
| Provo Area, UT | CO (1971 8-hour) | Maintenance, Moderate > 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Provo, UT | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.01 | 0.01 | 0.01 |
| Prowers County; Lamar, CO | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Raleigh-Durham Area, NC | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.01 | 0.03 | 0.03 | 0.05 |
| Ramsey County; (part), MN | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Reading, PA | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Reno Area, NV | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.01 | 0.01 | 0.02 |
| Rhinelander, WI | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.01 |
| Riverside County (Coachella Valley), CA | Ozone (2008 8-hour) | Nonattainment, Severe 15 | 25 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Riverside County; Coachella Valley planning area, CA | PM10 (1987 24-hour) | Nonattainment, Serious | 70 | 0 | 0.00 | 0.00 | 0.00 | 0.01 |
| Riverside, Los Angeles, Orange, and San Bernardino Counties; South Coast Air Basin, CA | PM10 (1987 24-hour) | Maintenance, Serious | 100 | 0 | 0.04 | 0.18 | 0.18 | 0.29 |
| Rosebud County; Lame Deer, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Routt County (part); Steamboat Springs, CO | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Sacramento Area, CA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.01 | 0.01 | 0.02 |
| Sacramento County, CA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.01 | 0.01 | 0.02 |
| Sacramento Metro, CA | Ozone (2008 8-hour) | Nonattainment, Severe 15 | 25 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Sacramento, CA | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.03 | 0.03 | 0.04 |
| Salem Area, OR | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.01 | 0.01 | 0.01 |
| Salt Lake City Area, UT | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.01 | 0.01 | 0.01 | 0.02 |
| Salt Lake City, UT | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.02 | 0.05 | 0.05 | 0.08 |

Table A1-74

Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Cumulative Impacts

Benzene 2025

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|---|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Salt Lake County, UT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.01 | 0.02 | 0.02 | 0.04 |
| Salt Lake County, UT | SO ₂ (1971 24-hour/Annual) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| San Bernardino County (part); excluding Searles Valley Planning area and South Coast Air Basin, CA | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.01 | 0.01 | 0.01 |
| San Diego Area, CA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.02 | 0.06 | 0.06 | 0.10 |
| San Diego County, CA | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| San Francisco Bay Area, CA | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| San Francisco Bay Area, CA | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.04 | 0.12 | 0.13 | 0.20 |
| San Francisco-Oakland-San Jose Area, CA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.04 | 0.12 | 0.12 | 0.19 |
| San Joaquin Valley Air Basin; Fresno, Kern, Kings, Madera, Merced, San Joaquin, Stanislaus, Tulare Counties, CA | PM10 (1987 24-hour) | Maintenance, Serious | 100 | 0 | 0.03 | 0.09 | 0.09 | 0.15 |
| San Joaquin Valley, CA | Ozone (2008 8-hour) | Nonattainment, Extreme | 10 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| San Joaquin Valley, CA | PM2.5 (2006 24-hour) | Nonattainment, Serious | 100 | 0 | 0.03 | 0.09 | 0.09 | 0.15 |
| San Joaquin Valley, CA | PM2.5 (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 0.03 | 0.09 | 0.09 | 0.15 |
| San Luis Obispo (Eastern San Luis Obispo), CA | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| San Manuel, AZ | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| San Miguel County; Telluride, CO | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Sanders County (part); Thompson Falls and vicinity, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Santa Cruz County; Nogales planning area, AZ | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Seaford, DE | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Seattle-Tacoma Area, WA | CO (1971 8-hour) | Maintenance, Moderate > 12.7ppm | 100 | 0 | 0.06 | 0.14 | 0.14 | 0.22 |
| Seattle-Tacoma, WA | PM2.5 (2006 24-hour) | Maintenance, Moderate | 100 | 0 | 0.01 | 0.03 | 0.03 | 0.04 |
| Sheboygan County, WI | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |

Appendix A Air Quality Non-Attainment Area Results

Table A1-74

Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Cumulative Impacts

Benzene 2025

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|---|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Sheridan County; City of Sheridan, WY | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Shoshone County (part); excluding Pinehurst, ID | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Shoshone County; City of Pinehurst, ID | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Silver Bow County; Butte, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Somerville Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Southwest Indiana, IN | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Spokane Area, WA | CO (1971 8-hour) | Maintenance, Serious | 100 | 0 | 0.01 | 0.01 | 0.01 | 0.02 |
| Spokane County; (part), WA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.01 | 0.01 | 0.01 | 0.02 |
| Springfield Area, MA | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.01 |
| St. Bernard Parish, LA | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.01 | 0.03 | 0.03 | 0.04 |
| St. Louis Area, MO | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.03 | 0.07 | 0.07 | 0.11 |
| St. Louis-St. Charles-Farmington, MO-IL | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Steubenville, OH-WV | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.01 | 0.01 | 0.01 |
| Steubenville-Weirton, OH-WV | PM2.5 (2006 24-hour) | Maintenance, -- | 100 | 0 | 0.01 | 0.01 | 0.01 | 0.02 |
| Stockton Area, CA | CO (1971 8-hour) | Maintenance, Moderate ≤ 12.7ppm | 100 | 0 | 0.01 | 0.01 | 0.01 | 0.02 |
| Sullivan County, TN | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Syracuse Area; Onondaga County, NY | CO (1971 8-hour) | Maintenance, Moderate ≤ 12.7ppm | 100 | 0 | 0.01 | 0.03 | 0.03 | 0.04 |
| Tazewell County; Groveland Twp, IL | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Terre Haute, IN | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.01 | 0.01 | 0.01 |

Table A1-74
Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Cumulative Impacts
Benzene 2025

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|---|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Thurston County; Cities of Olympia, Tumwater, and Lacey, WA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.01 |
| Toms River Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Tooele County (part), UT | SO ₂ (1971 24-hour/Annual) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Trenton Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Trona, CA | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Tucson Area, AZ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.02 | 0.04 | 0.04 | 0.06 |
| Tuscan Buttes, CA | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Union County; LaGrande, OR | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Upper Green River Basin Area, WY | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Utah County, UT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.01 | 0.01 | 0.01 |
| Vancouver Area: Clark County (part), WA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.01 | 0.01 | 0.02 |
| Ventura County, CA | Ozone (2008 8-hour) | Nonattainment, Serious | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Vermillion County; Part of Clinton Township, IN | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Vigo County, IN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Walla Walla County; Wallula, WA | PM10 (1987 24-hour) | Maintenance, Serious | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Waltham Area, MA | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Warren County: Conewago Twp, PA | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Warren County: Warren Boro, Pleasant Twp, Glade Twp, PA | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Warren, PA | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Washington Area, DC-MD-VA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.01 | 0.01 | 0.02 |
| Washington, DC-MD-VA | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Washoe County; Reno planning area, NV | PM10 (1987 24-hour) | Nonattainment, Serious | 70 | 0 | 0.00 | 0.01 | 0.01 | 0.02 |

Appendix A Air Quality Non-Attainment Area Results

Table A1-74

Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Cumulative Impacts

Benzene 2025

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|---|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Wayne County: Boston, Center, Franklin, Wayne & Webster Townships, IN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Wayne County; (part), MI | PM ₁₀ (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| West Central Pinal County, AZ | PM _{2.5} (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| West Silver Valley, ID | PM _{2.5} (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Winston-Salem Area, NC | CO (1971 8-hour) | Maintenance, Moderate ≤ 12.7ppm | 100 | 0 | 0.00 | 0.01 | 0.01 | 0.01 |
| Worcester Area, MA | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.01 | 0.01 | 0.01 |
| Yakima Area, WA | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Yakima County; (part), WA | PM ₁₀ (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.01 | 0.01 | 0.01 |
| Yuba City-Marysville, CA | PM _{2.5} (2006 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Yuma County; Yuma planning area, AZ | PM ₁₀ (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.01 | 0.01 | 0.01 |

^a Reductions are shown as positive values. Negative values are emissions increases. Values of less than 0.005 tons per year are rounded to zero.

^b Nonattainment or maintenance status as of 5/13/2016. Source: U.S. EPA, The Green Book Nonattainment Areas for Criteria Pollutants; <http://www.epa.gov/airquality/greenbook/>. "--" indicates that no severity classification has been established for the NAAQS pollutant.

^c Emissions thresholds in tons per year. Where the threshold differs by precursor pollutant, the smallest of the precursor thresholds is shown. These thresholds are provided for information only; a general conformity determination is not required for the Proposed Action. Source: 40 CFR 93.853.

Notes: CO = carbon monoxide; NAAQS = National Ambient Air Quality Standards; NO₂ = nitrogen dioxide; PM = particulate matter; SO₂ = sulfur dioxide

Table A1-75
Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Cumulative Impacts
Benzene 2040

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Ada County; Boise, ID | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.05 | 0.12 | 0.10 | 0.14 |
| Adams, Denver, and Boulder Counties; Denver Metropolitan area, CO | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.22 | 0.56 | 0.45 | 0.63 |
| Ajo, AZ | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Albuquerque Area, NM | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.05 | 0.13 | 0.10 | 0.14 |
| Allegheny County Air Basin: Hazelwood monitor, PA | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Allegheny County, PA | PM2.5 (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 0.03 | 0.10 | 0.07 | 0.11 |
| Allegheny County; The area including Liberty, Lincoln, Port Vue, and Glassport Boroughs and the City of Clairton, PA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Allegheny, PA | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.01 | 0.00 | 0.01 |
| Allentown, PA | PM2.5 (2006 24-hour) | Maintenance, Moderate | 100 | 0 | 0.02 | 0.06 | 0.04 | 0.06 |
| Allentown-Bethlehem-Easton, PA | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Anchorage Area, AK | CO (1971 8-hour) | Maintenance, Serious | 100 | 0 | 0.06 | 0.14 | 0.12 | 0.16 |
| Anchorage; Eagle River, AK | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.01 | 0.01 | 0.01 |
| AQCR 012: Portions of Grant County, NM | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| AQCR 109-Millinocket, ME | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| AQCR 131: Anoka, Carver, Dakota, Hennepin, Ramsey, Scott, and Washington counties (Minneapolis-St. Paul), MN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| AQCR 237: Brown County: Green Bay sub-city area, WI | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| AQCR 238: Marathon County: Rothschild Sub-city area, Rib Mountain, Weston, WI | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| AQCR 238: Oneida County: Rhinelander Sub-city area, WI | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| AQCR 239: Milwaukee County: Milwaukee sub-city area, WI | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |

Appendix A Air Quality Non-Attainment Area Results

Table A1-75

Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Cumulative Impacts

Benzene 2040

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| AQCR 240: Dane County: Madison sub-city area, WI | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Archuleta County; Pagosa Springs, CO | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Armstrong County: Madison Twp, Mahoning Twp, Boggs Twp, Washington Twp, Pine Twp, PA | SO ₂ (1971 24-hour/Annual) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Aroostock County; City of Presque Isle, ME | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Atlanta, GA | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Atlantic City Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Bakersfield Area, CA | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.03 | 0.08 | 0.06 | 0.08 |
| Baltimore Area, MD | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Baltimore, MD | Ozone (2008 8-hour) | Nonattainment, Moderate | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Baton Rouge, LA | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Beaver, PA | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Benton County; (part) TVA Johnsonville, TN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Billings Area, MT | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.06 | 0.16 | 0.13 | 0.18 |
| Billings, MT | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.05 | 0.12 | 0.10 | 0.14 |
| Birmingham, AL | PM2.5 (2006 24-hour) | Maintenance, -- | 100 | 0 | 0.07 | 0.19 | 0.14 | 0.20 |
| Boise-Northern Ada County Area, ID | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.05 | 0.12 | 0.10 | 0.14 |
| Bonner County; The Sandpoint Area, ID | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.01 |
| Boston Area, MA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.04 | 0.11 | 0.08 | 0.11 |
| Boyd County (part), KY | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Brooke; Follansbee area, WV | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Burlington Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Calaveras County, CA | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Campbell-Clermont Counties, KY-OH | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |

Table A1-75

Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Cumulative Impacts

Benzene 2040

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|---|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Canton-Massillon, OH | PM2.5 (2006 24-hour) | Maintenance, -- | 100 | 0 | 0.01 | 0.04 | 0.03 | 0.04 |
| Central New Hampshire, NH | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.01 | 0.00 | 0.01 |
| Central Steptoe Valley, NV | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Charleston, WV | PM2.5 (2006 24-hour) | Maintenance, -- | 100 | 0 | 0.02 | 0.04 | 0.03 | 0.05 |
| Charlotte Area, NC | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.03 | 0.09 | 0.06 | 0.09 |
| Charlotte-Rock Hill, NC-SC | Ozone (2008 8-hour) | Maintenance, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Chicago-Naperville, IL-IN-WI | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Chico (Butte County), CA | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Chico Area, CA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.01 | 0.00 | 0.01 |
| Chico, CA | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.01 | 0.01 | 0.01 |
| Cincinnati, OH-KY-IN | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Clark County; Las Vegas planning area, NV | PM10 (1987 24-hour) | Maintenance, Serious | 100 | 0 | 0.03 | 0.12 | 0.07 | 0.11 |
| Cleveland Area, OH | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.05 | 0.13 | 0.10 | 0.14 |
| Cleveland, OH | PM2.5 (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 0.06 | 0.17 | 0.12 | 0.18 |
| Cleveland-Akron-Lorain, OH | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Cleveland-Akron-Lorain, OH | PM2.5 (2006 24-hour) | Maintenance, -- | 100 | 0 | 0.10 | 0.29 | 0.20 | 0.30 |
| Cochise County; Paul Spur/Douglas planning area, AZ | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.01 | 0.00 | 0.01 |
| Colorado Springs Area, CO | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.09 | 0.23 | 0.18 | 0.26 |
| Columbus, OH | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Cook County; Lyons Township, IL | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.01 | 0.00 | 0.01 |
| Cook County; Southeast Chicago, IL | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.01 | 0.00 | 0.01 |
| Coshocton County; Franklin Township, OH | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Coso Junction, CA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Cuyahoga County (part), OH | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Cuyahoga County, OH | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.05 | 0.13 | 0.10 | 0.14 |

Appendix A Air Quality Non-Attainment Area Results

Table A1-75

Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Cumulative Impacts

Benzene 2040

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Dallas-Fort Worth, TX | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Delaware County, PA | PM2.5 (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 0.06 | 0.15 | 0.12 | 0.17 |
| Denver-Boulder Area, CO | CO (1971 8-hour) | Maintenance, Serious | 100 | 0 | 0.41 | 1.05 | 0.84 | 1.20 |
| Denver-Boulder-Greeley-Ft Collins-Loveland, CO | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Detroit Area, MI | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.07 | 0.21 | 0.16 | 0.23 |
| Detroit, MI | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.02 | 0.06 | 0.04 | 0.06 |
| Detroit-Ann Arbor, MI | PM2.5 (2006 24-hour) | Maintenance, -- | 100 | 0 | 0.24 | 0.68 | 0.50 | 0.73 |
| Dona Ana County; Anthony, NM | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.01 |
| Douglas, AZ | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Dukes County, MA | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Duluth Area, MN | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.02 | 0.05 | 0.04 | 0.05 |
| East Chicago Area, IN | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.05 | 0.13 | 0.11 | 0.16 |
| East Helena Area, MT | SO ₂ (1971 24-hour/Annual) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| East Kern County Area, CA | PM10 (1987 24-hour) | Nonattainment, Serious | 70 | 0 | 0.02 | 0.05 | 0.04 | 0.06 |
| El Paso County, TX | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.03 | 0.08 | 0.06 | 0.09 |
| El Paso, TX | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.01 | 0.03 | 0.03 | 0.04 |
| Eugene-Springfield Area, OR | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.01 | 0.03 | 0.02 | 0.03 |
| Fairbanks Area, AK | CO (1971 8-hour) | Maintenance, Serious | 100 | 0 | 0.02 | 0.04 | 0.04 | 0.05 |
| Fairbanks, AK | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.03 | 0.06 | 0.05 | 0.08 |

Table A1-75
Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Cumulative Impacts
Benzene 2040

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|---|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Flathead County; Columbia Falls and vicinity, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Flathead County; Kalispell and vicinity, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.01 | 0.01 | 0.01 |
| Flathead County; Whitefish and vicinity, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Fort Collins Area, CO | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.02 | 0.04 | 0.03 | 0.05 |
| Freehold Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Fremont County; Canon City Area, CO | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.01 | 0.01 | 0.01 |
| Fresno Area, CA | CO (1971 8-hour) | Maintenance, Moderate > 12.7ppm | 100 | 0 | 0.01 | 0.03 | 0.02 | 0.03 |
| Grants Pass Area, OR | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.01 | 0.01 | 0.01 |
| Great Falls Area, MT | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.01 | 0.01 | 0.01 |
| Greater Connecticut, CT | Ozone (2008 8-hour) | Nonattainment, Moderate | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Greeley Area, CO | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.06 | 0.15 | 0.12 | 0.17 |
| Hancock and Brooke Counties (Part); The city of Weirton, WV | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.01 | 0.01 | 0.01 |
| Hancock County (Part) The city of Weirton, including Butler and Clay: Magisterial Districts, WV | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Harrisburg-Lebanon-Carlisle-York, PA | PM2.5 (2006 24-hour) | Maintenance, Moderate | 100 | 0 | 0.04 | 0.14 | 0.09 | 0.14 |
| Hartford-New Britain-Middletown Area, CT | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.03 | 0.09 | 0.06 | 0.09 |
| Hayden, AZ | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Hayden, AZ | SO ₂ (1971 24-hour/Annual) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Hayden, AZ | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Hillsborough County, FL | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.01 | 0.01 | 0.01 |
| Houston-Galveston-Brazoria, TX | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Humphreys County; (part) TVA Johnsonville, TN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Imperial Co, CA | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.01 | 0.01 | 0.01 |

Appendix A Air Quality Non-Attainment Area Results

Table A1-75

Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Cumulative Impacts

Benzene 2040

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Imperial County, CA | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Imperial County, CA | PM2.5 (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.01 | 0.01 | 0.01 |
| Imperial County; Imperial Valley planning area, CA | PM10 (1987 24-hour) | Nonattainment, Serious | 70 | 0 | 0.00 | 0.01 | 0.01 | 0.01 |
| Indian Wells, CA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.02 | 0.05 | 0.04 | 0.06 |
| Indiana, PA | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.01 | 0.00 | 0.01 |
| Indianapolis Area, IN | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Indianapolis, IN | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.02 | 0.05 | 0.04 | 0.06 |
| Inyo County; Owens Valley planning area, CA | PM10 (1987 24-hour) | Nonattainment, Serious | 70 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Jackson County, MO | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.01 | 0.02 | 0.01 | 0.02 |
| Jackson County; Medford-Ashland (including White City), OR | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.01 | 0.03 | 0.02 | 0.04 |
| Jamestown, NY | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Jefferson County, KY | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Jefferson County, MO | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.01 | 0.01 | 0.01 | 0.02 |
| Jefferson County; (part) Steubenville & Mingo Junction, OH | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Jefferson County; (part), OH | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Johnstown, PA | PM2.5 (2006 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.01 | 0.01 | 0.01 |
| Josephine County; Grants Pass, OR | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.01 | 0.01 | 0.01 |
| Juneau; Mendenhall Valley area, AK | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.01 | 0.01 | 0.01 |
| Kern County (Eastern Kern), CA | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| King County; Kent, WA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.01 |
| King County; Seattle, WA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Klamath County; Klamath Falls, OR | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.01 | 0.01 | 0.01 |
| Klamath Falls Area, OR | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.01 | 0.01 | 0.01 |
| Klamath Falls, OR | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.01 | 0.01 | 0.01 |

Table A1-75
Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Cumulative Impacts
Benzene 2040

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Knoxville, TN | Ozone (2008 8-hour) | Maintenance, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Knoxville-Sevierville-La Follette, TN | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.06 | 0.17 | 0.13 | 0.18 |
| La Porte County: (part), IN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lake County (part); Lakeview, OR | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lake County, OH | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.01 | 0.02 | 0.02 | 0.02 |
| Lake County: (part), IN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lake County; (part) Eastlake, Timberlake, Lakeline, Willoughby, Mentor, OH | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lake County; Cities of East Chicago, Hammond, Whiting, and Gary, IN | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.06 | 0.16 | 0.13 | 0.18 |
| Lake County; Polson, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lake County; Ronan, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lake Tahoe Nevada Area, NV | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lake Tahoe North Shore Area, CA | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lake Tahoe South Shore Area, CA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lancaster, PA | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lancaster, PA | PM2.5 (2006 24-hour) | Maintenance, Moderate | 100 | 0 | 0.01 | 0.04 | 0.02 | 0.03 |
| Lane County (part); Oakridge, OR | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lane County; Eugene/Springfield, OR | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.01 | 0.03 | 0.02 | 0.03 |
| Las Vegas Area, NV | CO (1971 8-hour) | Maintenance, Serious | 100 | 0 | 0.03 | 0.12 | 0.07 | 0.11 |
| LaSalle County; Oglesby, IL | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Laurel Area, MT | SO ₂ (1971 24-hour/Annual) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lebanon County, PA | PM2.5 (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 0.01 | 0.02 | 0.02 | 0.02 |
| Lemont, IL | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.01 | 0.03 | 0.02 | 0.03 |
| Liberty-Clairton, PA | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |

Appendix A Air Quality Non-Attainment Area Results

Table A1-75

Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Cumulative Impacts

Benzene 2040

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Lincoln County; Libby and vicinity, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Logan, UT-ID | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.01 | 0.02 | 0.01 | 0.02 |
| Longmont Area, CO | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.01 | 0.03 | 0.03 | 0.04 |
| Lorain County (part), OH | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Los Angeles, CA | PM2.5 (2006 24-hour) | Nonattainment, Serious | 100 | 0 | 0.23 | 0.87 | 0.49 | 0.79 |
| Los Angeles-San Bernardino Counties (West Mojave Desert), CA | Ozone (2008 8-hour) | Nonattainment, Severe 15 | 25 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Los Angeles-South Coast Air Basin Area, CA | CO (1971 8-hour) | Maintenance, Serious | 100 | 0 | 0.23 | 0.87 | 0.49 | 0.79 |
| Los Angeles-South Coast Air Basin Area, CA | NO ₂ (1971 Annual) | Maintenance, -- | 100 | 0 | 0.23 | 0.87 | 0.49 | 0.79 |
| Los Angeles-South Coast Air Basin, CA | Ozone (2008 8-hour) | Nonattainment, Extreme | 10 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Los Angeles-South Coast Air Basin, CA | PM2.5 (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 0.23 | 0.86 | 0.49 | 0.79 |
| Lowell Area, MA | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.01 | 0.01 | 0.01 |
| Lucas County (part), OH | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Madison County; Granite City Township and Nameoki Township, IL | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.01 | 0.01 | 0.01 |
| Manchester Area, NH | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Maricopa and Pinal Counties; Phoenix planning area, AZ | PM10 (1987 24-hour) | Nonattainment, Serious | 70 | 0 | 0.07 | 0.25 | 0.16 | 0.24 |
| Marion County; Lawrence, Washington, and Warrant Townships, IN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Mariposa County, CA | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Marshall, WV | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.01 | 0.01 | 0.01 |
| Medford Area, OR | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.01 | 0.02 | 0.01 | 0.02 |
| Memphis Area, TN | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.03 | 0.10 | 0.07 | 0.11 |

Table A1-75
Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Cumulative Impacts
Benzene 2040

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|---|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Memphis, TN-MS-AR | Ozone (2008 8-hour) | Nonattainment TN & Maintenance MS/AR, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Miami, AZ | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Miami, AZ | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Miami, AZ | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Milwaukee-Racine, WI | PM2.5 (2006 24-hour) | Maintenance, -- | 100 | 0 | 0.03 | 0.10 | 0.07 | 0.10 |
| Minneapolis-St. Paul Area, MN | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.31 | 0.83 | 0.65 | 0.93 |
| Missoula Area, MT | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.01 | 0.02 | 0.02 | 0.03 |
| Missoula county; Missoula and vicinity, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.01 | 0.02 | 0.02 | 0.03 |
| Modesto Area, CA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.01 | 0.02 | 0.02 | 0.02 |
| Mohave County (part); Bullhead City, AZ | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.01 | 0.02 | 0.01 | 0.02 |
| Mono County; Mammoth Lake planning area, CA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Mono County; Mono Basin, CA | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Morenci, AZ | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Morgan County, IN | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Morongo Band of Mission Indians | Ozone (2008 8-hour) | Nonattainment, Serious | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Morristown Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Muscatine County; (part), IA | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Muscatine, IA | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.01 | 0.01 | 0.01 |
| Muskingum River, OH | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Nashua Area, NH | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Nassau County, FL | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Nevada County (Western part), CA | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| New Haven County, CT | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |

Appendix A Air Quality Non-Attainment Area Results

Table A1-75

Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Cumulative Impacts

Benzene 2040

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| New Haven-Meriden-Waterbury Area, CT | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.03 | 0.08 | 0.06 | 0.08 |
| New Manchester-Grant magisterial district in Hancock County, WV | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| New York County, NY | PM ₁₀ (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.03 | 0.09 | 0.07 | 0.10 |
| New York, NY-NJ-CT | PM _{2.5} (2006 24-hour) | Maintenance, -- | 100 | 0 | 0.55 | 1.67 | 1.16 | 1.73 |
| New York-N. New Jersey-Long Island Area, NY-NJ-CT | CO (1971 8-hour) | Maintenance, Moderate > 12.7ppm | 100 | 0 | 0.33 | 1.00 | 0.70 | 1.04 |
| New York-N. New Jersey-Long Island, NY-NJ-CT | Ozone (2008 8-hour) | Nonattainment, Moderate | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| NJ portion of the Northeast Pennsylvania-Upper Delaware Valley Interstate AQCR: (part), NJ | SO ₂ (1971 24-hour/Annual) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Nogales, AZ | PM _{2.5} (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.01 | 0.01 | 0.01 |
| Oakridge, OR | PM _{2.5} (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Ogden Area, UT | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.01 | 0.00 | 0.01 |
| Ogden Area, UT | PM ₁₀ (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.01 | 0.00 | 0.01 |
| Olmsted County; (part), MN | PM ₁₀ (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.01 | 0.01 | 0.01 |
| Olmsted; City of Rochester, MN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |

Table A1-75
Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Cumulative Impacts
Benzene 2040

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Pechanga Band of Luiseno Mission Indians of the Pechanga Reservation | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Pekin, IL | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Penns Grove Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Peoria County: Hollis Twp, IL | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Peoria County: Peoria, IL | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Perth Amboy Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.01 | 0.01 | 0.01 |
| Philadelphia-Camden County Area, PA-NJ | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.24 | 0.60 | 0.49 | 0.69 |
| Philadelphia-Wilmington, PA-NJ-DE | PM _{2.5} (2006 24-hour) | Maintenance, Moderate for PA and DE Subject to Former Subpart 1 for NJ | 100 | 0 | 0.39 | 1.04 | 0.81 | 1.16 |
| Philadelphia-Wilmington-Atlantic City, PA-NJ-MD-DE | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Phoenix Area, AZ | CO (1971 8-hour) | Maintenance, Serious | 100 | 0 | 0.07 | 0.24 | 0.15 | 0.23 |
| Phoenix-Mesa, AZ | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Pierce County; Tacoma, WA | PM ₁₀ (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.01 | 0.01 | 0.01 |
| Pima County; Ajo planning area, AZ | PM ₁₀ (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Pima County; Rillito planning area, AZ | PM ₁₀ (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.01 | 0.01 | 0.01 |
| Pinal and Gila Counties; Payson, AZ | PM ₁₀ (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.01 | 0.00 | 0.01 |
| Pinal County (part); West Pinal, AZ | PM ₁₀ (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.01 | 0.04 | 0.03 | 0.04 |
| Pitkin County; Aspen, CO | PM ₁₀ (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.01 | 0.00 | 0.01 |
| Pittsburgh Area, PA | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.01 | 0.02 | 0.02 | 0.02 |
| Pittsburgh-Beaver Valley, PA | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Pittsburgh-Beaver Valley, PA | PM _{2.5} (2006 24-hour) | Maintenance, Moderate | 100 | 0 | 0.06 | 0.19 | 0.13 | 0.20 |
| Plumas County, CA | PM _{2.5} (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Polk County, TN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |

Appendix A Air Quality Non-Attainment Area Results

Table A1-75

Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Cumulative Impacts

Benzene 2040

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|-------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Portland Area: Portland Metro Service District Boundary, OR | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.03 | 0.10 | 0.07 | 0.10 |
| Power-Bannock Counties; Fort Hall Indian Reservation, ID | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Power-Bannock Counties; Portneuf Valley Area, ID | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.01 | 0.03 | 0.02 | 0.03 |
| Provo Area, UT | CO (1971 8-hour) | Maintenance, Moderate > 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Provo, UT | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.01 | 0.02 | 0.01 | 0.02 |
| Prowers County; Lamar, CO | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Raleigh-Durham Area, NC | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.05 | 0.15 | 0.10 | 0.15 |
| Ramsey County; (part), MN | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Reading, PA | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Reno Area, NV | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.01 | 0.04 | 0.03 | 0.04 |
| Rhinelander, WI | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.01 | 0.02 | 0.01 | 0.02 |
| Riverside County (Coachella Valley), CA | Ozone (2008 8-hour) | Nonattainment, Severe 15 | 25 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Riverside County; Coachella Valley planning area, CA | PM10 (1987 24-hour) | Nonattainment, Serious | 70 | 0 | 0.01 | 0.02 | 0.01 | 0.02 |
| Riverside, Los Angeles, Orange, and San Bernardino Counties; South Coast Air Basin, CA | PM10 (1987 24-hour) | Maintenance, Serious | 100 | 0 | 0.23 | 0.86 | 0.49 | 0.79 |
| Rosebud County; Lame Deer, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.01 | 0.01 | 0.01 |
| Routt County (part); Steamboat Springs, CO | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.01 | 0.01 | 0.01 |
| Sacramento Area, CA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.02 | 0.07 | 0.04 | 0.06 |
| Sacramento County, CA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.02 | 0.06 | 0.03 | 0.06 |
| Sacramento Metro, CA | Ozone (2008 8-hour) | Nonattainment, Severe 15 | 25 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Sacramento, CA | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.03 | 0.13 | 0.07 | 0.11 |
| Salem Area, OR | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.01 | 0.03 | 0.02 | 0.04 |
| Salt Lake City Area, UT | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.02 | 0.05 | 0.04 | 0.06 |
| Salt Lake City, UT | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.08 | 0.22 | 0.16 | 0.23 |

Table A1-75

Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Cumulative Impacts

Benzene 2040

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|---|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Salt Lake County, UT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.03 | 0.10 | 0.07 | 0.11 |
| Salt Lake County, UT | SO ₂ (1971 24-hour/Annual) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| San Bernardino County (part); excluding Searles Valley Planning area and South Coast Air Basin, CA | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.01 | 0.03 | 0.01 | 0.02 |
| San Diego Area, CA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.08 | 0.27 | 0.18 | 0.27 |
| San Diego County, CA | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| San Francisco Bay Area, CA | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| San Francisco Bay Area, CA | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.17 | 0.55 | 0.36 | 0.55 |
| San Francisco-Oakland-San Jose Area, CA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.16 | 0.52 | 0.35 | 0.52 |
| San Joaquin Valley Air Basin; Fresno, Kern, Kings, Madera, Merced, San Joaquin, Stanislaus, Tulare Counties, CA | PM10 (1987 24-hour) | Maintenance, Serious | 100 | 0 | 0.13 | 0.41 | 0.28 | 0.42 |
| San Joaquin Valley, CA | Ozone (2008 8-hour) | Nonattainment, Extreme | 10 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| San Joaquin Valley, CA | PM2.5 (2006 24-hour) | Nonattainment, Serious | 100 | 0 | 0.13 | 0.41 | 0.28 | 0.42 |
| San Joaquin Valley, CA | PM2.5 (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 0.13 | 0.41 | 0.28 | 0.42 |
| San Luis Obispo (Eastern San Luis Obispo), CA | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| San Manuel, AZ | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| San Miguel County; Telluride, CO | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Sanders County (part); Thompson Falls and vicinity, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Santa Cruz County; Nogales planning area, AZ | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.01 | 0.01 | 0.01 |
| Seaford, DE | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Seattle-Tacoma Area, WA | CO (1971 8-hour) | Maintenance, Moderate > 12.7ppm | 100 | 0 | 0.21 | 0.57 | 0.43 | 0.63 |
| Seattle-Tacoma, WA | PM2.5 (2006 24-hour) | Maintenance, Moderate | 100 | 0 | 0.04 | 0.11 | 0.08 | 0.12 |
| Sheboygan County, WI | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |

Appendix A Air Quality Non-Attainment Area Results

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Benzene 2040

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|---|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Sheridan County; City of Sheridan, WY | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.01 | 0.01 | 0.01 |
| Shoshone County (part); excluding Pinehurst, ID | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.01 | 0.00 | 0.01 |
| Shoshone County; City of Pinehurst, ID | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Silver Bow County; Butte, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.01 | 0.01 | 0.01 |
| Somerville Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Southwest Indiana, IN | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Spokane Area, WA | CO (1971 8-hour) | Maintenance, Serious | 100 | 0 | 0.02 | 0.05 | 0.04 | 0.06 |
| Spokane County; (part), WA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.02 | 0.05 | 0.04 | 0.06 |
| Springfield Area, MA | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.01 | 0.02 | 0.01 | 0.02 |
| St. Bernard Parish, LA | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.04 | 0.11 | 0.09 | 0.13 |
| St. Louis Area, MO | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.11 | 0.28 | 0.22 | 0.32 |
| St. Louis-St. Charles-Farmington, MO-IL | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Steubenville, OH-WV | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.01 | 0.02 | 0.02 | 0.03 |
| Steubenville-Weirton, OH-WV | PM2.5 (2006 24-hour) | Maintenance, -- | 100 | 0 | 0.02 | 0.05 | 0.04 | 0.05 |
| Stockton Area, CA | CO (1971 8-hour) | Maintenance, Moderate ≤ 12.7ppm | 100 | 0 | 0.02 | 0.05 | 0.04 | 0.06 |
| Sullivan County, TN | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.01 | 0.00 | 0.01 |
| Syracuse Area; Onondaga County, NY | CO (1971 8-hour) | Maintenance, Moderate ≤ 12.7ppm | 100 | 0 | 0.04 | 0.11 | 0.08 | 0.12 |
| Tazewell County; Groveland Twp, IL | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Terre Haute, IN | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.01 | 0.02 | 0.01 | 0.02 |

Table A1-75
Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Cumulative Impacts
Benzene 2040

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|---|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Thurston County; Cities of Olympia, Tumwater, and Lacey, WA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.01 | 0.02 | 0.01 | 0.02 |
| Toms River Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Tooele County (part), UT | SO ₂ (1971 24-hour/Annual) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Trenton Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.01 | 0.00 | 0.01 |
| Trona, CA | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Tucson Area, AZ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.06 | 0.15 | 0.12 | 0.17 |
| Tuscan Buttes, CA | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Union County; LaGrande, OR | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.01 | 0.01 | 0.01 |
| Upper Green River Basin Area, WY | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Utah County, UT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.01 | 0.02 | 0.01 | 0.02 |
| Vancouver Area: Clark County (part), WA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.02 | 0.05 | 0.04 | 0.05 |
| Ventura County, CA | Ozone (2008 8-hour) | Nonattainment, Serious | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Vermillion County; Part of Clinton Township, IN | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.01 | 0.01 | 0.01 |
| Vigo County, IN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Walla Walla County; Wallula, WA | PM10 (1987 24-hour) | Maintenance, Serious | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Waltham Area, MA | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.01 | 0.01 | 0.01 |
| Warren County: Conewago Twp, PA | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Warren County: Warren Boro, Pleasant Twp, Glade Twp, PA | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Warren, PA | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.01 | 0.01 | 0.01 |
| Washington Area, DC-MD-VA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.01 | 0.04 | 0.03 | 0.04 |
| Washington, DC-MD-VA | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Washoe County; Reno planning area, NV | PM10 (1987 24-hour) | Nonattainment, Serious | 70 | 0 | 0.01 | 0.04 | 0.03 | 0.04 |

Appendix A Air Quality Non-Attainment Area Results

Table A1-75

Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Cumulative Impacts

Benzene 2040

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|---|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Wayne County: Boston, Center, Franklin, Wayne & Webster Townships, IN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Wayne County; (part), MI | PM ₁₀ (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.01 | 0.01 | 0.01 | 0.02 |
| West Central Pinal County, AZ | PM _{2.5} (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.01 | 0.01 | 0.01 |
| West Silver Valley, ID | PM _{2.5} (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Winston-Salem Area, NC | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.01 | 0.04 | 0.03 | 0.04 |
| Worcester Area, MA | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.01 | 0.02 | 0.02 | 0.03 |
| Yakima Area, WA | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.01 | 0.01 | 0.01 |
| Yakima County; (part), WA | PM ₁₀ (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.01 | 0.03 | 0.02 | 0.03 |
| Yuba City-Marysville, CA | PM _{2.5} (2006 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.01 | 0.01 | 0.01 |
| Yuma County; Yuma planning area, AZ | PM ₁₀ (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.01 | 0.03 | 0.02 | 0.03 |

^a Reductions are shown as positive values. Negative values are emissions increases. Values of less than 0.005 tons per year are rounded to zero.

^b Nonattainment or maintenance status as of 5/13/2016. Source: U.S. EPA, The Green Book Nonattainment Areas for Criteria Pollutants; <http://www.epa.gov/airquality/greenbook/>. "--" indicates that no severity classification has been established for the NAAQS pollutant.

^c Emissions thresholds in tons per year. Where the threshold differs by precursor pollutant, the smallest of the precursor thresholds is shown. These thresholds are provided for information only; a general conformity determination is not required for the Proposed Action. Source: 40 CFR 93.853.

Notes: CO = carbon monoxide; NAAQS = National Ambient Air Quality Standards; NO₂ = nitrogen dioxide; PM = particulate matter; SO₂ = sulfur dioxide

Table A1-76
Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Cumulative Impacts
Benzene 2050

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Ada County; Boise, ID | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.05 | 0.14 | 0.11 | 0.16 |
| Adams, Denver, and Boulder Counties; Denver Metropolitan area, CO | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.25 | 0.65 | 0.52 | 0.73 |
| Ajo, AZ | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Albuquerque Area, NM | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.05 | 0.15 | 0.11 | 0.16 |
| Allegheny County Air Basin: Hazelwood monitor, PA | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Allegheny County, PA | PM2.5 (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 0.04 | 0.12 | 0.08 | 0.12 |
| Allegheny County; The area including Liberty, Lincoln, Port Vue, and Glassport Boroughs and the City of Clairton, PA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Allegheny, PA | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.01 | 0.00 | 0.01 |
| Allentown, PA | PM2.5 (2006 24-hour) | Maintenance, Moderate | 100 | 0 | 0.02 | 0.06 | 0.04 | 0.06 |
| Allentown-Bethlehem-Easton, PA | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Anchorage Area, AK | CO (1971 8-hour) | Maintenance, Serious | 100 | 0 | 0.06 | 0.16 | 0.13 | 0.19 |
| Anchorage; Eagle River, AK | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.01 | 0.01 | 0.01 |
| AQCR 012: Portions of Grant County, NM | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| AQCR 109-Millinocket, ME | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| AQCR 131: Anoka, Carver, Dakota, Hennepin, Ramsey, Scott, and Washington counties (Minneapolis-St. Paul), MN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| AQCR 237: Brown County: Green Bay sub-city area, WI | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| AQCR 238: Marathon County: Rothschild Sub-city area, Rib Mountain, Weston, WI | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| AQCR 238: Oneida County: Rhinelander Sub-city area, WI | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| AQCR 239: Milwaukee County: Milwaukee sub-city area, WI | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |

Appendix A Air Quality Non-Attainment Area Results

Table A1-76

Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Cumulative Impacts

Benzene 2050

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| AQCR 240: Dane County: Madison sub-city area, WI | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Archuleta County; Pagosa Springs, CO | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.01 | 0.00 | 0.01 |
| Armstrong County: Madison Twp, Mahoning Twp, Boggs Twp, Washington Twp, Pine Twp, PA | SO ₂ (1971 24-hour/Annual) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Aroostock County; City of Presque Isle, ME | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Atlanta, GA | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Atlantic City Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Bakersfield Area, CA | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.03 | 0.09 | 0.06 | 0.09 |
| Baltimore Area, MD | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Baltimore, MD | Ozone (2008 8-hour) | Nonattainment, Moderate | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Baton Rouge, LA | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Beaver, PA | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Benton County; (part) TVA Johnsonville, TN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Billings Area, MT | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.07 | 0.19 | 0.15 | 0.21 |
| Billings, MT | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.06 | 0.15 | 0.12 | 0.17 |
| Birmingham, AL | PM2.5 (2006 24-hour) | Maintenance, -- | 100 | 0 | 0.07 | 0.21 | 0.16 | 0.23 |
| Boise-Northern Ada County Area, ID | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.05 | 0.14 | 0.11 | 0.16 |
| Bonner County; The Sandpoint Area, ID | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.01 | 0.00 | 0.01 |
| Boston Area, MA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.04 | 0.12 | 0.09 | 0.13 |
| Boyd County (part), KY | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Brooke; Follansbee area, WV | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Burlington Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Calaveras County, CA | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Campbell-Clermont Counties, KY-OH | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |

Table A1-76

Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Cumulative Impacts

Benzene 2050

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|---|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Canton-Massillon, OH | PM2.5 (2006 24-hour) | Maintenance, -- | 100 | 0 | 0.01 | 0.04 | 0.03 | 0.04 |
| Central New Hampshire, NH | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.01 | 0.00 | 0.01 |
| Central Steptoe Valley, NV | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Charleston, WV | PM2.5 (2006 24-hour) | Maintenance, -- | 100 | 0 | 0.02 | 0.05 | 0.04 | 0.05 |
| Charlotte Area, NC | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.03 | 0.10 | 0.07 | 0.10 |
| Charlotte-Rock Hill, NC-SC | Ozone (2008 8-hour) | Maintenance, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Chicago-Naperville, IL-IN-WI | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Chico (Butte County), CA | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Chico Area, CA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.01 | 0.00 | 0.01 |
| Chico, CA | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.01 | 0.01 | 0.01 |
| Cincinnati, OH-KY-IN | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Clark County; Las Vegas planning area, NV | PM10 (1987 24-hour) | Maintenance, Serious | 100 | 0 | 0.03 | 0.13 | 0.08 | 0.12 |
| Cleveland Area, OH | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.05 | 0.15 | 0.11 | 0.16 |
| Cleveland, OH | PM2.5 (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 0.06 | 0.19 | 0.14 | 0.20 |
| Cleveland-Akron-Lorain, OH | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Cleveland-Akron-Lorain, OH | PM2.5 (2006 24-hour) | Maintenance, -- | 100 | 0 | 0.11 | 0.33 | 0.24 | 0.34 |
| Cochise County; Paul Spur/Douglas planning area, AZ | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.01 | 0.01 | 0.01 |
| Colorado Springs Area, CO | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.10 | 0.27 | 0.22 | 0.30 |
| Columbus, OH | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Cook County; Lyons Township, IL | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.01 | 0.00 | 0.01 |
| Cook County; Southeast Chicago, IL | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.01 | 0.00 | 0.01 |
| Coshocton County; Franklin Township, OH | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Coso Junction, CA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Cuyahoga County (part), OH | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Cuyahoga County, OH | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.05 | 0.15 | 0.11 | 0.16 |

Appendix A Air Quality Non-Attainment Area Results

Table A1-76

Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Cumulative Impacts

Benzene 2050

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Dallas-Fort Worth, TX | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Delaware County, PA | PM2.5 (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 0.07 | 0.17 | 0.14 | 0.20 |
| Denver-Boulder Area, CO | CO (1971 8-hour) | Maintenance, Serious | 100 | 0 | 0.47 | 1.23 | 0.99 | 1.39 |
| Denver-Boulder-Greeley-Ft Collins-Loveland, CO | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Detroit Area, MI | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.07 | 0.21 | 0.16 | 0.23 |
| Detroit, MI | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.03 | 0.08 | 0.06 | 0.08 |
| Detroit-Ann Arbor, MI | PM2.5 (2006 24-hour) | Maintenance, -- | 100 | 0 | 0.26 | 0.78 | 0.58 | 0.83 |
| Dona Ana County; Anthony, NM | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.01 | 0.00 | 0.01 |
| Douglas, AZ | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Dukes County, MA | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Duluth Area, MN | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.02 | 0.06 | 0.05 | 0.07 |
| East Chicago Area, IN | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.06 | 0.16 | 0.13 | 0.18 |
| East Helena Area, MT | SO ₂ (1971 24-hour/Annual) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| East Kern County Area, CA | PM10 (1987 24-hour) | Nonattainment, Serious | 70 | 0 | 0.02 | 0.06 | 0.05 | 0.07 |
| El Paso County, TX | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.03 | 0.10 | 0.07 | 0.11 |
| El Paso, TX | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.02 | 0.04 | 0.03 | 0.05 |
| Eugene-Springfield Area, OR | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.01 | 0.03 | 0.02 | 0.03 |
| Fairbanks Area, AK | CO (1971 8-hour) | Maintenance, Serious | 100 | 0 | 0.02 | 0.05 | 0.04 | 0.06 |
| Fairbanks, AK | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.03 | 0.08 | 0.06 | 0.09 |

Table A1-76
Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Cumulative Impacts
Benzene 2050

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|---|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Flathead County; Columbia Falls and vicinity, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Flathead County; Kalispell and vicinity, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.01 | 0.01 | 0.01 | 0.02 |
| Flathead County; Whitefish and vicinity, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Fort Collins Area, CO | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.02 | 0.05 | 0.04 | 0.05 |
| Freehold Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Fremont County; Canon City Area, CO | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.01 | 0.01 | 0.01 |
| Fresno Area, CA | CO (1971 8-hour) | Maintenance, Moderate > 12.7ppm | 100 | 0 | 0.01 | 0.03 | 0.02 | 0.03 |
| Grants Pass Area, OR | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.01 | 0.01 | 0.01 |
| Great Falls Area, MT | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.01 | 0.01 | 0.01 | 0.02 |
| Greater Connecticut, CT | Ozone (2008 8-hour) | Nonattainment, Moderate | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Greeley Area, CO | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.07 | 0.17 | 0.14 | 0.20 |
| Hancock and Brooke Counties (Part); The city of Weirton, WV | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.01 | 0.01 | 0.01 |
| Hancock County (Part) The city of Weirton, including Butler and Clay: Magisterial Districts, WV | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Harrisburg-Lebanon-Carlisle-York, PA | PM2.5 (2006 24-hour) | Maintenance, Moderate | 100 | 0 | 0.05 | 0.15 | 0.11 | 0.16 |
| Hartford-New Britain-Middletown Area, CT | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.03 | 0.11 | 0.07 | 0.11 |
| Hayden, AZ | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Hayden, AZ | SO ₂ (1971 24-hour/Annual) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Hayden, AZ | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Hillsborough County, FL | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.01 | 0.01 | 0.01 |
| Houston-Galveston-Brazoria, TX | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Humphreys County; (part) TVA Johnsonville, TN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Imperial Co, CA | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.01 | 0.01 | 0.01 |

Appendix A Air Quality Non-Attainment Area Results

Table A1-76

Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Cumulative Impacts

Benzene 2050

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Imperial County, CA | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Imperial County, CA | PM2.5 (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.01 | 0.01 | 0.01 |
| Imperial County; Imperial Valley planning area, CA | PM10 (1987 24-hour) | Nonattainment, Serious | 70 | 0 | 0.00 | 0.01 | 0.01 | 0.01 |
| Indian Wells, CA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.02 | 0.06 | 0.05 | 0.07 |
| Indiana, PA | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.01 | 0.00 | 0.01 |
| Indianapolis Area, IN | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Indianapolis, IN | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.02 | 0.06 | 0.04 | 0.06 |
| Inyo County; Owens Valley planning area, CA | PM10 (1987 24-hour) | Nonattainment, Serious | 70 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Jackson County, MO | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.01 | 0.02 | 0.02 | 0.02 |
| Jackson County; Medford-Ashland (including White City), OR | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.01 | 0.04 | 0.03 | 0.04 |
| Jamestown, NY | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Jefferson County, KY | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Jefferson County, MO | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.01 | 0.02 | 0.01 | 0.02 |
| Jefferson County; (part) Steubenville & Mingo Junction, OH | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Jefferson County; (part), OH | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Johnstown, PA | PM2.5 (2006 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.01 | 0.01 | 0.01 |
| Josephine County; Grants Pass, OR | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.01 | 0.01 | 0.01 |
| Juneau; Mendenhall Valley area, AK | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.01 | 0.01 | 0.01 |
| Kern County (Eastern Kern), CA | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| King County; Kent, WA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.01 | 0.00 | 0.01 |
| King County; Seattle, WA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Klamath County; Klamath Falls, OR | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.01 | 0.02 | 0.01 | 0.02 |
| Klamath Falls Area, OR | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.01 | 0.02 | 0.01 | 0.02 |
| Klamath Falls, OR | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.01 | 0.02 | 0.01 | 0.02 |

Table A1-76
Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Cumulative Impacts
Benzene 2050

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Knoxville, TN | Ozone (2008 8-hour) | Maintenance, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Knoxville-Sevierville-La Follette, TN | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.07 | 0.20 | 0.15 | 0.21 |
| La Porte County: (part), IN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lake County (part); Lakeview, OR | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lake County, OH | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.01 | 0.03 | 0.02 | 0.03 |
| Lake County: (part), IN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lake County; (part) Eastlake, Timberlake, Lakeline, Willoughby, Mentor, OH | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lake County; Cities of East Chicago, Hammond, Whiting, and Gary, IN | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.07 | 0.18 | 0.15 | 0.21 |
| Lake County; Polson, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lake County; Ronan, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lake Tahoe Nevada Area, NV | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lake Tahoe North Shore Area, CA | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lake Tahoe South Shore Area, CA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lancaster, PA | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lancaster, PA | PM2.5 (2006 24-hour) | Maintenance, Moderate | 100 | 0 | 0.01 | 0.04 | 0.02 | 0.04 |
| Lane County (part); Oakridge, OR | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lane County; Eugene/Springfield, OR | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.01 | 0.03 | 0.02 | 0.03 |
| Las Vegas Area, NV | CO (1971 8-hour) | Maintenance, Serious | 100 | 0 | 0.03 | 0.13 | 0.08 | 0.12 |
| LaSalle County; Oglesby, IL | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Laurel Area, MT | SO ₂ (1971 24-hour/Annual) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lebanon County, PA | PM2.5 (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 0.01 | 0.03 | 0.02 | 0.03 |
| Lemont, IL | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.01 | 0.03 | 0.03 | 0.04 |
| Liberty-Clairton, PA | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |

Appendix A Air Quality Non-Attainment Area Results

Table A1-76

Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Cumulative Impacts

Benzene 2050

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Lincoln County; Libby and vicinity, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Logan, UT-ID | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.01 | 0.02 | 0.01 | 0.02 |
| Longmont Area, CO | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.02 | 0.04 | 0.03 | 0.05 |
| Lorain County (part), OH | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Los Angeles, CA | PM2.5 (2006 24-hour) | Nonattainment, Serious | 100 | 0 | 0.22 | 0.95 | 0.56 | 0.86 |
| Los Angeles-San Bernardino Counties (West Mojave Desert), CA | Ozone (2008 8-hour) | Nonattainment, Severe 15 | 25 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Los Angeles-South Coast Air Basin Area, CA | CO (1971 8-hour) | Maintenance, Serious | 100 | 0 | 0.22 | 0.95 | 0.56 | 0.86 |
| Los Angeles-South Coast Air Basin Area, CA | NO ₂ (1971 Annual) | Maintenance, -- | 100 | 0 | 0.22 | 0.95 | 0.56 | 0.86 |
| Los Angeles-South Coast Air Basin, CA | Ozone (2008 8-hour) | Nonattainment, Extreme | 10 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Los Angeles-South Coast Air Basin, CA | PM2.5 (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 0.22 | 0.95 | 0.56 | 0.86 |
| Lowell Area, MA | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.01 | 0.02 | 0.01 | 0.02 |
| Lucas County (part), OH | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Madison County; Granite City Township and Nameoki Township, IL | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.01 | 0.01 | 0.01 |
| Manchester Area, NH | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Maricopa and Pinal Counties; Phoenix planning area, AZ | PM10 (1987 24-hour) | Nonattainment, Serious | 70 | 0 | 0.07 | 0.28 | 0.18 | 0.27 |
| Marion County; Lawrence, Washington, and Warrant Townships, IN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Mariposa County, CA | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Marshall, WV | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.01 | 0.01 | 0.01 |
| Medford Area, OR | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.01 | 0.02 | 0.02 | 0.02 |
| Memphis Area, TN | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.04 | 0.12 | 0.08 | 0.12 |

Table A1-76
Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Cumulative Impacts
Benzene 2050

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|---|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Memphis, TN-MS-AR | Ozone (2008 8-hour) | Nonattainment TN & Maintenance MS/AR, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Miami, AZ | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Miami, AZ | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Miami, AZ | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Milwaukee-Racine, WI | PM2.5 (2006 24-hour) | Maintenance, -- | 100 | 0 | 0.03 | 0.11 | 0.08 | 0.11 |
| Minneapolis-St. Paul Area, MN | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.36 | 0.97 | 0.76 | 1.07 |
| Missoula Area, MT | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.01 | 0.03 | 0.02 | 0.03 |
| Missoula county; Missoula and vicinity, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.01 | 0.03 | 0.02 | 0.03 |
| Modesto Area, CA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.01 | 0.02 | 0.02 | 0.03 |
| Mohave County (part); Bullhead City, AZ | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.01 | 0.02 | 0.01 | 0.02 |
| Mono County; Mammoth Lake planning area, CA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Mono County; Mono Basin, CA | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Morenci, AZ | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Morgan County, IN | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Morongo Band of Mission Indians | Ozone (2008 8-hour) | Nonattainment, Serious | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Morristown Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Muscatine County; (part), IA | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Muscatine, IA | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.01 | 0.01 | 0.01 | 0.02 |
| Muskingum River, OH | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Nashua Area, NH | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Nassau County, FL | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Nevada County (Western part), CA | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| New Haven County, CT | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |

Appendix A Air Quality Non-Attainment Area Results

Table A1-76

Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Cumulative Impacts

Benzene 2050

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| New Haven-Meriden-Waterbury Area, CT | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.03 | 0.09 | 0.06 | 0.09 |
| New Manchester-Grant magisterial district in Hancock County, WV | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| New York County, NY | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.04 | 0.10 | 0.08 | 0.11 |
| New York, NY-NJ-CT | PM2.5 (2006 24-hour) | Maintenance, -- | 100 | 0 | 0.60 | 1.91 | 1.35 | 1.96 |
| New York-N. New Jersey-Long Island Area, NY-NJ-CT | CO (1971 8-hour) | Maintenance, Moderate > 12.7ppm | 100 | 0 | 0.37 | 1.14 | 0.81 | 1.18 |
| New York-N. New Jersey-Long Island, NY-NJ-CT | Ozone (2008 8-hour) | Nonattainment, Moderate | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| NJ portion of the Northeast Pennsylvania-Upper Delaware Valley Interstate AQCR: (part), NJ | SO ₂ (1971 24-hour/Annual) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Nogales, AZ | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.01 | 0.01 | 0.01 |
| Oakridge, OR | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Ogden Area, UT | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.01 | 0.00 | 0.01 |
| Ogden Area, UT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.01 | 0.00 | 0.01 |
| Olmsted County; (part), MN | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.01 | 0.01 | 0.01 |
| Olmsted; City of Rochester, MN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |

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Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Cumulative Impacts

Benzene 2050

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Pechanga Band of Luiseno Mission Indians of the Pechanga Reservation | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Pekin, IL | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Penns Grove Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Peoria County: Hollis Twp, IL | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Peoria County: Peoria, IL | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Perth Amboy Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.01 | 0.01 | 0.01 |
| Philadelphia-Camden County Area, PA-NJ | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.28 | 0.71 | 0.57 | 0.80 |
| Philadelphia-Wilmington, PA-NJ-DE | PM _{2.5} (2006 24-hour) | Maintenance, Moderate for PA and DE Subject to Former Subpart 1 for NJ | 100 | 0 | 0.44 | 1.21 | 0.94 | 1.34 |
| Philadelphia-Wilmington-Atlantic City, PA-NJ-MD-DE | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Phoenix Area, AZ | CO (1971 8-hour) | Maintenance, Serious | 100 | 0 | 0.07 | 0.27 | 0.17 | 0.26 |
| Phoenix-Mesa, AZ | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Pierce County; Tacoma, WA | PM ₁₀ (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.01 | 0.01 | 0.01 |
| Pima County; Ajo planning area, AZ | PM ₁₀ (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Pima County; Rillito planning area, AZ | PM ₁₀ (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.01 | 0.01 | 0.01 | 0.02 |
| Pinal and Gila Counties; Payson, AZ | PM ₁₀ (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.01 | 0.01 | 0.01 |
| Pinal County (part); West Pinal, AZ | PM ₁₀ (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.02 | 0.05 | 0.03 | 0.05 |
| Pitkin County; Aspen, CO | PM ₁₀ (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.01 | 0.01 | 0.01 |
| Pittsburgh Area, PA | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.01 | 0.02 | 0.02 | 0.02 |
| Pittsburgh-Beaver Valley, PA | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Pittsburgh-Beaver Valley, PA | PM _{2.5} (2006 24-hour) | Maintenance, Moderate | 100 | 0 | 0.07 | 0.21 | 0.15 | 0.22 |
| Plumas County, CA | PM _{2.5} (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Polk County, TN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |

Appendix A Air Quality Non-Attainment Area Results

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Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Cumulative Impacts

Benzene 2050

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|-------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Portland Area: Portland Metro Service District Boundary, OR | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.03 | 0.11 | 0.08 | 0.11 |
| Power-Bannock Counties; Fort Hall Indian Reservation, ID | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Power-Bannock Counties; Portneuf Valley Area, ID | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.01 | 0.04 | 0.03 | 0.04 |
| Provo Area, UT | CO (1971 8-hour) | Maintenance, Moderate > 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Provo, UT | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.01 | 0.03 | 0.02 | 0.03 |
| Prowers County; Lamar, CO | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Raleigh-Durham Area, NC | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.05 | 0.17 | 0.12 | 0.17 |
| Ramsey County; (part), MN | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Reading, PA | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Reno Area, NV | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.02 | 0.05 | 0.03 | 0.05 |
| Rhinelander, WI | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.01 | 0.02 | 0.02 | 0.03 |
| Riverside County (Coachella Valley), CA | Ozone (2008 8-hour) | Nonattainment, Severe 15 | 25 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Riverside County; Coachella Valley planning area, CA | PM10 (1987 24-hour) | Nonattainment, Serious | 70 | 0 | 0.00 | 0.02 | 0.01 | 0.02 |
| Riverside, Los Angeles, Orange, and San Bernardino Counties; South Coast Air Basin, CA | PM10 (1987 24-hour) | Maintenance, Serious | 100 | 0 | 0.22 | 0.95 | 0.56 | 0.86 |
| Rosebud County; Lame Deer, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.01 | 0.01 | 0.01 |
| Routt County (part); Steamboat Springs, CO | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.01 | 0.01 | 0.01 |
| Sacramento Area, CA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.02 | 0.08 | 0.04 | 0.07 |
| Sacramento County, CA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.01 | 0.07 | 0.04 | 0.06 |
| Sacramento Metro, CA | Ozone (2008 8-hour) | Nonattainment, Severe 15 | 25 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Sacramento, CA | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.03 | 0.14 | 0.08 | 0.12 |
| Salem Area, OR | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.01 | 0.04 | 0.03 | 0.04 |
| Salt Lake City Area, UT | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.02 | 0.06 | 0.05 | 0.07 |
| Salt Lake City, UT | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.08 | 0.25 | 0.18 | 0.27 |

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Benzene 2050

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|---|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Salt Lake County, UT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.04 | 0.12 | 0.08 | 0.12 |
| Salt Lake County, UT | SO ₂ (1971 24-hour/Annual) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| San Bernardino County (part); excluding Searles Valley Planning area and South Coast Air Basin, CA | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.01 | 0.03 | 0.02 | 0.02 |
| San Diego Area, CA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.09 | 0.31 | 0.21 | 0.31 |
| San Diego County, CA | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| San Francisco Bay Area, CA | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| San Francisco Bay Area, CA | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.18 | 0.62 | 0.42 | 0.62 |
| San Francisco-Oakland-San Jose Area, CA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.17 | 0.59 | 0.40 | 0.59 |
| San Joaquin Valley Air Basin; Fresno, Kern, Kings, Madera, Merced, San Joaquin, Stanislaus, Tulare Counties, CA | PM10 (1987 24-hour) | Maintenance, Serious | 100 | 0 | 0.14 | 0.47 | 0.32 | 0.47 |
| San Joaquin Valley, CA | Ozone (2008 8-hour) | Nonattainment, Extreme | 10 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| San Joaquin Valley, CA | PM2.5 (2006 24-hour) | Nonattainment, Serious | 100 | 0 | 0.14 | 0.47 | 0.32 | 0.47 |
| San Joaquin Valley, CA | PM2.5 (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 0.14 | 0.47 | 0.32 | 0.47 |
| San Luis Obispo (Eastern San Luis Obispo), CA | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| San Manuel, AZ | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| San Miguel County; Telluride, CO | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Sanders County (part); Thompson Falls and vicinity, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Santa Cruz County; Nogales planning area, AZ | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.01 | 0.01 | 0.01 |
| Seaford, DE | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Seattle-Tacoma Area, WA | CO (1971 8-hour) | Maintenance, Moderate > 12.7ppm | 100 | 0 | 0.24 | 0.66 | 0.51 | 0.72 |
| Seattle-Tacoma, WA | PM2.5 (2006 24-hour) | Maintenance, Moderate | 100 | 0 | 0.04 | 0.12 | 0.10 | 0.14 |
| Sheboygan County, WI | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |

Appendix A Air Quality Non-Attainment Area Results

Table A1-76

Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Cumulative Impacts

Benzene 2050

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|---|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Sheridan County; City of Sheridan, WY | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.01 | 0.01 | 0.01 | 0.02 |
| Shoshone County (part); excluding Pinehurst, ID | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.01 | 0.01 | 0.01 |
| Shoshone County; City of Pinehurst, ID | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Silver Bow County; Butte, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.01 | 0.01 | 0.01 |
| Somerville Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Southwest Indiana, IN | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Spokane Area, WA | CO (1971 8-hour) | Maintenance, Serious | 100 | 0 | 0.02 | 0.06 | 0.04 | 0.06 |
| Spokane County; (part), WA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.02 | 0.06 | 0.05 | 0.07 |
| Springfield Area, MA | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.01 | 0.02 | 0.01 | 0.02 |
| St. Bernard Parish, LA | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.05 | 0.13 | 0.11 | 0.15 |
| St. Louis Area, MO | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.12 | 0.32 | 0.26 | 0.36 |
| St. Louis-St. Charles-Farmington, MO-IL | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Steubenville, OH-WV | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.01 | 0.03 | 0.02 | 0.03 |
| Steubenville-Weirton, OH-WV | PM2.5 (2006 24-hour) | Maintenance, -- | 100 | 0 | 0.02 | 0.05 | 0.04 | 0.06 |
| Stockton Area, CA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.02 | 0.06 | 0.04 | 0.06 |
| Sullivan County, TN | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.01 | 0.01 | 0.01 |
| Syracuse Area; Onondaga County, NY | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.05 | 0.13 | 0.10 | 0.14 |
| Tazewell County; Groveland Twp, IL | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Terre Haute, IN | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.01 | 0.01 | 0.01 | 0.02 |

Table A1-76
Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Cumulative Impacts
Benzene 2050

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|---|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Thurston County; Cities of Olympia, Tumwater, and Lacey, WA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.01 | 0.02 | 0.01 | 0.02 |
| Toms River Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Tooele County (part), UT | SO ₂ (1971 24-hour/Annual) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Trenton Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.01 | 0.00 | 0.01 |
| Trona, CA | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Tucson Area, AZ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.06 | 0.18 | 0.14 | 0.19 |
| Tuscan Buttes, CA | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Union County; LaGrande, OR | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.01 | 0.01 | 0.01 |
| Upper Green River Basin Area, WY | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Utah County, UT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.01 | 0.03 | 0.02 | 0.03 |
| Vancouver Area: Clark County (part), WA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.02 | 0.06 | 0.04 | 0.06 |
| Ventura County, CA | Ozone (2008 8-hour) | Nonattainment, Serious | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Vermillion County; Part of Clinton Township, IN | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Vigo County, IN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Walla Walla County; Wallula, WA | PM10 (1987 24-hour) | Maintenance, Serious | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Waltham Area, MA | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.01 | 0.01 | 0.01 |
| Warren County: Conewago Twp, PA | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Warren County: Warren Boro, Pleasant Twp, Glade Twp, PA | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Warren, PA | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.01 | 0.01 | 0.01 |
| Washington Area, DC-MD-VA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.01 | 0.05 | 0.03 | 0.05 |
| Washington, DC-MD-VA | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Washoe County; Reno planning area, NV | PM10 (1987 24-hour) | Nonattainment, Serious | 70 | 0 | 0.02 | 0.05 | 0.03 | 0.05 |

Appendix A Air Quality Non-Attainment Area Results

Table A1-76

Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Cumulative Impacts

Benzene 2050

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|---|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Wayne County: Boston, Center, Franklin, Wayne & Webster Townships, IN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Wayne County; (part), MI | PM ₁₀ (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.01 | 0.02 | 0.02 | 0.02 |
| West Central Pinal County, AZ | PM _{2.5} (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.01 | 0.01 | 0.01 |
| West Silver Valley, ID | PM _{2.5} (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Winston-Salem Area, NC | CO (1971 8-hour) | Maintenance, Moderate ≤ 12.7ppm | 100 | 0 | 0.01 | 0.04 | 0.03 | 0.04 |
| Worcester Area, MA | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.01 | 0.03 | 0.02 | 0.03 |
| Yakima Area, WA | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.01 | 0.01 | 0.01 |
| Yakima County; (part), WA | PM ₁₀ (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.01 | 0.03 | 0.03 | 0.04 |
| Yuba City-Marysville, CA | PM _{2.5} (2006 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.01 | 0.01 | 0.01 |
| Yuma County; Yuma planning area, AZ | PM ₁₀ (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.01 | 0.04 | 0.03 | 0.04 |

^a Reductions are shown as positive values. Negative values are emissions increases. Values of less than 0.005 tons per year are rounded to zero.

^b Nonattainment or maintenance status as of 5/13/2016. Source: U.S. EPA, The Green Book Nonattainment Areas for Criteria Pollutants; <http://www.epa.gov/airquality/greenbook/>. "--" indicates that no severity classification has been established for the NAAQS pollutant.

^c Emissions thresholds in tons per year. Where the threshold differs by precursor pollutant, the smallest of the precursor thresholds is shown. These thresholds are provided for information only; a general conformity determination is not required for the Proposed Action. Source: 40 CFR 93.853.

Notes: CO = carbon monoxide; NAAQS = National Ambient Air Quality Standards; NO₂ = nitrogen dioxide; PM = particulate matter; SO₂ = sulfur dioxide

Table A1-77
Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Cumulative Impacts
1,3-Butadiene 2018

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Ada County; Boise, ID | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Adams, Denver, and Boulder Counties; Denver Metropolitan area, CO | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Ajo, AZ | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Albuquerque Area, NM | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Allegheny County Air Basin: Hazelwood monitor, PA | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Allegheny County, PA | PM2.5 (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Allegheny County; The area including Liberty, Lincoln, Port Vue, and Glassport Boroughs and the City of Clairton, PA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Allegheny, PA | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Allentown, PA | PM2.5 (2006 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Allentown-Bethlehem-Easton, PA | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Anchorage Area, AK | CO (1971 8-hour) | Maintenance, Serious | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Anchorage; Eagle River, AK | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| AQCR 012: Portions of Grant County, NM | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| AQCR 109-Millinocket, ME | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| AQCR 131: Anoka, Carver, Dakota, Hennepin, Ramsey, Scott, and Washington counties (Minneapolis-St. Paul), MN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| AQCR 237: Brown County: Green Bay sub-city area, WI | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| AQCR 238: Marathon County: Rothschild Sub-city area, Rib Mountain, Weston, WI | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| AQCR 238: Oneida County: Rhinelander Sub-city area, WI | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| AQCR 239: Milwaukee County: Milwaukee sub-city area, WI | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |

Appendix A Air Quality Non-Attainment Area Results

Table A1-77

Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Cumulative Impacts

1,3-Butadiene 2018

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| AQCR 240: Dane County: Madison sub-city area, WI | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Archuleta County; Pagosa Springs, CO | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Armstrong County: Madison Twp, Mahoning Twp, Boggs Twp, Washington Twp, Pine Twp, PA | SO ₂ (1971 24-hour/Annual) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Aroostock County; City of Presque Isle, ME | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Atlanta, GA | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Atlantic City Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Bakersfield Area, CA | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Baltimore Area, MD | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Baltimore, MD | Ozone (2008 8-hour) | Nonattainment, Moderate | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Baton Rouge, LA | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Beaver, PA | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Benton County; (part) TVA Johnsonville, TN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Billings Area, MT | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Billings, MT | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Birmingham, AL | PM2.5 (2006 24-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Boise-Northern Ada County Area, ID | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Bonner County; The Sandpoint Area, ID | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Boston Area, MA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Boyd County (part), KY | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Brooke; Follansbee area, WV | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Burlington Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Calaveras County, CA | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Campbell-Clermont Counties, KY-OH | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |

Table A1-77

Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Cumulative Impacts

1,3-Butadiene 2018

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|---|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Canton-Massillon, OH | PM2.5 (2006 24-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Central New Hampshire, NH | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Central Steptoe Valley, NV | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Charleston, WV | PM2.5 (2006 24-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Charlotte Area, NC | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Charlotte-Rock Hill, NC-SC | Ozone (2008 8-hour) | Maintenance, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Chicago-Naperville, IL-IN-WI | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Chico (Butte County), CA | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Chico Area, CA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Chico, CA | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Cincinnati, OH-KY-IN | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Clark County; Las Vegas planning area, NV | PM10 (1987 24-hour) | Maintenance, Serious | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Cleveland Area, OH | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Cleveland, OH | PM2.5 (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Cleveland-Akron-Lorain, OH | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Cleveland-Akron-Lorain, OH | PM2.5 (2006 24-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Cochise County; Paul Spur/Douglas planning area, AZ | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Colorado Springs Area, CO | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Columbus, OH | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Cook County; Lyons Township, IL | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Cook County; Southeast Chicago, IL | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Coshocton County; Franklin Township, OH | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Coso Junction, CA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Cuyahoga County (part), OH | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Cuyahoga County, OH | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |

Appendix A Air Quality Non-Attainment Area Results

Table A1-77

Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Cumulative Impacts

1,3-Butadiene 2018

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Dallas-Fort Worth, TX | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Delaware County, PA | PM2.5 (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Denver-Boulder Area, CO | CO (1971 8-hour) | Maintenance, Serious | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Denver-Boulder-Greeley-Ft Collins-Loveland, CO | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Detroit Area, MI | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Detroit, MI | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Detroit-Ann Arbor, MI | PM2.5 (2006 24-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Dona Ana County; Anthony, NM | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Douglas, AZ | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Dukes County, MA | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Duluth Area, MN | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| East Chicago Area, IN | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| East Helena Area, MT | SO ₂ (1971 24-hour/Annual) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| East Kern County Area, CA | PM10 (1987 24-hour) | Nonattainment, Serious | 70 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| El Paso County, TX | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| El Paso, TX | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Eugene-Springfield Area, OR | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Fairbanks Area, AK | CO (1971 8-hour) | Maintenance, Serious | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Fairbanks, AK | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |

Table A1-77
Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Cumulative Impacts
1,3-Butadiene 2018

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|---|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Flathead County; Columbia Falls and vicinity, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Flathead County; Kalispell and vicinity, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Flathead County; Whitefish and vicinity, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Fort Collins Area, CO | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Freehold Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Fremont County; Canon City Area, CO | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Fresno Area, CA | CO (1971 8-hour) | Maintenance, Moderate > 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Grants Pass Area, OR | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Great Falls Area, MT | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Greater Connecticut, CT | Ozone (2008 8-hour) | Nonattainment, Moderate | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Greeley Area, CO | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Hancock and Brooke Counties (Part); The city of Weirton, WV | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Hancock County (Part) The city of Weirton, including Butler and Clay: Magisterial Districts, WV | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Harrisburg-Lebanon-Carlisle-York, PA | PM2.5 (2006 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Hartford-New Britain-Middletown Area, CT | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Hayden, AZ | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Hayden, AZ | SO ₂ (1971 24-hour/Annual) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Hayden, AZ | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Hillsborough County, FL | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Houston-Galveston-Brazoria, TX | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Humphreys County; (part) TVA Johnsonville, TN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Imperial Co, CA | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |

Appendix A Air Quality Non-Attainment Area Results

Table A1-77

Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Cumulative Impacts

1,3-Butadiene 2018

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Imperial County, CA | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Imperial County, CA | PM2.5 (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Imperial County; Imperial Valley planning area, CA | PM10 (1987 24-hour) | Nonattainment, Serious | 70 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Indian Wells, CA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Indiana, PA | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Indianapolis Area, IN | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Indianapolis, IN | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Inyo County; Owens Valley planning area, CA | PM10 (1987 24-hour) | Nonattainment, Serious | 70 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Jackson County, MO | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Jackson County; Medford-Ashland (including White City), OR | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Jamestown, NY | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Jefferson County, KY | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Jefferson County, MO | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Jefferson County; (part) Steubenville & Mingo Junction, OH | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Jefferson County; (part), OH | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Johnstown, PA | PM2.5 (2006 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Josephine County; Grants Pass, OR | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Juneau; Mendenhall Valley area, AK | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Kern County (Eastern Kern), CA | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| King County; Kent, WA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| King County; Seattle, WA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Klamath County; Klamath Falls, OR | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Klamath Falls Area, OR | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Klamath Falls, OR | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |

Table A1-77
Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Cumulative Impacts
1,3-Butadiene 2018

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Knoxville, TN | Ozone (2008 8-hour) | Maintenance, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Knoxville-Sevierville-La Follette, TN | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| La Porte County: (part), IN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lake County (part); Lakeview, OR | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lake County, OH | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lake County: (part), IN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lake County; (part) Eastlake, Timberlake, Lakeline, Willoughby, Mentor, OH | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lake County; Cities of East Chicago, Hammond, Whiting, and Gary, IN | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lake County; Polson, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lake County; Ronan, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lake Tahoe Nevada Area, NV | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lake Tahoe North Shore Area, CA | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lake Tahoe South Shore Area, CA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lancaster, PA | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lancaster, PA | PM2.5 (2006 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lane County (part); Oakridge, OR | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lane County; Eugene/Springfield, OR | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Las Vegas Area, NV | CO (1971 8-hour) | Maintenance, Serious | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| LaSalle County; Oglesby, IL | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Laurel Area, MT | SO ₂ (1971 24-hour/Annual) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lebanon County, PA | PM2.5 (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lemont, IL | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Liberty-Clairton, PA | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |

Appendix A Air Quality Non-Attainment Area Results

Table A1-77

Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Cumulative Impacts

1,3-Butadiene 2018

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Lincoln County; Libby and vicinity, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Logan, UT-ID | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Longmont Area, CO | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lorain County (part), OH | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Los Angeles, CA | PM2.5 (2006 24-hour) | Nonattainment, Serious | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Los Angeles-San Bernardino Counties (West Mojave Desert), CA | Ozone (2008 8-hour) | Nonattainment, Severe 15 | 25 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Los Angeles-South Coast Air Basin Area, CA | CO (1971 8-hour) | Maintenance, Serious | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Los Angeles-South Coast Air Basin Area, CA | NO ₂ (1971 Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Los Angeles-South Coast Air Basin, CA | Ozone (2008 8-hour) | Nonattainment, Extreme | 10 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Los Angeles-South Coast Air Basin, CA | PM2.5 (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lowell Area, MA | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lucas County (part), OH | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Madison County; Granite City Township and Nameoki Township, IL | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Manchester Area, NH | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Maricopa and Pinal Counties; Phoenix planning area, AZ | PM10 (1987 24-hour) | Nonattainment, Serious | 70 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Marion County; Lawrence, Washington, and Warrant Townships, IN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Mariposa County, CA | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Marshall, WV | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Medford Area, OR | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Memphis Area, TN | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |

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1,3-Butadiene 2018

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|---|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Memphis, TN-MS-AR | Ozone (2008 8-hour) | Nonattainment TN & Maintenance MS/AR, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Miami, AZ | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Miami, AZ | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Miami, AZ | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Milwaukee-Racine, WI | PM2.5 (2006 24-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Minneapolis-St. Paul Area, MN | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Missoula Area, MT | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Missoula county; Missoula and vicinity, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Modesto Area, CA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Mohave County (part); Bullhead City, AZ | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Mono County; Mammoth Lake planning area, CA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Mono County; Mono Basin, CA | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Morenci, AZ | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Morgan County, IN | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Morongo Band of Mission Indians | Ozone (2008 8-hour) | Nonattainment, Serious | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Morristown Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Muscatine County; (part), IA | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Muscatine, IA | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Muskingum River, OH | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Nashua Area, NH | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Nassau County, FL | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Nevada County (Western part), CA | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| New Haven County, CT | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |

Appendix A Air Quality Non-Attainment Area Results

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1,3-Butadiene 2018

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| New Haven-Meriden-Waterbury Area, CT | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| New Manchester-Grant magisterial district in Hancock County, WV | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| New York County, NY | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| New York, NY-NJ-CT | PM2.5 (2006 24-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| New York-N. New Jersey-Long Island Area, NY-NJ-CT | CO (1971 8-hour) | Maintenance, Moderate > 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| New York-N. New Jersey-Long Island, NY-NJ-CT | Ozone (2008 8-hour) | Nonattainment, Moderate | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| NJ portion of the Northeast Pennsylvania-Upper Delaware Valley Interstate AQCR: (part), NJ | SO ₂ (1971 24-hour/Annual) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Nogales, AZ | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Oakridge, OR | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Ogden Area, UT | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Ogden Area, UT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Olmsted County; (part), MN | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Olmsted; City of Rochester, MN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |

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Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Cumulative Impacts
1,3-Butadiene 2018

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Pechanga Band of Luiseno Mission Indians of the Pechanga Reservation | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Pekin, IL | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Penns Grove Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Peoria County: Hollis Twp, IL | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Peoria County: Peoria, IL | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Perth Amboy Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Philadelphia-Camden County Area, PA-NJ | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Philadelphia-Wilmington, PA-NJ-DE | PM _{2.5} (2006 24-hour) | Maintenance, Moderate for PA and DE Subject to Former Subpart 1 for NJ | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Philadelphia-Wilmington-Atlantic City, PA-NJ-MD-DE | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Phoenix Area, AZ | CO (1971 8-hour) | Maintenance, Serious | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Phoenix-Mesa, AZ | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Pierce County; Tacoma, WA | PM ₁₀ (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Pima County; Ajo planning area, AZ | PM ₁₀ (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Pima County; Rillito planning area, AZ | PM ₁₀ (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Pinal and Gila Counties; Payson, AZ | PM ₁₀ (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Pinal County (part); West Pinal, AZ | PM ₁₀ (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Pitkin County; Aspen, CO | PM ₁₀ (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Pittsburgh Area, PA | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Pittsburgh-Beaver Valley, PA | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Pittsburgh-Beaver Valley, PA | PM _{2.5} (2006 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Plumas County, CA | PM _{2.5} (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Polk County, TN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |

Appendix A Air Quality Non-Attainment Area Results

Table A1-77

Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Cumulative Impacts

1,3-Butadiene 2018

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|-------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Portland Area: Portland Metro Service District Boundary, OR | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Power-Bannock Counties; Fort Hall Indian Reservation, ID | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Power-Bannock Counties; Portneuf Valley Area, ID | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Provo Area, UT | CO (1971 8-hour) | Maintenance, Moderate > 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Provo, UT | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Prowers County; Lamar, CO | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Raleigh-Durham Area, NC | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Ramsey County; (part), MN | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Reading, PA | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Reno Area, NV | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Rhinelander, WI | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Riverside County (Coachella Valley), CA | Ozone (2008 8-hour) | Nonattainment, Severe 15 | 25 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Riverside County; Coachella Valley planning area, CA | PM10 (1987 24-hour) | Nonattainment, Serious | 70 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Riverside, Los Angeles, Orange, and San Bernardino Counties; South Coast Air Basin, CA | PM10 (1987 24-hour) | Maintenance, Serious | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Rosebud County; Lame Deer, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Routt County (part); Steamboat Springs, CO | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Sacramento Area, CA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Sacramento County, CA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Sacramento Metro, CA | Ozone (2008 8-hour) | Nonattainment, Severe 15 | 25 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Sacramento, CA | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Salem Area, OR | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Salt Lake City Area, UT | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Salt Lake City, UT | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |

Table A1-77

Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Cumulative Impacts

1,3-Butadiene 2018

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|---|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Salt Lake County, UT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Salt Lake County, UT | SO ₂ (1971 24-hour/Annual) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| San Bernardino County (part); excluding Searles Valley Planning area and South Coast Air Basin, CA | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| San Diego Area, CA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| San Diego County, CA | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| San Francisco Bay Area, CA | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| San Francisco Bay Area, CA | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| San Francisco-Oakland-San Jose Area, CA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| San Joaquin Valley Air Basin; Fresno, Kern, Kings, Madera, Merced, San Joaquin, Stanislaus, Tulare Counties, CA | PM10 (1987 24-hour) | Maintenance, Serious | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| San Joaquin Valley, CA | Ozone (2008 8-hour) | Nonattainment, Extreme | 10 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| San Joaquin Valley, CA | PM2.5 (2006 24-hour) | Nonattainment, Serious | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| San Joaquin Valley, CA | PM2.5 (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| San Luis Obispo (Eastern San Luis Obispo), CA | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| San Manuel, AZ | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| San Miguel County; Telluride, CO | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Sanders County (part); Thompson Falls and vicinity, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Santa Cruz County; Nogales planning area, AZ | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Seaford, DE | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Seattle-Tacoma Area, WA | CO (1971 8-hour) | Maintenance, Moderate > 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Seattle-Tacoma, WA | PM2.5 (2006 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Sheboygan County, WI | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |

Appendix A Air Quality Non-Attainment Area Results

Table A1-77

Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Cumulative Impacts

1,3-Butadiene 2018

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|---|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Sheridan County; City of Sheridan, WY | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Shoshone County (part); excluding Pinehurst, ID | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Shoshone County; City of Pinehurst, ID | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Silver Bow County; Butte, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Somerville Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Southwest Indiana, IN | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Spokane Area, WA | CO (1971 8-hour) | Maintenance, Serious | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Spokane County; (part), WA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Springfield Area, MA | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| St. Bernard Parish, LA | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| St. Louis Area, MO | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| St. Louis-St. Charles-Farmington, MO-IL | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Steubenville, OH-WV | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Steubenville-Weirton, OH-WV | PM2.5 (2006 24-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Stockton Area, CA | CO (1971 8-hour) | Maintenance, Moderate ≤ 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Sullivan County, TN | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Syracuse Area; Onondaga County, NY | CO (1971 8-hour) | Maintenance, Moderate ≤ 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Tazewell County; Groveland Twp, IL | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Terre Haute, IN | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |

Table A1-77
Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Cumulative Impacts
1,3-Butadiene 2018

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|---|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Thurston County; Cities of Olympia, Tumwater, and Lacey, WA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Toms River Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Tooele County (part), UT | SO ₂ (1971 24-hour/Annual) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Trenton Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Trona, CA | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Tucson Area, AZ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Tuscan Buttes, CA | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Union County; LaGrande, OR | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Upper Green River Basin Area, WY | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Utah County, UT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Vancouver Area: Clark County (part), WA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Ventura County, CA | Ozone (2008 8-hour) | Nonattainment, Serious | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Vermillion County; Part of Clinton Township, IN | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Vigo County, IN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Walla Walla County; Wallula, WA | PM10 (1987 24-hour) | Maintenance, Serious | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Waltham Area, MA | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Warren County: Conewago Twp, PA | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Warren County: Warren Boro, Pleasant Twp, Glade Twp, PA | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Warren, PA | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Washington Area, DC-MD-VA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Washington, DC-MD-VA | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Washoe County; Reno planning area, NV | PM10 (1987 24-hour) | Nonattainment, Serious | 70 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |

Appendix A Air Quality Non-Attainment Area Results

Table A1-77

**Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Cumulative Impacts
1,3-Butadiene 2018**

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|---|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Wayne County: Boston, Center, Franklin, Wayne & Webster Townships, IN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Wayne County; (part), MI | PM ₁₀ (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| West Central Pinal County, AZ | PM _{2.5} (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| West Silver Valley, ID | PM _{2.5} (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Winston-Salem Area, NC | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Worcester Area, MA | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Yakima Area, WA | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Yakima County; (part), WA | PM ₁₀ (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Yuba City-Marysville, CA | PM _{2.5} (2006 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Yuma County; Yuma planning area, AZ | PM ₁₀ (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |

^a Reductions are shown as positive values. Negative values are emissions increases. Values of less than 0.005 tons per year are rounded to zero.

^b Nonattainment or maintenance status as of 5/13/2016. Source: U.S. EPA, The Green Book Nonattainment Areas for Criteria Pollutants; <http://www.epa.gov/airquality/greenbook/>. "--" indicates that no severity classification has been established for the NAAQS pollutant.

^c Emissions thresholds in tons per year. Where the threshold differs by precursor pollutant, the smallest of the precursor thresholds is shown. These thresholds are provided for information only; a general conformity determination is not required for the Proposed Action. Source: 40 CFR 93.853.

Notes: CO = carbon monoxide; NAAQS = National Ambient Air Quality Standards; NO₂ = nitrogen dioxide; PM = particulate matter; SO₂ = sulfur dioxide

Table A1-78
Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Cumulative Impacts
1,3-Butadiene 2025

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Ada County; Boise, ID | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Adams, Denver, and Boulder Counties; Denver Metropolitan area, CO | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | -0.01 | -0.01 | -0.02 |
| Ajo, AZ | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Albuquerque Area, NM | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | -0.01 | -0.01 |
| Allegheny County Air Basin: Hazelwood monitor, PA | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Allegheny County, PA | PM2.5 (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | -0.01 | -0.01 |
| Allegheny County; The area including Liberty, Lincoln, Port Vue, and Glassport Boroughs and the City of Clairton, PA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Allegheny, PA | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Allentown, PA | PM2.5 (2006 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | -0.01 |
| Allentown-Bethlehem-Easton, PA | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Anchorage Area, AK | CO (1971 8-hour) | Maintenance, Serious | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Anchorage; Eagle River, AK | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| AQCR 012: Portions of Grant County, NM | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| AQCR 109-Millinocket, ME | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| AQCR 131: Anoka, Carver, Dakota, Hennepin, Ramsey, Scott, and Washington counties (Minneapolis-St. Paul), MN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| AQCR 237: Brown County: Green Bay sub-city area, WI | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| AQCR 238: Marathon County: Rothschild Sub-city area, Rib Mountain, Weston, WI | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| AQCR 238: Oneida County: Rhinelander Sub-city area, WI | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| AQCR 239: Milwaukee County: Milwaukee sub-city area, WI | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |

Appendix A Air Quality Non-Attainment Area Results

Table A1-78

Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Cumulative Impacts

1,3-Butadiene 2025

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| AQCR 240: Dane County: Madison sub-city area, WI | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Archuleta County; Pagosa Springs, CO | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Armstrong County: Madison Twp, Mahoning Twp, Boggs Twp, Washington Twp, Pine Twp, PA | SO ₂ (1971 24-hour/Annual) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Aroostock County; City of Presque Isle, ME | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Atlanta, GA | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Atlantic City Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Bakersfield Area, CA | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | -0.01 |
| Baltimore Area, MD | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Baltimore, MD | Ozone (2008 8-hour) | Nonattainment, Moderate | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Baton Rouge, LA | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Beaver, PA | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Benton County; (part) TVA Johnsonville, TN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Billings Area, MT | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.01 | 0.02 | 0.02 | 0.03 |
| Billings, MT | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.01 | 0.02 | 0.02 | 0.03 |
| Birmingham, AL | PM2.5 (2006 24-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | -0.01 | -0.01 |
| Boise-Northern Ada County Area, ID | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Bonner County; The Sandpoint Area, ID | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Boston Area, MA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | -0.01 | -0.01 |
| Boyd County (part), KY | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Brooke; Follansbee area, WV | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Burlington Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Calaveras County, CA | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Campbell-Clermont Counties, KY-OH | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |

Table A1-78
Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Cumulative Impacts
1,3-Butadiene 2025

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|---|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Canton-Massillon, OH | PM2.5 (2006 24-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Central New Hampshire, NH | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Central Steptoe Valley, NV | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Charleston, WV | PM2.5 (2006 24-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Charlotte Area, NC | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | -0.01 | -0.01 |
| Charlotte-Rock Hill, NC-SC | Ozone (2008 8-hour) | Maintenance, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Chicago-Naperville, IL-IN-WI | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Chico (Butte County), CA | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Chico Area, CA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Chico, CA | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Cincinnati, OH-KY-IN | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Clark County; Las Vegas planning area, NV | PM10 (1987 24-hour) | Maintenance, Serious | 100 | 0 | 0.00 | -0.01 | -0.01 | -0.02 |
| Cleveland Area, OH | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | -0.01 | -0.01 |
| Cleveland, OH | PM2.5 (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | -0.01 | -0.01 |
| Cleveland-Akron-Lorain, OH | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Cleveland-Akron-Lorain, OH | PM2.5 (2006 24-hour) | Maintenance, -- | 100 | 0 | -0.01 | -0.01 | -0.02 | -0.03 |
| Cochise County; Paul Spur/Douglas planning area, AZ | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Colorado Springs Area, CO | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | -0.01 |
| Columbus, OH | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Cook County; Lyons Township, IL | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Cook County; Southeast Chicago, IL | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Coshocton County; Franklin Township, OH | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Coso Junction, CA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Cuyahoga County (part), OH | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Cuyahoga County, OH | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | -0.01 | -0.01 |

Appendix A Air Quality Non-Attainment Area Results

Table A1-78

Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Cumulative Impacts

1,3-Butadiene 2025

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Dallas-Fort Worth, TX | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Delaware County, PA | PM2.5 (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Denver-Boulder Area, CO | CO (1971 8-hour) | Maintenance, Serious | 100 | 0 | -0.01 | -0.01 | -0.02 | -0.03 |
| Denver-Boulder-Greeley-Ft Collins-Loveland, CO | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Detroit Area, MI | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.02 | 0.01 | 0.01 |
| Detroit, MI | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.01 | 0.02 | 0.02 | 0.03 |
| Detroit-Ann Arbor, MI | PM2.5 (2006 24-hour) | Maintenance, -- | 100 | 0 | -0.01 | 0.00 | -0.02 | -0.02 |
| Dona Ana County; Anthony, NM | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Douglas, AZ | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Dukes County, MA | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Duluth Area, MN | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| East Chicago Area, IN | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.01 | 0.02 | 0.02 | 0.03 |
| East Helena Area, MT | SO ₂ (1971 24-hour/Annual) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| East Kern County Area, CA | PM10 (1987 24-hour) | Nonattainment, Serious | 70 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| El Paso County, TX | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| El Paso, TX | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Eugene-Springfield Area, OR | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Fairbanks Area, AK | CO (1971 8-hour) | Maintenance, Serious | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Fairbanks, AK | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |

Table A1-78
Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Cumulative Impacts
1,3-Butadiene 2025

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|---|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Flathead County; Columbia Falls and vicinity, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Flathead County; Kalispell and vicinity, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Flathead County; Whitefish and vicinity, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Fort Collins Area, CO | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Freehold Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Fremont County; Canon City Area, CO | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Fresno Area, CA | CO (1971 8-hour) | Maintenance, Moderate > 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | -0.01 |
| Grants Pass Area, OR | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Great Falls Area, MT | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Greater Connecticut, CT | Ozone (2008 8-hour) | Nonattainment, Moderate | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Greeley Area, CO | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Hancock and Brooke Counties (Part); The city of Weirton, WV | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Hancock County (Part) The city of Weirton, including Butler and Clay: Magisterial Districts, WV | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Harrisburg-Lebanon-Carlisle-York, PA | PM2.5 (2006 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | -0.01 | -0.01 |
| Hartford-New Britain-Middletown Area, CT | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | -0.01 | -0.01 |
| Hayden, AZ | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Hayden, AZ | SO ₂ (1971 24-hour/Annual) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Hayden, AZ | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Hillsborough County, FL | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Houston-Galveston-Brazoria, TX | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Humphreys County; (part) TVA Johnsonville, TN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Imperial Co, CA | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |

Appendix A Air Quality Non-Attainment Area Results

Table A1-78

Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Cumulative Impacts

1,3-Butadiene 2025

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Imperial County, CA | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Imperial County, CA | PM2.5 (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Imperial County; Imperial Valley planning area, CA | PM10 (1987 24-hour) | Nonattainment, Serious | 70 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Indian Wells, CA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Indiana, PA | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Indianapolis Area, IN | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Indianapolis, IN | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | -0.01 |
| Inyo County; Owens Valley planning area, CA | PM10 (1987 24-hour) | Nonattainment, Serious | 70 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Jackson County, MO | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Jackson County; Medford-Ashland (including White City), OR | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Jamestown, NY | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Jefferson County, KY | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Jefferson County, MO | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Jefferson County; (part) Steubenville & Mingo Junction, OH | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Jefferson County; (part), OH | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Johnstown, PA | PM2.5 (2006 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Josephine County; Grants Pass, OR | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Juneau; Mendenhall Valley area, AK | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Kern County (Eastern Kern), CA | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| King County; Kent, WA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| King County; Seattle, WA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Klamath County; Klamath Falls, OR | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Klamath Falls Area, OR | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Klamath Falls, OR | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |

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Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Cumulative Impacts
1,3-Butadiene 2025

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Knoxville, TN | Ozone (2008 8-hour) | Maintenance, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Knoxville-Sevierville-La Follette, TN | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | -0.01 | -0.01 |
| La Porte County: (part), IN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lake County (part); Lakeview, OR | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lake County, OH | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lake County: (part), IN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lake County; (part) Eastlake, Timberlake, Lakeline, Willoughby, Mentor, OH | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lake County; Cities of East Chicago, Hammond, Whiting, and Gary, IN | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.01 | 0.02 | 0.02 | 0.03 |
| Lake County; Polson, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lake County; Ronan, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lake Tahoe Nevada Area, NV | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lake Tahoe North Shore Area, CA | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lake Tahoe South Shore Area, CA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lancaster, PA | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lancaster, PA | PM2.5 (2006 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | -0.01 |
| Lane County (part); Oakridge, OR | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lane County; Eugene/Springfield, OR | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Las Vegas Area, NV | CO (1971 8-hour) | Maintenance, Serious | 100 | 0 | 0.00 | -0.01 | -0.01 | -0.02 |
| LaSalle County; Oglesby, IL | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Laurel Area, MT | SO ₂ (1971 24-hour/Annual) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lebanon County, PA | PM2.5 (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lemont, IL | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Liberty-Clairton, PA | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |

Appendix A Air Quality Non-Attainment Area Results

Table A1-78

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| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Lincoln County; Libby and vicinity, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Logan, UT-ID | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Longmont Area, CO | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lorain County (part), OH | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Los Angeles, CA | PM2.5 (2006 24-hour) | Nonattainment, Serious | 100 | 0 | -0.04 | -0.04 | -0.12 | -0.16 |
| Los Angeles-San Bernardino Counties (West Mojave Desert), CA | Ozone (2008 8-hour) | Nonattainment, Severe 15 | 25 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Los Angeles-South Coast Air Basin Area, CA | CO (1971 8-hour) | Maintenance, Serious | 100 | 0 | -0.04 | -0.04 | -0.12 | -0.16 |
| Los Angeles-South Coast Air Basin Area, CA | NO ₂ (1971 Annual) | Maintenance, -- | 100 | 0 | -0.04 | -0.04 | -0.12 | -0.16 |
| Los Angeles-South Coast Air Basin, CA | Ozone (2008 8-hour) | Nonattainment, Extreme | 10 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Los Angeles-South Coast Air Basin, CA | PM2.5 (2012 Annual) | Nonattainment, Moderate | 100 | 0 | -0.04 | -0.04 | -0.12 | -0.16 |
| Lowell Area, MA | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lucas County (part), OH | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Madison County; Granite City Township and Nameoki Township, IL | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Manchester Area, NH | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Maricopa and Pinal Counties; Phoenix planning area, AZ | PM10 (1987 24-hour) | Nonattainment, Serious | 70 | 0 | -0.01 | -0.01 | -0.03 | -0.04 |
| Marion County; Lawrence, Washington, and Warrant Townships, IN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Mariposa County, CA | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Marshall, WV | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Medford Area, OR | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Memphis Area, TN | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | -0.01 | -0.01 |

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| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|---|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Memphis, TN-MS-AR | Ozone (2008 8-hour) | Nonattainment TN & Maintenance MS/AR, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Miami, AZ | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Miami, AZ | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Miami, AZ | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Milwaukee-Racine, WI | PM2.5 (2006 24-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | -0.01 | -0.01 |
| Minneapolis-St. Paul Area, MN | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | -0.01 | -0.01 | -0.03 | -0.03 |
| Missoula Area, MT | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Missoula county; Missoula and vicinity, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Modesto Area, CA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Mohave County (part); Bullhead City, AZ | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Mono County; Mammoth Lake planning area, CA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Mono County; Mono Basin, CA | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Morenci, AZ | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Morgan County, IN | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Morongo Band of Mission Indians | Ozone (2008 8-hour) | Nonattainment, Serious | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Morristown Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Muscatine County; (part), IA | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Muscatine, IA | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Muskingum River, OH | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Nashua Area, NH | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Nassau County, FL | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Nevada County (Western part), CA | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| New Haven County, CT | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |

Appendix A Air Quality Non-Attainment Area Results

Table A1-78

Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Cumulative Impacts

1,3-Butadiene 2025

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| New Haven-Meriden-Waterbury Area, CT | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | -0.01 | -0.01 |
| New Manchester-Grant magisterial district in Hancock County, WV | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| New York County, NY | PM ₁₀ (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | -0.01 |
| New York, NY-NJ-CT | PM _{2.5} (2006 24-hour) | Maintenance, -- | 100 | 0 | -0.05 | -0.05 | -0.14 | -0.18 |
| New York-N. New Jersey-Long Island Area, NY-NJ-CT | CO (1971 8-hour) | Maintenance, Moderate > 12.7ppm | 100 | 0 | -0.03 | -0.03 | -0.08 | -0.10 |
| New York-N. New Jersey-Long Island, NY-NJ-CT | Ozone (2008 8-hour) | Nonattainment, Moderate | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| NJ portion of the Northeast Pennsylvania-Upper Delaware Valley Interstate AQCR: (part), NJ | SO ₂ (1971 24-hour/Annual) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Nogales, AZ | PM _{2.5} (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Oakridge, OR | PM _{2.5} (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Ogden Area, UT | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Ogden Area, UT | PM ₁₀ (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Olmsted County; (part), MN | PM ₁₀ (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Olmsted; City of Rochester, MN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |

Table A1-78
Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Cumulative Impacts
1,3-Butadiene 2025

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Pechanga Band of Luiseno Mission Indians of the Pechanga Reservation | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Pekin, IL | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Penns Grove Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Peoria County: Hollis Twp, IL | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Peoria County: Peoria, IL | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Perth Amboy Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Philadelphia-Camden County Area, PA-NJ | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | -0.01 | -0.01 |
| Philadelphia-Wilmington, PA-NJ-DE | PM _{2.5} (2006 24-hour) | Maintenance, Moderate for PA and DE Subject to Former Subpart 1 for NJ | 100 | 0 | -0.01 | -0.01 | -0.03 | -0.04 |
| Philadelphia-Wilmington-Atlantic City, PA-NJ-MD-DE | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Phoenix Area, AZ | CO (1971 8-hour) | Maintenance, Serious | 100 | 0 | -0.01 | -0.01 | -0.03 | -0.04 |
| Phoenix-Mesa, AZ | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Pierce County; Tacoma, WA | PM ₁₀ (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Pima County; Ajo planning area, AZ | PM ₁₀ (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Pima County; Rillito planning area, AZ | PM ₁₀ (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Pinal and Gila Counties; Payson, AZ | PM ₁₀ (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Pinal County (part); West Pinal, AZ | PM ₁₀ (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Pitkin County; Aspen, CO | PM ₁₀ (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Pittsburgh Area, PA | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Pittsburgh-Beaver Valley, PA | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Pittsburgh-Beaver Valley, PA | PM _{2.5} (2006 24-hour) | Maintenance, Moderate | 100 | 0 | -0.01 | -0.01 | -0.02 | -0.02 |
| Plumas County, CA | PM _{2.5} (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Polk County, TN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |

Appendix A Air Quality Non-Attainment Area Results

Table A1-78

Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Cumulative Impacts

1,3-Butadiene 2025

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|-------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Portland Area: Portland Metro Service District Boundary, OR | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | -0.01 | -0.01 |
| Power-Bannock Counties; Fort Hall Indian Reservation, ID | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Power-Bannock Counties; Portneuf Valley Area, ID | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Provo Area, UT | CO (1971 8-hour) | Maintenance, Moderate > 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Provo, UT | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Prowers County; Lamar, CO | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Raleigh-Durham Area, NC | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | -0.01 | -0.02 |
| Ramsey County; (part), MN | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Reading, PA | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Reno Area, NV | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Rhinelander, WI | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Riverside County (Coachella Valley), CA | Ozone (2008 8-hour) | Nonattainment, Severe 15 | 25 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Riverside County; Coachella Valley planning area, CA | PM10 (1987 24-hour) | Nonattainment, Serious | 70 | 0 | 0.00 | 0.00 | 0.00 | -0.01 |
| Riverside, Los Angeles, Orange, and San Bernardino Counties; South Coast Air Basin, CA | PM10 (1987 24-hour) | Maintenance, Serious | 100 | 0 | -0.04 | -0.04 | -0.12 | -0.16 |
| Rosebud County; Lame Deer, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Routt County (part); Steamboat Springs, CO | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Sacramento Area, CA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | -0.01 | -0.02 |
| Sacramento County, CA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | -0.01 | -0.01 |
| Sacramento Metro, CA | Ozone (2008 8-hour) | Nonattainment, Severe 15 | 25 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Sacramento, CA | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | -0.01 | -0.01 | -0.02 | -0.03 |
| Salem Area, OR | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Salt Lake City Area, UT | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Salt Lake City, UT | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | -0.01 | -0.02 |

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1,3-Butadiene 2025

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|---|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Salt Lake County, UT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | -0.01 | -0.01 |
| Salt Lake County, UT | SO ₂ (1971 24-hour/Annual) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| San Bernardino County (part); excluding Searles Valley Planning area and South Coast Air Basin, CA | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | -0.01 | -0.01 |
| San Diego Area, CA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | -0.01 | -0.01 | -0.03 | -0.04 |
| San Diego County, CA | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| San Francisco Bay Area, CA | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| San Francisco Bay Area, CA | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | -0.02 | -0.02 | -0.06 | -0.07 |
| San Francisco-Oakland-San Jose Area, CA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | -0.02 | -0.02 | -0.05 | -0.07 |
| San Joaquin Valley Air Basin; Fresno, Kern, Kings, Madera, Merced, San Joaquin, Stanislaus, Tulare Counties, CA | PM10 (1987 24-hour) | Maintenance, Serious | 100 | 0 | -0.01 | -0.01 | -0.04 | -0.05 |
| San Joaquin Valley, CA | Ozone (2008 8-hour) | Nonattainment, Extreme | 10 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| San Joaquin Valley, CA | PM2.5 (2006 24-hour) | Nonattainment, Serious | 100 | 0 | -0.01 | -0.01 | -0.04 | -0.05 |
| San Joaquin Valley, CA | PM2.5 (2012 Annual) | Nonattainment, Moderate | 100 | 0 | -0.01 | -0.01 | -0.04 | -0.05 |
| San Luis Obispo (Eastern San Luis Obispo), CA | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| San Manuel, AZ | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| San Miguel County; Telluride, CO | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Sanders County (part); Thompson Falls and vicinity, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Santa Cruz County; Nogales planning area, AZ | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Seaford, DE | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Seattle-Tacoma Area, WA | CO (1971 8-hour) | Maintenance, Moderate > 12.7ppm | 100 | 0 | -0.01 | -0.01 | -0.02 | -0.03 |
| Seattle-Tacoma, WA | PM2.5 (2006 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | -0.01 |
| Sheboygan County, WI | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |

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| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|---|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Sheridan County; City of Sheridan, WY | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Shoshone County (part); excluding Pinehurst, ID | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Shoshone County; City of Pinehurst, ID | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Silver Bow County; Butte, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Somerville Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Southwest Indiana, IN | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Spokane Area, WA | CO (1971 8-hour) | Maintenance, Serious | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Spokane County; (part), WA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Springfield Area, MA | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| St. Bernard Parish, LA | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| St. Louis Area, MO | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | -0.01 | -0.01 |
| St. Louis-St. Charles-Farmington, MO-IL | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Steubenville, OH-WV | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Steubenville-Weirton, OH-WV | PM2.5 (2006 24-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Stockton Area, CA | CO (1971 8-hour) | Maintenance, Moderate ≤ 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Sullivan County, TN | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Syracuse Area; Onondaga County, NY | CO (1971 8-hour) | Maintenance, Moderate ≤ 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | -0.01 |
| Tazewell County; Groveland Twp, IL | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Terre Haute, IN | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |

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1,3-Butadiene 2025

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|---|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Thurston County; Cities of Olympia, Tumwater, and Lacey, WA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Toms River Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Tooele County (part), UT | SO ₂ (1971 24-hour/Annual) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Trenton Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Trona, CA | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Tucson Area, AZ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | -0.01 | -0.01 |
| Tuscan Buttes, CA | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Union County; LaGrande, OR | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Upper Green River Basin Area, WY | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Utah County, UT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Vancouver Area: Clark County (part), WA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Ventura County, CA | Ozone (2008 8-hour) | Nonattainment, Serious | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Vermillion County; Part of Clinton Township, IN | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Vigo County, IN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Walla Walla County; Wallula, WA | PM10 (1987 24-hour) | Maintenance, Serious | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Waltham Area, MA | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Warren County: Conewago Twp, PA | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Warren County: Warren Boro, Pleasant Twp, Glade Twp, PA | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Warren, PA | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Washington Area, DC-MD-VA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | -0.01 | -0.01 |
| Washington, DC-MD-VA | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Washoe County; Reno planning area, NV | PM10 (1987 24-hour) | Nonattainment, Serious | 70 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |

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| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|---|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Wayne County: Boston, Center, Franklin, Wayne & Webster Townships, IN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Wayne County; (part), MI | PM ₁₀ (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.01 | 0.02 | 0.02 | 0.03 |
| West Central Pinal County, AZ | PM _{2.5} (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| West Silver Valley, ID | PM _{2.5} (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Winston-Salem Area, NC | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Worcester Area, MA | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Yakima Area, WA | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Yakima County; (part), WA | PM ₁₀ (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Yuba City-Marysville, CA | PM _{2.5} (2006 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Yuma County; Yuma planning area, AZ | PM ₁₀ (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |

^a Reductions are shown as positive values. Negative values are emissions increases. Values of less than 0.005 tons per year are rounded to zero.

^b Nonattainment or maintenance status as of 5/13/2016. Source: U.S. EPA, The Green Book Nonattainment Areas for Criteria Pollutants; <http://www.epa.gov/airquality/greenbook/>. "--" indicates that no severity classification has been established for the NAAQS pollutant.

^c Emissions thresholds in tons per year. Where the threshold differs by precursor pollutant, the smallest of the precursor thresholds is shown. These thresholds are provided for information only; a general conformity determination is not required for the Proposed Action. Source: 40 CFR 93.853.

Notes: CO = carbon monoxide; NAAQS = National Ambient Air Quality Standards; NO₂ = nitrogen dioxide; PM = particulate matter; SO₂ = sulfur dioxide

Table A1-79
Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Cumulative Impacts
1,3-Butadiene 2040

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Ada County; Boise, ID | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | -0.01 | -0.01 |
| Adams, Denver, and Boulder Counties; Denver Metropolitan area, CO | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | -0.01 | -0.02 | -0.04 | -0.04 |
| Ajo, AZ | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Albuquerque Area, NM | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | -0.01 | -0.01 | -0.02 | -0.02 |
| Allegheny County Air Basin: Hazelwood monitor, PA | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Allegheny County, PA | PM2.5 (2012 Annual) | Nonattainment, Moderate | 100 | 0 | -0.01 | -0.01 | -0.02 | -0.02 |
| Allegheny County; The area including Liberty, Lincoln, Port Vue, and Glassport Boroughs and the City of Clairton, PA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Allegheny, PA | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Allentown, PA | PM2.5 (2006 24-hour) | Maintenance, Moderate | 100 | 0 | -0.01 | -0.01 | -0.01 | -0.02 |
| Allentown-Bethlehem-Easton, PA | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Anchorage Area, AK | CO (1971 8-hour) | Maintenance, Serious | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Anchorage; Eagle River, AK | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| AQCR 012: Portions of Grant County, NM | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| AQCR 109-Millinocket, ME | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| AQCR 131: Anoka, Carver, Dakota, Hennepin, Ramsey, Scott, and Washington counties (Minneapolis-St. Paul), MN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| AQCR 237: Brown County: Green Bay sub-city area, WI | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| AQCR 238: Marathon County: Rothschild Sub-city area, Rib Mountain, Weston, WI | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| AQCR 238: Oneida County: Rhinelander Sub-city area, WI | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| AQCR 239: Milwaukee County: Milwaukee sub-city area, WI | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |

Appendix A Air Quality Non-Attainment Area Results

Table A1-79

Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Cumulative Impacts

1,3-Butadiene 2040

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| AQCR 240: Dane County: Madison sub-city area, WI | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Archuleta County; Pagosa Springs, CO | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Armstrong County: Madison Twp, Mahoning Twp, Boggs Twp, Washington Twp, Pine Twp, PA | SO ₂ (1971 24-hour/Annual) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Aroostock County; City of Presque Isle, ME | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Atlanta, GA | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Atlantic City Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Bakersfield Area, CA | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | -0.01 | -0.01 |
| Baltimore Area, MD | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Baltimore, MD | Ozone (2008 8-hour) | Nonattainment, Moderate | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Baton Rouge, LA | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Beaver, PA | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Benton County; (part) TVA Johnsonville, TN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Billings Area, MT | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.03 | 0.07 | 0.06 | 0.09 |
| Billings, MT | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.03 | 0.07 | 0.06 | 0.09 |
| Birmingham, AL | PM2.5 (2006 24-hour) | Maintenance, -- | 100 | 0 | -0.01 | -0.01 | -0.03 | -0.03 |
| Boise-Northern Ada County Area, ID | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | -0.01 | -0.01 |
| Bonner County; The Sandpoint Area, ID | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Boston Area, MA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | -0.01 | -0.01 | -0.02 | -0.02 |
| Boyd County (part), KY | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Brooke; Follansbee area, WV | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Burlington Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Calaveras County, CA | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Campbell-Clermont Counties, KY-OH | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |

Table A1-79
Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Cumulative Impacts
1,3-Butadiene 2040

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|---|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Canton-Massillon, OH | PM2.5 (2006 24-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | -0.01 | -0.01 |
| Central New Hampshire, NH | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | -0.01 | -0.01 |
| Central Steptoe Valley, NV | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Charleston, WV | PM2.5 (2006 24-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | -0.01 | -0.01 |
| Charlotte Area, NC | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | -0.01 | -0.01 | -0.03 | -0.03 |
| Charlotte-Rock Hill, NC-SC | Ozone (2008 8-hour) | Maintenance, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Chicago-Naperville, IL-IN-WI | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Chico (Butte County), CA | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Chico Area, CA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Chico, CA | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | -0.01 |
| Cincinnati, OH-KY-IN | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Clark County; Las Vegas planning area, NV | PM10 (1987 24-hour) | Maintenance, Serious | 100 | 0 | -0.02 | -0.02 | -0.04 | -0.04 |
| Cleveland Area, OH | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | -0.01 | -0.01 | -0.02 | -0.03 |
| Cleveland, OH | PM2.5 (2012 Annual) | Nonattainment, Moderate | 100 | 0 | -0.01 | -0.01 | -0.03 | -0.03 |
| Cleveland-Akron-Lorain, OH | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Cleveland-Akron-Lorain, OH | PM2.5 (2006 24-hour) | Maintenance, -- | 100 | 0 | -0.03 | -0.03 | -0.07 | -0.07 |
| Cochise County; Paul Spur/Douglas planning area, AZ | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Colorado Springs Area, CO | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | -0.01 | -0.01 | -0.01 | -0.01 |
| Columbus, OH | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Cook County; Lyons Township, IL | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Cook County; Southeast Chicago, IL | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Coshocton County; Franklin Township, OH | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Coso Junction, CA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Cuyahoga County (part), OH | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Cuyahoga County, OH | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | -0.01 | -0.01 | -0.02 | -0.03 |

Appendix A Air Quality Non-Attainment Area Results

Table A1-79

Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Cumulative Impacts

1,3-Butadiene 2040

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Dallas-Fort Worth, TX | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Delaware County, PA | PM2.5 (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | -0.01 | -0.01 |
| Denver-Boulder Area, CO | CO (1971 8-hour) | Maintenance, Serious | 100 | 0 | -0.02 | -0.03 | -0.06 | -0.07 |
| Denver-Boulder-Greeley-Ft Collins-Loveland, CO | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Detroit Area, MI | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.02 | 0.07 | 0.04 | 0.06 |
| Detroit, MI | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.03 | 0.08 | 0.06 | 0.09 |
| Detroit-Ann Arbor, MI | PM2.5 (2006 24-hour) | Maintenance, -- | 100 | 0 | -0.01 | 0.03 | -0.05 | -0.04 |
| Dona Ana County; Anthony, NM | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Douglas, AZ | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Dukes County, MA | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Duluth Area, MN | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| East Chicago Area, IN | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.03 | 0.07 | 0.06 | 0.09 |
| East Helena Area, MT | SO ₂ (1971 24-hour/Annual) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| East Kern County Area, CA | PM10 (1987 24-hour) | Nonattainment, Serious | 70 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| El Paso County, TX | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | -0.01 | -0.01 |
| El Paso, TX | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Eugene-Springfield Area, OR | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | -0.01 | -0.01 |
| Fairbanks Area, AK | CO (1971 8-hour) | Maintenance, Serious | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Fairbanks, AK | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |

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1,3-Butadiene 2040

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|---|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Flathead County; Columbia Falls and vicinity, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Flathead County; Kalispell and vicinity, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Flathead County; Whitefish and vicinity, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Fort Collins Area, CO | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Freehold Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Fremont County; Canon City Area, CO | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Fresno Area, CA | CO (1971 8-hour) | Maintenance, Moderate > 12.7ppm | 100 | 0 | -0.01 | -0.01 | -0.01 | -0.02 |
| Grants Pass Area, OR | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Great Falls Area, MT | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Greater Connecticut, CT | Ozone (2008 8-hour) | Nonattainment, Moderate | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Greeley Area, CO | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | -0.01 | -0.01 |
| Hancock and Brooke Counties (Part); The city of Weirton, WV | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Hancock County (Part) The city of Weirton, including Butler and Clay: Magisterial Districts, WV | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Harrisburg-Lebanon-Carlisle-York, PA | PM2.5 (2006 24-hour) | Maintenance, Moderate | 100 | 0 | -0.01 | -0.01 | -0.03 | -0.04 |
| Hartford-New Britain-Middletown Area, CT | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | -0.01 | -0.01 | -0.03 | -0.03 |
| Hayden, AZ | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Hayden, AZ | SO ₂ (1971 24-hour/Annual) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Hayden, AZ | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Hillsborough County, FL | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Houston-Galveston-Brazoria, TX | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Humphreys County; (part) TVA Johnsonville, TN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Imperial Co, CA | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | -0.01 | -0.01 |

Appendix A Air Quality Non-Attainment Area Results

Table A1-79

Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Cumulative Impacts

1,3-Butadiene 2040

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Imperial County, CA | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Imperial County, CA | PM2.5 (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | -0.01 | -0.01 |
| Imperial County; Imperial Valley planning area, CA | PM10 (1987 24-hour) | Nonattainment, Serious | 70 | 0 | 0.00 | 0.00 | -0.01 | -0.01 |
| Indian Wells, CA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Indiana, PA | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Indianapolis Area, IN | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Indianapolis, IN | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | -0.01 | -0.01 |
| Inyo County; Owens Valley planning area, CA | PM10 (1987 24-hour) | Nonattainment, Serious | 70 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Jackson County, MO | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Jackson County; Medford-Ashland (including White City), OR | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | -0.01 |
| Jamestown, NY | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Jefferson County, KY | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Jefferson County, MO | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Jefferson County; (part) Steubenville & Mingo Junction, OH | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Jefferson County; (part), OH | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Johnstown, PA | PM2.5 (2006 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Josephine County; Grants Pass, OR | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Juneau; Mendenhall Valley area, AK | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Kern County (Eastern Kern), CA | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| King County; Kent, WA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| King County; Seattle, WA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Klamath County; Klamath Falls, OR | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Klamath Falls Area, OR | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Klamath Falls, OR | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |

Table A1-79
Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Cumulative Impacts
1,3-Butadiene 2040

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Knoxville, TN | Ozone (2008 8-hour) | Maintenance, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Knoxville-Sevierville-La Follette, TN | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | -0.01 | -0.01 | -0.02 | -0.03 |
| La Porte County: (part), IN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lake County (part); Lakeview, OR | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lake County, OH | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | -0.01 | -0.01 |
| Lake County: (part), IN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lake County; (part) Eastlake, Timberlake, Lakeline, Willoughby, Mentor, OH | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lake County; Cities of East Chicago, Hammond, Whiting, and Gary, IN | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.03 | 0.07 | 0.06 | 0.08 |
| Lake County; Polson, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lake County; Ronan, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lake Tahoe Nevada Area, NV | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lake Tahoe North Shore Area, CA | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lake Tahoe South Shore Area, CA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lancaster, PA | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lancaster, PA | PM2.5 (2006 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | -0.01 | -0.01 | -0.01 |
| Lane County (part); Oakridge, OR | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lane County; Eugene/Springfield, OR | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | -0.01 | -0.01 |
| Las Vegas Area, NV | CO (1971 8-hour) | Maintenance, Serious | 100 | 0 | -0.02 | -0.02 | -0.04 | -0.04 |
| LaSalle County; Oglesby, IL | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Laurel Area, MT | SO ₂ (1971 24-hour/Annual) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lebanon County, PA | PM2.5 (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lemont, IL | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Liberty-Clairton, PA | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |

Appendix A Air Quality Non-Attainment Area Results

Table A1-79

Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Cumulative Impacts

1,3-Butadiene 2040

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Lincoln County; Libby and vicinity, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Logan, UT-ID | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Longmont Area, CO | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lorain County (part), OH | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Los Angeles, CA | PM2.5 (2006 24-hour) | Nonattainment, Serious | 100 | 0 | -0.13 | -0.12 | -0.33 | -0.37 |
| Los Angeles-San Bernardino Counties (West Mojave Desert), CA | Ozone (2008 8-hour) | Nonattainment, Severe 15 | 25 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Los Angeles-South Coast Air Basin Area, CA | CO (1971 8-hour) | Maintenance, Serious | 100 | 0 | -0.13 | -0.12 | -0.33 | -0.37 |
| Los Angeles-South Coast Air Basin Area, CA | NO ₂ (1971 Annual) | Maintenance, -- | 100 | 0 | -0.13 | -0.12 | -0.33 | -0.37 |
| Los Angeles-South Coast Air Basin, CA | Ozone (2008 8-hour) | Nonattainment, Extreme | 10 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Los Angeles-South Coast Air Basin, CA | PM2.5 (2012 Annual) | Nonattainment, Moderate | 100 | 0 | -0.13 | -0.12 | -0.33 | -0.37 |
| Lowell Area, MA | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lucas County (part), OH | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Madison County; Granite City Township and Nameoki Township, IL | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Manchester Area, NH | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Maricopa and Pinal Counties; Phoenix planning area, AZ | PM10 (1987 24-hour) | Nonattainment, Serious | 70 | 0 | -0.03 | -0.04 | -0.09 | -0.10 |
| Marion County; Lawrence, Washington, and Warrant Townships, IN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Mariposa County, CA | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Marshall, WV | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Medford Area, OR | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Memphis Area, TN | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | -0.01 | -0.01 | -0.02 | -0.02 |

Table A1-79
Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Cumulative Impacts
1,3-Butadiene 2040

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|---|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Memphis, TN-MS-AR | Ozone (2008 8-hour) | Nonattainment TN & Maintenance MS/AR, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Miami, AZ | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Miami, AZ | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Miami, AZ | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Milwaukee-Racine, WI | PM2.5 (2006 24-hour) | Maintenance, -- | 100 | 0 | -0.01 | -0.01 | -0.03 | -0.03 |
| Minneapolis-St. Paul Area, MN | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | -0.03 | -0.03 | -0.07 | -0.08 |
| Missoula Area, MT | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Missoula county; Missoula and vicinity, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Modesto Area, CA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Mohave County (part); Bullhead City, AZ | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Mono County; Mammoth Lake planning area, CA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Mono County; Mono Basin, CA | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Morenci, AZ | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Morgan County, IN | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Morongo Band of Mission Indians | Ozone (2008 8-hour) | Nonattainment, Serious | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Morristown Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Muscatine County; (part), IA | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Muscatine, IA | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Muskingum River, OH | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Nashua Area, NH | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Nassau County, FL | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Nevada County (Western part), CA | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| New Haven County, CT | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |

Appendix A Air Quality Non-Attainment Area Results

Table A1-79

Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Cumulative Impacts

1,3-Butadiene 2040

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| New Haven-Meriden-Waterbury Area, CT | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | -0.01 | -0.01 | -0.02 | -0.02 |
| New Manchester-Grant magisterial district in Hancock County, WV | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| New York County, NY | PM ₁₀ (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | -0.01 | -0.01 | -0.01 | -0.02 |
| New York, NY-NJ-CT | PM _{2.5} (2006 24-hour) | Maintenance, -- | 100 | 0 | -0.15 | -0.17 | -0.38 | -0.43 |
| New York-N. New Jersey-Long Island Area, NY-NJ-CT | CO (1971 8-hour) | Maintenance, Moderate > 12.7ppm | 100 | 0 | -0.08 | -0.09 | -0.21 | -0.24 |
| New York-N. New Jersey-Long Island, NY-NJ-CT | Ozone (2008 8-hour) | Nonattainment, Moderate | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| NJ portion of the Northeast Pennsylvania-Upper Delaware Valley Interstate AQCR: (part), NJ | SO ₂ (1971 24-hour/Annual) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Nogales, AZ | PM _{2.5} (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Oakridge, OR | PM _{2.5} (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Ogden Area, UT | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Ogden Area, UT | PM ₁₀ (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Olmsted County; (part), MN | PM ₁₀ (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Olmsted; City of Rochester, MN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |

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1,3-Butadiene 2040

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Pechanga Band of Luiseno Mission Indians of the Pechanga Reservation | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Pekin, IL | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Penns Grove Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Peoria County: Hollis Twp, IL | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Peoria County: Peoria, IL | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Perth Amboy Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Philadelphia-Camden County Area, PA-NJ | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | -0.01 | 0.00 | -0.02 | -0.02 |
| Philadelphia-Wilmington, PA-NJ-DE | PM _{2.5} (2006 24-hour) | Maintenance, Moderate for PA and DE Subject to Former Subpart 1 for NJ | 100 | 0 | -0.03 | -0.03 | -0.09 | -0.09 |
| Philadelphia-Wilmington-Atlantic City, PA-NJ-MD-DE | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Phoenix Area, AZ | CO (1971 8-hour) | Maintenance, Serious | 100 | 0 | -0.03 | -0.04 | -0.08 | -0.09 |
| Phoenix-Mesa, AZ | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Pierce County; Tacoma, WA | PM ₁₀ (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Pima County; Ajo planning area, AZ | PM ₁₀ (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Pima County; Rillito planning area, AZ | PM ₁₀ (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Pinal and Gila Counties; Payson, AZ | PM ₁₀ (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Pinal County (part); West Pinal, AZ | PM ₁₀ (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | -0.01 | -0.01 |
| Pitkin County; Aspen, CO | PM ₁₀ (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Pittsburgh Area, PA | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Pittsburgh-Beaver Valley, PA | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Pittsburgh-Beaver Valley, PA | PM _{2.5} (2006 24-hour) | Maintenance, Moderate | 100 | 0 | -0.02 | -0.02 | -0.04 | -0.05 |
| Plumas County, CA | PM _{2.5} (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Polk County, TN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |

Appendix A Air Quality Non-Attainment Area Results

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Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Cumulative Impacts

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| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|-------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Portland Area: Portland Metro Service District Boundary, OR | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | -0.01 | -0.01 | -0.03 | -0.03 |
| Power-Bannock Counties; Fort Hall Indian Reservation, ID | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Power-Bannock Counties; Portneuf Valley Area, ID | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Provo Area, UT | CO (1971 8-hour) | Maintenance, Moderate > 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Provo, UT | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | -0.01 | -0.01 |
| Prowers County; Lamar, CO | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Raleigh-Durham Area, NC | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | -0.01 | -0.01 | -0.03 | -0.04 |
| Ramsey County; (part), MN | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Reading, PA | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Reno Area, NV | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | -0.01 | -0.01 |
| Rhinelander, WI | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Riverside County (Coachella Valley), CA | Ozone (2008 8-hour) | Nonattainment, Severe 15 | 25 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Riverside County; Coachella Valley planning area, CA | PM10 (1987 24-hour) | Nonattainment, Serious | 70 | 0 | 0.00 | -0.01 | -0.01 | -0.01 |
| Riverside, Los Angeles, Orange, and San Bernardino Counties; South Coast Air Basin, CA | PM10 (1987 24-hour) | Maintenance, Serious | 100 | 0 | -0.13 | -0.12 | -0.33 | -0.37 |
| Rosebud County; Lame Deer, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Routt County (part); Steamboat Springs, CO | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Sacramento Area, CA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | -0.01 | -0.01 | -0.03 | -0.04 |
| Sacramento County, CA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | -0.01 | -0.01 | -0.03 | -0.03 |
| Sacramento Metro, CA | Ozone (2008 8-hour) | Nonattainment, Severe 15 | 25 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Sacramento, CA | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | -0.02 | -0.02 | -0.05 | -0.06 |
| Salem Area, OR | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | -0.01 | -0.01 |
| Salt Lake City Area, UT | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.01 | 0.00 | 0.00 |
| Salt Lake City, UT | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | -0.01 | -0.01 | -0.03 | -0.03 |

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| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|---|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Salt Lake County, UT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | -0.01 | 0.00 | -0.02 | -0.02 |
| Salt Lake County, UT | SO ₂ (1971 24-hour/Annual) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| San Bernardino County (part); excluding Searles Valley Planning area and South Coast Air Basin, CA | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | -0.01 | -0.01 | -0.01 | -0.02 |
| San Diego Area, CA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | -0.03 | -0.04 | -0.08 | -0.09 |
| San Diego County, CA | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| San Francisco Bay Area, CA | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| San Francisco Bay Area, CA | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | -0.06 | -0.06 | -0.15 | -0.17 |
| San Francisco-Oakland-San Jose Area, CA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | -0.05 | -0.06 | -0.14 | -0.16 |
| San Joaquin Valley Air Basin; Fresno, Kern, Kings, Madera, Merced, San Joaquin, Stanislaus, Tulare Counties, CA | PM10 (1987 24-hour) | Maintenance, Serious | 100 | 0 | -0.04 | -0.04 | -0.10 | -0.12 |
| San Joaquin Valley, CA | Ozone (2008 8-hour) | Nonattainment, Extreme | 10 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| San Joaquin Valley, CA | PM2.5 (2006 24-hour) | Nonattainment, Serious | 100 | 0 | -0.04 | -0.04 | -0.10 | -0.12 |
| San Joaquin Valley, CA | PM2.5 (2012 Annual) | Nonattainment, Moderate | 100 | 0 | -0.04 | -0.04 | -0.10 | -0.12 |
| San Luis Obispo (Eastern San Luis Obispo), CA | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| San Manuel, AZ | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| San Miguel County; Telluride, CO | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Sanders County (part); Thompson Falls and vicinity, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Santa Cruz County; Nogales planning area, AZ | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Seaford, DE | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Seattle-Tacoma Area, WA | CO (1971 8-hour) | Maintenance, Moderate > 12.7ppm | 100 | 0 | -0.03 | -0.03 | -0.07 | -0.07 |
| Seattle-Tacoma, WA | PM2.5 (2006 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | -0.01 | -0.01 |
| Sheboygan County, WI | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |

Appendix A Air Quality Non-Attainment Area Results

Table A1-79

Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Cumulative Impacts

1,3-Butadiene 2040

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|---|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Sheridan County; City of Sheridan, WY | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Shoshone County (part); excluding Pinehurst, ID | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Shoshone County; City of Pinehurst, ID | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Silver Bow County; Butte, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Somerville Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Southwest Indiana, IN | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Spokane Area, WA | CO (1971 8-hour) | Maintenance, Serious | 100 | 0 | 0.00 | 0.00 | -0.01 | -0.01 |
| Spokane County; (part), WA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | -0.01 | -0.01 |
| Springfield Area, MA | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| St. Bernard Parish, LA | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| St. Louis Area, MO | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | -0.01 | -0.01 | -0.02 | -0.02 |
| St. Louis-St. Charles-Farmington, MO-IL | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Steubenville, OH-WV | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Steubenville-Weirton, OH-WV | PM2.5 (2006 24-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Stockton Area, CA | CO (1971 8-hour) | Maintenance, Moderate ≤ 12.7ppm | 100 | 0 | 0.00 | 0.00 | -0.01 | -0.01 |
| Sullivan County, TN | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Syracuse Area; Onondaga County, NY | CO (1971 8-hour) | Maintenance, Moderate ≤ 12.7ppm | 100 | 0 | -0.01 | -0.01 | -0.01 | -0.01 |
| Tazewell County; Groveland Twp, IL | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Terre Haute, IN | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |

Table A1-79
Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Cumulative Impacts
1,3-Butadiene 2040

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|---|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Thurston County; Cities of Olympia, Tumwater, and Lacey, WA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Toms River Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Tooele County (part), UT | SO ₂ (1971 24-hour/Annual) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Trenton Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Trona, CA | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Tucson Area, AZ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | -0.01 | -0.01 | -0.02 | -0.02 |
| Tuscan Buttes, CA | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Union County; LaGrande, OR | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Upper Green River Basin Area, WY | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Utah County, UT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | -0.01 | -0.01 |
| Vancouver Area: Clark County (part), WA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | -0.01 | -0.01 |
| Ventura County, CA | Ozone (2008 8-hour) | Nonattainment, Serious | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Vermillion County; Part of Clinton Township, IN | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Vigo County, IN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Walla Walla County; Wallula, WA | PM10 (1987 24-hour) | Maintenance, Serious | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Waltham Area, MA | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Warren County: Conewago Twp, PA | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Warren County: Warren Boro, Pleasant Twp, Glade Twp, PA | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Warren, PA | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Washington Area, DC-MD-VA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | -0.01 | -0.01 | -0.02 | -0.02 |
| Washington, DC-MD-VA | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Washoe County; Reno planning area, NV | PM10 (1987 24-hour) | Nonattainment, Serious | 70 | 0 | 0.00 | 0.00 | -0.01 | -0.01 |

Appendix A Air Quality Non-Attainment Area Results

Table A1-79

Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Cumulative Impacts

1,3-Butadiene 2040

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|---|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Wayne County: Boston, Center, Franklin, Wayne & Webster Townships, IN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Wayne County; (part), MI | PM ₁₀ (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.03 | 0.08 | 0.07 | 0.10 |
| West Central Pinal County, AZ | PM _{2.5} (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| West Silver Valley, ID | PM _{2.5} (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Winston-Salem Area, NC | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | -0.01 | -0.01 |
| Worcester Area, MA | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | -0.01 | -0.01 |
| Yakima Area, WA | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Yakima County; (part), WA | PM ₁₀ (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Yuba City-Marysville, CA | PM _{2.5} (2006 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | -0.01 |
| Yuma County; Yuma planning area, AZ | PM ₁₀ (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |

^a Reductions are shown as positive values. Negative values are emissions increases. Values of less than 0.005 tons per year are rounded to zero.

^b Nonattainment or maintenance status as of 5/13/2016. Source: U.S. EPA, The Green Book Nonattainment Areas for Criteria Pollutants; <http://www.epa.gov/airquality/greenbook/>. "--" indicates that no severity classification has been established for the NAAQS pollutant.

^c Emissions thresholds in tons per year. Where the threshold differs by precursor pollutant, the smallest of the precursor thresholds is shown. These thresholds are provided for information only; a general conformity determination is not required for the Proposed Action. Source: 40 CFR 93.853.

Notes: CO = carbon monoxide; NAAQS = National Ambient Air Quality Standards; NO₂ = nitrogen dioxide; PM = particulate matter; SO₂ = sulfur dioxide

Table A1-80
Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Cumulative Impacts
1,3-Butadiene 2050

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Ada County; Boise, ID | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | -0.01 | -0.01 |
| Adams, Denver, and Boulder Counties; Denver Metropolitan area, CO | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | -0.01 | -0.02 | -0.04 | -0.05 |
| Ajo, AZ | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Albuquerque Area, NM | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | -0.01 | -0.01 | -0.02 | -0.02 |
| Allegheny County Air Basin: Hazelwood monitor, PA | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Allegheny County, PA | PM2.5 (2012 Annual) | Nonattainment, Moderate | 100 | 0 | -0.01 | -0.01 | -0.02 | -0.03 |
| Allegheny County; The area including Liberty, Lincoln, Port Vue, and Glassport Boroughs and the City of Clairton, PA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Allegheny, PA | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Allentown, PA | PM2.5 (2006 24-hour) | Maintenance, Moderate | 100 | 0 | -0.01 | -0.01 | -0.02 | -0.02 |
| Allentown-Bethlehem-Easton, PA | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Anchorage Area, AK | CO (1971 8-hour) | Maintenance, Serious | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Anchorage; Eagle River, AK | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| AQCR 012: Portions of Grant County, NM | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| AQCR 109-Millinocket, ME | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| AQCR 131: Anoka, Carver, Dakota, Hennepin, Ramsey, Scott, and Washington counties (Minneapolis-St. Paul), MN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| AQCR 237: Brown County: Green Bay sub-city area, WI | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| AQCR 238: Marathon County: Rothschild Sub-city area, Rib Mountain, Weston, WI | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| AQCR 238: Oneida County: Rhinelander Sub-city area, WI | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| AQCR 239: Milwaukee County: Milwaukee sub-city area, WI | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |

Appendix A Air Quality Non-Attainment Area Results

Table A1-80

Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Cumulative Impacts

1,3-Butadiene 2050

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| AQCR 240: Dane County: Madison sub-city area, WI | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Archuleta County; Pagosa Springs, CO | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Armstrong County: Madison Twp, Mahoning Twp, Boggs Twp, Washington Twp, Pine Twp, PA | SO ₂ (1971 24-hour/Annual) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Aroostock County; City of Presque Isle, ME | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Atlanta, GA | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Atlantic City Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Bakersfield Area, CA | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | -0.01 | -0.01 |
| Baltimore Area, MD | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Baltimore, MD | Ozone (2008 8-hour) | Nonattainment, Moderate | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Baton Rouge, LA | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Beaver, PA | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Benton County; (part) TVA Johnsonville, TN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Billings Area, MT | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.03 | 0.09 | 0.07 | 0.10 |
| Billings, MT | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.04 | 0.09 | 0.07 | 0.10 |
| Birmingham, AL | PM2.5 (2006 24-hour) | Maintenance, -- | 100 | 0 | -0.01 | -0.01 | -0.04 | -0.04 |
| Boise-Northern Ada County Area, ID | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | -0.01 | -0.01 |
| Bonner County; The Sandpoint Area, ID | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Boston Area, MA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | -0.01 | -0.01 | -0.02 | -0.02 |
| Boyd County (part), KY | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Brooke; Follansbee area, WV | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Burlington Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Calaveras County, CA | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Campbell-Clermont Counties, KY-OH | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |

Table A1-80
Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Cumulative Impacts
1,3-Butadiene 2050

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|---|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Canton-Massillon, OH | PM2.5 (2006 24-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | -0.01 | -0.01 |
| Central New Hampshire, NH | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | -0.01 | -0.01 |
| Central Steptoe Valley, NV | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Charleston, WV | PM2.5 (2006 24-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | -0.01 | -0.01 |
| Charlotte Area, NC | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | -0.01 | -0.01 | -0.03 | -0.04 |
| Charlotte-Rock Hill, NC-SC | Ozone (2008 8-hour) | Maintenance, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Chicago-Naperville, IL-IN-WI | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Chico (Butte County), CA | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Chico Area, CA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Chico, CA | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | -0.01 | -0.01 |
| Cincinnati, OH-KY-IN | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Clark County; Las Vegas planning area, NV | PM10 (1987 24-hour) | Maintenance, Serious | 100 | 0 | -0.02 | -0.02 | -0.04 | -0.05 |
| Cleveland Area, OH | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | -0.01 | -0.01 | -0.03 | -0.03 |
| Cleveland, OH | PM2.5 (2012 Annual) | Nonattainment, Moderate | 100 | 0 | -0.01 | -0.01 | -0.03 | -0.04 |
| Cleveland-Akron-Lorain, OH | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Cleveland-Akron-Lorain, OH | PM2.5 (2006 24-hour) | Maintenance, -- | 100 | 0 | -0.03 | -0.03 | -0.07 | -0.08 |
| Cochise County; Paul Spur/Douglas planning area, AZ | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Colorado Springs Area, CO | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | -0.01 | -0.01 | -0.01 | -0.02 |
| Columbus, OH | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Cook County; Lyons Township, IL | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Cook County; Southeast Chicago, IL | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Coshocton County; Franklin Township, OH | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Coso Junction, CA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Cuyahoga County (part), OH | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Cuyahoga County, OH | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | -0.01 | -0.01 | -0.03 | -0.03 |

Appendix A Air Quality Non-Attainment Area Results

Table A1-80

Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Cumulative Impacts

1,3-Butadiene 2050

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Dallas-Fort Worth, TX | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Delaware County, PA | PM2.5 (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | -0.01 | -0.01 |
| Denver-Boulder Area, CO | CO (1971 8-hour) | Maintenance, Serious | 100 | 0 | -0.02 | -0.03 | -0.07 | -0.08 |
| Denver-Boulder-Greeley-Ft Collins-Loveland, CO | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Detroit Area, MI | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.03 | 0.09 | 0.05 | 0.08 |
| Detroit, MI | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.04 | 0.10 | 0.07 | 0.11 |
| Detroit-Ann Arbor, MI | PM2.5 (2006 24-hour) | Maintenance, -- | 100 | 0 | -0.01 | 0.05 | -0.05 | -0.03 |
| Dona Ana County; Anthony, NM | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Douglas, AZ | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Dukes County, MA | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Duluth Area, MN | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| East Chicago Area, IN | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.04 | 0.09 | 0.07 | 0.10 |
| East Helena Area, MT | SO ₂ (1971 24-hour/Annual) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| East Kern County Area, CA | PM10 (1987 24-hour) | Nonattainment, Serious | 70 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| El Paso County, TX | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | -0.01 | -0.01 |
| El Paso, TX | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Eugene-Springfield Area, OR | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | -0.01 | -0.01 |
| Fairbanks Area, AK | CO (1971 8-hour) | Maintenance, Serious | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Fairbanks, AK | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |

Table A1-80

Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Cumulative Impacts

1,3-Butadiene 2050

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|---|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Flathead County; Columbia Falls and vicinity, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Flathead County; Kalispell and vicinity, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Flathead County; Whitefish and vicinity, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Fort Collins Area, CO | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Freehold Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Fremont County; Canon City Area, CO | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Fresno Area, CA | CO (1971 8-hour) | Maintenance, Moderate > 12.7ppm | 100 | 0 | -0.01 | -0.01 | -0.01 | -0.02 |
| Grants Pass Area, OR | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Great Falls Area, MT | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Greater Connecticut, CT | Ozone (2008 8-hour) | Nonattainment, Moderate | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Greeley Area, CO | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | -0.01 | -0.01 |
| Hancock and Brooke Counties (Part); The city of Weirton, WV | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Hancock County (Part) The city of Weirton, including Butler and Clay: Magisterial Districts, WV | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Harrisburg-Lebanon-Carlisle-York, PA | PM2.5 (2006 24-hour) | Maintenance, Moderate | 100 | 0 | -0.01 | -0.01 | -0.04 | -0.04 |
| Hartford-New Britain-Middletown Area, CT | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | -0.01 | -0.01 | -0.03 | -0.03 |
| Hayden, AZ | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Hayden, AZ | SO ₂ (1971 24-hour/Annual) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Hayden, AZ | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Hillsborough County, FL | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Houston-Galveston-Brazoria, TX | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Humphreys County; (part) TVA Johnsonville, TN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Imperial Co, CA | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | -0.01 | -0.01 |

Appendix A Air Quality Non-Attainment Area Results

Table A1-80

Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Cumulative Impacts

1,3-Butadiene 2050

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Imperial County, CA | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Imperial County, CA | PM2.5 (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | -0.01 | -0.01 |
| Imperial County; Imperial Valley planning area, CA | PM10 (1987 24-hour) | Nonattainment, Serious | 70 | 0 | 0.00 | 0.00 | -0.01 | -0.01 |
| Indian Wells, CA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Indiana, PA | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Indianapolis Area, IN | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Indianapolis, IN | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | -0.01 | -0.01 | -0.01 |
| Inyo County; Owens Valley planning area, CA | PM10 (1987 24-hour) | Nonattainment, Serious | 70 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Jackson County, MO | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Jackson County; Medford-Ashland (including White City), OR | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | -0.01 | -0.01 |
| Jamestown, NY | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Jefferson County, KY | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Jefferson County, MO | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Jefferson County; (part) Steubenville & Mingo Junction, OH | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Jefferson County; (part), OH | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Johnstown, PA | PM2.5 (2006 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Josephine County; Grants Pass, OR | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Juneau; Mendenhall Valley area, AK | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Kern County (Eastern Kern), CA | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| King County; Kent, WA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| King County; Seattle, WA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Klamath County; Klamath Falls, OR | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Klamath Falls Area, OR | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Klamath Falls, OR | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |

Table A1-80
Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Cumulative Impacts
1,3-Butadiene 2050

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Knoxville, TN | Ozone (2008 8-hour) | Maintenance, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Knoxville-Sevierville-La Follette, TN | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | -0.01 | -0.01 | -0.03 | -0.03 |
| La Porte County: (part), IN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lake County (part); Lakeview, OR | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lake County, OH | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | -0.01 | -0.01 |
| Lake County: (part), IN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lake County; (part) Eastlake, Timberlake, Lakeline, Willoughby, Mentor, OH | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lake County; Cities of East Chicago, Hammond, Whiting, and Gary, IN | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.03 | 0.09 | 0.07 | 0.10 |
| Lake County; Polson, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lake County; Ronan, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lake Tahoe Nevada Area, NV | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lake Tahoe North Shore Area, CA | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lake Tahoe South Shore Area, CA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lancaster, PA | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lancaster, PA | PM2.5 (2006 24-hour) | Maintenance, Moderate | 100 | 0 | -0.01 | -0.01 | -0.01 | -0.02 |
| Lane County (part); Oakridge, OR | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lane County; Eugene/Springfield, OR | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | -0.01 | -0.01 |
| Las Vegas Area, NV | CO (1971 8-hour) | Maintenance, Serious | 100 | 0 | -0.02 | -0.02 | -0.04 | -0.05 |
| LaSalle County; Oglesby, IL | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Laurel Area, MT | SO ₂ (1971 24-hour/Annual) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lebanon County, PA | PM2.5 (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | -0.01 |
| Lemont, IL | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Liberty-Clairton, PA | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |

Appendix A Air Quality Non-Attainment Area Results

Table A1-80

Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Cumulative Impacts

1,3-Butadiene 2050

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Lincoln County; Libby and vicinity, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Logan, UT-ID | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Longmont Area, CO | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lorain County (part), OH | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Los Angeles, CA | PM2.5 (2006 24-hour) | Nonattainment, Serious | 100 | 0 | -0.13 | -0.12 | -0.38 | -0.41 |
| Los Angeles-San Bernardino Counties (West Mojave Desert), CA | Ozone (2008 8-hour) | Nonattainment, Severe 15 | 25 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Los Angeles-South Coast Air Basin Area, CA | CO (1971 8-hour) | Maintenance, Serious | 100 | 0 | -0.13 | -0.12 | -0.38 | -0.41 |
| Los Angeles-South Coast Air Basin Area, CA | NO ₂ (1971 Annual) | Maintenance, -- | 100 | 0 | -0.13 | -0.12 | -0.38 | -0.41 |
| Los Angeles-South Coast Air Basin, CA | Ozone (2008 8-hour) | Nonattainment, Extreme | 10 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Los Angeles-South Coast Air Basin, CA | PM2.5 (2012 Annual) | Nonattainment, Moderate | 100 | 0 | -0.13 | -0.12 | -0.38 | -0.41 |
| Lowell Area, MA | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lucas County (part), OH | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Madison County; Granite City Township and Nameoki Township, IL | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Manchester Area, NH | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Maricopa and Pinal Counties; Phoenix planning area, AZ | PM10 (1987 24-hour) | Nonattainment, Serious | 70 | 0 | -0.04 | -0.04 | -0.10 | -0.11 |
| Marion County; Lawrence, Washington, and Warrant Townships, IN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Mariposa County, CA | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Marshall, WV | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Medford Area, OR | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Memphis Area, TN | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | -0.01 | -0.01 | -0.02 | -0.03 |

Table A1-80
Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Cumulative Impacts
1,3-Butadiene 2050

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|---|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Memphis, TN-MS-AR | Ozone (2008 8-hour) | Nonattainment TN & Maintenance MS/AR, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Miami, AZ | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Miami, AZ | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Miami, AZ | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Milwaukee-Racine, WI | PM2.5 (2006 24-hour) | Maintenance, -- | 100 | 0 | -0.01 | -0.01 | -0.03 | -0.04 |
| Minneapolis-St. Paul Area, MN | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | -0.03 | -0.03 | -0.08 | -0.09 |
| Missoula Area, MT | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Missoula county; Missoula and vicinity, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Modesto Area, CA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | -0.01 |
| Mohave County (part); Bullhead City, AZ | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Mono County; Mammoth Lake planning area, CA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Mono County; Mono Basin, CA | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Morenci, AZ | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Morgan County, IN | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Morongo Band of Mission Indians | Ozone (2008 8-hour) | Nonattainment, Serious | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Morristown Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Muscatine County; (part), IA | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Muscatine, IA | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Muskingum River, OH | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Nashua Area, NH | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Nassau County, FL | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Nevada County (Western part), CA | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| New Haven County, CT | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |

Appendix A Air Quality Non-Attainment Area Results

Table A1-80

Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Cumulative Impacts

1,3-Butadiene 2050

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| New Haven-Meriden-Waterbury Area, CT | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | -0.01 | -0.01 | -0.02 | -0.03 |
| New Manchester-Grant magisterial district in Hancock County, WV | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| New York County, NY | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | -0.01 | -0.01 | -0.02 | -0.02 |
| New York, NY-NJ-CT | PM2.5 (2006 24-hour) | Maintenance, -- | 100 | 0 | -0.16 | -0.18 | -0.44 | -0.49 |
| New York-N. New Jersey-Long Island Area, NY-NJ-CT | CO (1971 8-hour) | Maintenance, Moderate > 12.7ppm | 100 | 0 | -0.09 | -0.10 | -0.24 | -0.27 |
| New York-N. New Jersey-Long Island, NY-NJ-CT | Ozone (2008 8-hour) | Nonattainment, Moderate | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| NJ portion of the Northeast Pennsylvania-Upper Delaware Valley Interstate AQCR: (part), NJ | SO ₂ (1971 24-hour/Annual) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Nogales, AZ | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Oakridge, OR | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Ogden Area, UT | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Ogden Area, UT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Olmsted County; (part), MN | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Olmsted; City of Rochester, MN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |

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Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Cumulative Impacts
1,3-Butadiene 2050

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Pechanga Band of Luiseno Mission Indians of the Pechanga Reservation | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Pekin, IL | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Penns Grove Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Peoria County: Hollis Twp, IL | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Peoria County: Peoria, IL | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Perth Amboy Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Philadelphia-Camden County Area, PA-NJ | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | -0.01 | 0.00 | -0.02 | -0.02 |
| Philadelphia-Wilmington, PA-NJ-DE | PM _{2.5} (2006 24-hour) | Maintenance, Moderate for PA and DE Subject to Former Subpart 1 for NJ | 100 | 0 | -0.03 | -0.02 | -0.10 | -0.10 |
| Philadelphia-Wilmington-Atlantic City, PA-NJ-MD-DE | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Phoenix Area, AZ | CO (1971 8-hour) | Maintenance, Serious | 100 | 0 | -0.03 | -0.04 | -0.10 | -0.11 |
| Phoenix-Mesa, AZ | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Pierce County; Tacoma, WA | PM ₁₀ (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Pima County; Ajo planning area, AZ | PM ₁₀ (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Pima County; Rillito planning area, AZ | PM ₁₀ (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Pinal and Gila Counties; Payson, AZ | PM ₁₀ (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Pinal County (part); West Pinal, AZ | PM ₁₀ (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | -0.01 | -0.01 |
| Pitkin County; Aspen, CO | PM ₁₀ (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Pittsburgh Area, PA | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | -0.01 |
| Pittsburgh-Beaver Valley, PA | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Pittsburgh-Beaver Valley, PA | PM _{2.5} (2006 24-hour) | Maintenance, Moderate | 100 | 0 | -0.02 | -0.02 | -0.05 | -0.05 |
| Plumas County, CA | PM _{2.5} (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Polk County, TN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |

Appendix A Air Quality Non-Attainment Area Results

Table A1-80

Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Cumulative Impacts

1,3-Butadiene 2050

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|-------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Portland Area: Portland Metro Service District Boundary, OR | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | -0.01 | -0.01 | -0.03 | -0.04 |
| Power-Bannock Counties; Fort Hall Indian Reservation, ID | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Power-Bannock Counties; Portneuf Valley Area, ID | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Provo Area, UT | CO (1971 8-hour) | Maintenance, Moderate > 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Provo, UT | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | -0.01 | -0.01 |
| Prowers County; Lamar, CO | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Raleigh-Durham Area, NC | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | -0.01 | -0.02 | -0.04 | -0.04 |
| Ramsey County; (part), MN | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Reading, PA | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Reno Area, NV | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | -0.01 | -0.01 |
| Rhinelander, WI | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Riverside County (Coachella Valley), CA | Ozone (2008 8-hour) | Nonattainment, Severe 15 | 25 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Riverside County; Coachella Valley planning area, CA | PM10 (1987 24-hour) | Nonattainment, Serious | 70 | 0 | 0.00 | -0.01 | -0.01 | -0.02 |
| Riverside, Los Angeles, Orange, and San Bernardino Counties; South Coast Air Basin, CA | PM10 (1987 24-hour) | Maintenance, Serious | 100 | 0 | -0.13 | -0.12 | -0.38 | -0.41 |
| Rosebud County; Lame Deer, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Routt County (part); Steamboat Springs, CO | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Sacramento Area, CA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | -0.01 | -0.01 | -0.03 | -0.04 |
| Sacramento County, CA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | -0.01 | -0.01 | -0.03 | -0.04 |
| Sacramento Metro, CA | Ozone (2008 8-hour) | Nonattainment, Severe 15 | 25 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Sacramento, CA | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | -0.02 | -0.02 | -0.06 | -0.07 |
| Salem Area, OR | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | -0.01 | -0.01 |
| Salt Lake City Area, UT | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.01 | 0.00 | 0.01 |
| Salt Lake City, UT | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | -0.01 | -0.01 | -0.04 | -0.04 |

Table A1-80

Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Cumulative Impacts

1,3-Butadiene 2050

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|---|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Salt Lake County, UT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | -0.01 | 0.00 | -0.02 | -0.02 |
| Salt Lake County, UT | SO ₂ (1971 24-hour/Annual) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| San Bernardino County (part); excluding Searles Valley Planning area and South Coast Air Basin, CA | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | -0.01 | -0.01 | -0.01 | -0.02 |
| San Diego Area, CA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | -0.03 | -0.04 | -0.09 | -0.10 |
| San Diego County, CA | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| San Francisco Bay Area, CA | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| San Francisco Bay Area, CA | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | -0.06 | -0.07 | -0.17 | -0.19 |
| San Francisco-Oakland-San Jose Area, CA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | -0.06 | -0.06 | -0.16 | -0.18 |
| San Joaquin Valley Air Basin; Fresno, Kern, Kings, Madera, Merced, San Joaquin, Stanislaus, Tulare Counties, CA | PM10 (1987 24-hour) | Maintenance, Serious | 100 | 0 | -0.04 | -0.05 | -0.12 | -0.13 |
| San Joaquin Valley, CA | Ozone (2008 8-hour) | Nonattainment, Extreme | 10 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| San Joaquin Valley, CA | PM2.5 (2006 24-hour) | Nonattainment, Serious | 100 | 0 | -0.04 | -0.05 | -0.12 | -0.13 |
| San Joaquin Valley, CA | PM2.5 (2012 Annual) | Nonattainment, Moderate | 100 | 0 | -0.04 | -0.05 | -0.12 | -0.13 |
| San Luis Obispo (Eastern San Luis Obispo), CA | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| San Manuel, AZ | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| San Miguel County; Telluride, CO | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Sanders County (part); Thompson Falls and vicinity, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Santa Cruz County; Nogales planning area, AZ | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Seaford, DE | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Seattle-Tacoma Area, WA | CO (1971 8-hour) | Maintenance, Moderate > 12.7ppm | 100 | 0 | -0.03 | -0.03 | -0.07 | -0.08 |
| Seattle-Tacoma, WA | PM2.5 (2006 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | -0.01 | -0.01 |
| Sheboygan County, WI | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |

Appendix A Air Quality Non-Attainment Area Results

Table A1-80

Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Cumulative Impacts

1,3-Butadiene 2050

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|---|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Sheridan County; City of Sheridan, WY | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Shoshone County (part); excluding Pinehurst, ID | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Shoshone County; City of Pinehurst, ID | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Silver Bow County; Butte, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Somerville Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Southwest Indiana, IN | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Spokane Area, WA | CO (1971 8-hour) | Maintenance, Serious | 100 | 0 | 0.00 | 0.00 | -0.01 | -0.01 |
| Spokane County; (part), WA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | -0.01 | -0.01 |
| Springfield Area, MA | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | -0.01 |
| St. Bernard Parish, LA | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| St. Louis Area, MO | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | -0.01 | -0.01 | -0.02 | -0.03 |
| St. Louis-St. Charles-Farmington, MO-IL | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Steubenville, OH-WV | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Steubenville-Weirton, OH-WV | PM2.5 (2006 24-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Stockton Area, CA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | -0.01 | -0.01 |
| Sullivan County, TN | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Syracuse Area; Onondaga County, NY | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | -0.01 | -0.01 | -0.01 | -0.02 |
| Tazewell County; Groveland Twp, IL | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Terre Haute, IN | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |

Table A1-80

Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Cumulative Impacts

1,3-Butadiene 2050

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|---|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Thurston County; Cities of Olympia, Tumwater, and Lacey, WA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Toms River Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Tooele County (part), UT | SO ₂ (1971 24-hour/Annual) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Trenton Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Trona, CA | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Tucson Area, AZ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | -0.01 | -0.01 | -0.02 | -0.03 |
| Tuscan Buttes, CA | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Union County; LaGrande, OR | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Upper Green River Basin Area, WY | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Utah County, UT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | -0.01 | -0.01 |
| Vancouver Area: Clark County (part), WA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | -0.01 | -0.01 |
| Ventura County, CA | Ozone (2008 8-hour) | Nonattainment, Serious | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Vermillion County; Part of Clinton Township, IN | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Vigo County, IN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Walla Walla County; Wallula, WA | PM10 (1987 24-hour) | Maintenance, Serious | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Waltham Area, MA | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Warren County: Conewago Twp, PA | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Warren County: Warren Boro, Pleasant Twp, Glade Twp, PA | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Warren, PA | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Washington Area, DC-MD-VA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | -0.01 | -0.01 | -0.02 | -0.02 |
| Washington, DC-MD-VA | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Washoe County; Reno planning area, NV | PM10 (1987 24-hour) | Nonattainment, Serious | 70 | 0 | 0.00 | 0.00 | -0.01 | -0.01 |

Appendix A Air Quality Non-Attainment Area Results

Table A1-80

Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Cumulative Impacts

1,3-Butadiene 2050

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|---|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Wayne County: Boston, Center, Franklin, Wayne & Webster Townships, IN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Wayne County; (part), MI | PM ₁₀ (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.04 | 0.10 | 0.08 | 0.12 |
| West Central Pinal County, AZ | PM _{2.5} (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| West Silver Valley, ID | PM _{2.5} (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Winston-Salem Area, NC | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | -0.01 | -0.01 |
| Worcester Area, MA | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | -0.01 | -0.01 |
| Yakima Area, WA | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Yakima County; (part), WA | PM ₁₀ (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Yuba City-Marysville, CA | PM _{2.5} (2006 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | -0.01 | -0.01 |
| Yuma County; Yuma planning area, AZ | PM ₁₀ (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |

^a Reductions are shown as positive values. Negative values are emissions increases. Values of less than 0.005 tons per year are rounded to zero.

^b Nonattainment or maintenance status as of 5/13/2016. Source: U.S. EPA, The Green Book Nonattainment Areas for Criteria Pollutants; <http://www.epa.gov/airquality/greenbook/>. "--" indicates that no severity classification has been established for the NAAQS pollutant.

^c Emissions thresholds in tons per year. Where the threshold differs by precursor pollutant, the smallest of the precursor thresholds is shown. These thresholds are provided for information only; a general conformity determination is not required for the Proposed Action. Source: 40 CFR 93.853.

Notes: CO = carbon monoxide; NAAQS = National Ambient Air Quality Standards; NO₂ = nitrogen dioxide; PM = particulate matter; SO₂ = sulfur dioxide

Table A1-81
Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Cumulative Impacts
Diesel Particulate Matter (DPM) 2018

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Ada County; Boise, ID | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.01 | 0.01 | 0.01 | 0.01 |
| Adams, Denver, and Boulder Counties; Denver Metropolitan area, CO | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.06 | 0.06 | 0.06 | 0.07 |
| Ajo, AZ | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Albuquerque Area, NM | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.02 | 0.02 | 0.02 | 0.02 |
| Allegheny County Air Basin: Hazelwood monitor, PA | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Allegheny County, PA | PM2.5 (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 0.03 | 0.03 | 0.03 | 0.03 |
| Allegheny County; The area including Liberty, Lincoln, Port Vue, and Glassport Boroughs and the City of Clairton, PA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Allegheny, PA | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Allentown, PA | PM2.5 (2006 24-hour) | Maintenance, Moderate | 100 | 0 | 0.02 | 0.02 | 0.02 | 0.02 |
| Allentown-Bethlehem-Easton, PA | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Anchorage Area, AK | CO (1971 8-hour) | Maintenance, Serious | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Anchorage; Eagle River, AK | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| AQCR 012: Portions of Grant County, NM | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| AQCR 109-Millinocket, ME | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| AQCR 131: Anoka, Carver, Dakota, Hennepin, Ramsey, Scott, and Washington counties (Minneapolis-St. Paul), MN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| AQCR 237: Brown County: Green Bay sub-city area, WI | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| AQCR 238: Marathon County: Rothschild Sub-city area, Rib Mountain, Weston, WI | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| AQCR 238: Oneida County: Rhinelander Sub-city area, WI | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| AQCR 239: Milwaukee County: Milwaukee sub-city area, WI | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |

Appendix A Air Quality Non-Attainment Area Results

Table A1-81

**Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Cumulative Impacts
Diesel Particulate Matter (DPM) 2018**

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| AQCR 240: Dane County: Madison sub-city area, WI | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Archuleta County; Pagosa Springs, CO | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Armstrong County: Madison Twp, Mahoning Twp, Boggs Twp, Washington Twp, Pine Twp, PA | SO ₂ (1971 24-hour/Annual) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Aroostock County; City of Presque Isle, ME | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Atlanta, GA | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Atlantic City Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Bakersfield Area, CA | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.04 | 0.06 | 0.06 | 0.07 |
| Baltimore Area, MD | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Baltimore, MD | Ozone (2008 8-hour) | Nonattainment, Moderate | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Baton Rouge, LA | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Beaver, PA | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Benton County; (part) TVA Johnsonville, TN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Billings Area, MT | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.20 | 0.33 | 0.37 | 0.45 |
| Billings, MT | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.20 | 0.33 | 0.37 | 0.45 |
| Birmingham, AL | PM2.5 (2006 24-hour) | Maintenance, -- | 100 | 0 | 0.04 | 0.05 | 0.05 | 0.05 |
| Boise-Northern Ada County Area, ID | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.01 | 0.01 | 0.01 | 0.01 |
| Bonner County; The Sandpoint Area, ID | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Boston Area, MA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.03 | 0.04 | 0.03 | 0.04 |
| Boyd County (part), KY | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Brooke; Follansbee area, WV | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Burlington Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Calaveras County, CA | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Campbell-Clermont Counties, KY-OH | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |

Table A1-81
Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Cumulative Impacts
Diesel Particulate Matter (DPM) 2018

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|---|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Canton-Massillon, OH | PM2.5 (2006 24-hour) | Maintenance, -- | 100 | 0 | 0.12 | 0.19 | 0.21 | 0.25 |
| Central New Hampshire, NH | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.01 | 0.01 | 0.01 | 0.01 |
| Central Steptoe Valley, NV | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Charleston, WV | PM2.5 (2006 24-hour) | Maintenance, -- | 100 | 0 | 0.01 | 0.01 | 0.01 | 0.01 |
| Charlotte Area, NC | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.04 | 0.04 | 0.04 | 0.05 |
| Charlotte-Rock Hill, NC-SC | Ozone (2008 8-hour) | Maintenance, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Chicago-Naperville, IL-IN-WI | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Chico (Butte County), CA | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Chico Area, CA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Chico, CA | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.01 | 0.01 | 0.01 | 0.01 |
| Cincinnati, OH-KY-IN | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Clark County; Las Vegas planning area, NV | PM10 (1987 24-hour) | Maintenance, Serious | 100 | 0 | 0.05 | 0.06 | 0.06 | 0.06 |
| Cleveland Area, OH | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.03 | 0.03 | 0.03 | 0.04 |
| Cleveland, OH | PM2.5 (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 0.04 | 0.04 | 0.04 | 0.05 |
| Cleveland-Akron-Lorain, OH | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Cleveland-Akron-Lorain, OH | PM2.5 (2006 24-hour) | Maintenance, -- | 100 | 0 | 0.09 | 0.09 | 0.09 | 0.10 |
| Cochise County; Paul Spur/Douglas planning area, AZ | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Colorado Springs Area, CO | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.02 | 0.02 | 0.02 | 0.02 |
| Columbus, OH | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Cook County; Lyons Township, IL | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Cook County; Southeast Chicago, IL | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Coshocton County; Franklin Township, OH | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Coso Junction, CA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Cuyahoga County (part), OH | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Cuyahoga County, OH | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.03 | 0.03 | 0.03 | 0.04 |

Appendix A Air Quality Non-Attainment Area Results

Table A1-81

Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Cumulative Impacts Diesel Particulate Matter (DPM) 2018

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Dallas-Fort Worth, TX | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Delaware County, PA | PM2.5 (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 0.37 | 0.61 | 0.69 | 0.83 |
| Denver-Boulder Area, CO | CO (1971 8-hour) | Maintenance, Serious | 100 | 0 | 0.22 | 0.32 | 0.34 | 0.41 |
| Denver-Boulder-Greeley-Ft Collins-Loveland, CO | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Detroit Area, MI | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.09 | 0.11 | 0.11 | 0.14 |
| Detroit, MI | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.04 | 0.06 | 0.07 | 0.08 |
| Detroit-Ann Arbor, MI | PM2.5 (2006 24-hour) | Maintenance, -- | 100 | 0 | 0.19 | 0.23 | 0.22 | 0.26 |
| Dona Ana County; Anthony, NM | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Douglas, AZ | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Dukes County, MA | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Duluth Area, MN | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| East Chicago Area, IN | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.14 | 0.24 | 0.27 | 0.32 |
| East Helena Area, MT | SO ₂ (1971 24-hour/Annual) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| East Kern County Area, CA | PM10 (1987 24-hour) | Nonattainment, Serious | 70 | 0 | 0.03 | 0.04 | 0.05 | 0.06 |
| El Paso County, TX | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.05 | 0.07 | 0.07 | 0.09 |
| El Paso, TX | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.03 | 0.05 | 0.06 | 0.07 |
| Eugene-Springfield Area, OR | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.01 | 0.01 | 0.01 | 0.01 |
| Fairbanks Area, AK | CO (1971 8-hour) | Maintenance, Serious | 100 | 0 | 0.00 | 0.01 | 0.01 | 0.01 |
| Fairbanks, AK | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.01 | 0.01 | 0.01 | 0.01 |

Table A1-81
Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Cumulative Impacts
Diesel Particulate Matter (DPM) 2018

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|---|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Flathead County; Columbia Falls and vicinity, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Flathead County; Kalispell and vicinity, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Flathead County; Whitefish and vicinity, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Fort Collins Area, CO | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Freehold Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Fremont County; Canon City Area, CO | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Fresno Area, CA | CO (1971 8-hour) | Maintenance, Moderate > 12.7ppm | 100 | 0 | 0.02 | 0.02 | 0.02 | 0.02 |
| Grants Pass Area, OR | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Great Falls Area, MT | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.02 | 0.04 | 0.04 | 0.05 |
| Greater Connecticut, CT | Ozone (2008 8-hour) | Nonattainment, Moderate | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Greeley Area, CO | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.02 | 0.02 | 0.02 | 0.02 |
| Hancock and Brooke Counties (Part); The city of Weirton, WV | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Hancock County (Part) The city of Weirton, including Butler and Clay: Magisterial Districts, WV | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Harrisburg-Lebanon-Carlisle-York, PA | PM2.5 (2006 24-hour) | Maintenance, Moderate | 100 | 0 | 0.04 | 0.04 | 0.04 | 0.05 |
| Hartford-New Britain-Middletown Area, CT | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.04 | 0.04 | 0.04 | 0.04 |
| Hayden, AZ | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Hayden, AZ | SO ₂ (1971 24-hour/Annual) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Hayden, AZ | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Hillsborough County, FL | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Houston-Galveston-Brazoria, TX | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Humphreys County; (part) TVA Johnsonville, TN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Imperial Co, CA | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.01 | 0.01 | 0.01 | 0.01 |

Appendix A Air Quality Non-Attainment Area Results

Table A1-81

Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Cumulative Impacts Diesel Particulate Matter (DPM) 2018

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Imperial County, CA | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Imperial County, CA | PM2.5 (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 0.01 | 0.01 | 0.01 | 0.01 |
| Imperial County; Imperial Valley planning area, CA | PM10 (1987 24-hour) | Nonattainment, Serious | 70 | 0 | 0.01 | 0.01 | 0.01 | 0.01 |
| Indian Wells, CA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.03 | 0.04 | 0.05 | 0.06 |
| Indiana, PA | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Indianapolis Area, IN | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Indianapolis, IN | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.02 | 0.02 | 0.02 | 0.02 |
| Inyo County; Owens Valley planning area, CA | PM10 (1987 24-hour) | Nonattainment, Serious | 70 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Jackson County, MO | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Jackson County; Medford-Ashland (including White City), OR | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.01 | 0.01 | 0.01 | 0.01 |
| Jamestown, NY | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Jefferson County, KY | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Jefferson County, MO | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Jefferson County; (part) Steubenville & Mingo Junction, OH | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Jefferson County; (part), OH | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Johnstown, PA | PM2.5 (2006 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Josephine County; Grants Pass, OR | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Juneau; Mendenhall Valley area, AK | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Kern County (Eastern Kern), CA | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| King County; Kent, WA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| King County; Seattle, WA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Klamath County; Klamath Falls, OR | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Klamath Falls Area, OR | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Klamath Falls, OR | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |

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| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Knoxville, TN | Ozone (2008 8-hour) | Maintenance, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Knoxville-Sevierville-La Follette, TN | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.03 | 0.03 | 0.03 | 0.04 |
| La Porte County: (part), IN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lake County (part); Lakeview, OR | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lake County, OH | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.01 | 0.01 | 0.01 | 0.01 |
| Lake County: (part), IN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lake County; (part) Eastlake, Timberlake, Lakeline, Willoughby, Mentor, OH | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lake County; Cities of East Chicago, Hammond, Whiting, and Gary, IN | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.15 | 0.24 | 0.27 | 0.33 |
| Lake County; Polson, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lake County; Ronan, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lake Tahoe Nevada Area, NV | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lake Tahoe North Shore Area, CA | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lake Tahoe South Shore Area, CA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lancaster, PA | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lancaster, PA | PM2.5 (2006 24-hour) | Maintenance, Moderate | 100 | 0 | 0.02 | 0.02 | 0.02 | 0.02 |
| Lane County (part); Oakridge, OR | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lane County; Eugene/Springfield, OR | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.01 | 0.01 | 0.01 | 0.01 |
| Las Vegas Area, NV | CO (1971 8-hour) | Maintenance, Serious | 100 | 0 | 0.05 | 0.06 | 0.06 | 0.06 |
| LaSalle County; Oglesby, IL | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Laurel Area, MT | SO ₂ (1971 24-hour/Annual) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lebanon County, PA | PM2.5 (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 0.01 | 0.01 | 0.01 | 0.01 |
| Lemont, IL | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.22 | 0.36 | 0.40 | 0.49 |
| Liberty-Clairton, PA | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |

Appendix A Air Quality Non-Attainment Area Results

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Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Cumulative Impacts Diesel Particulate Matter (DPM) 2018

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Lincoln County; Libby and vicinity, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Logan, UT-ID | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Longmont Area, CO | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lorain County (part), OH | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Los Angeles, CA | PM2.5 (2006 24-hour) | Nonattainment, Serious | 100 | 0 | 1.15 | 1.64 | 1.73 | 2.07 |
| Los Angeles-San Bernardino Counties (West Mojave Desert), CA | Ozone (2008 8-hour) | Nonattainment, Severe 15 | 25 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Los Angeles-South Coast Air Basin Area, CA | CO (1971 8-hour) | Maintenance, Serious | 100 | 0 | 1.15 | 1.64 | 1.73 | 2.07 |
| Los Angeles-South Coast Air Basin Area, CA | NO ₂ (1971 Annual) | Maintenance, -- | 100 | 0 | 1.15 | 1.64 | 1.73 | 2.07 |
| Los Angeles-South Coast Air Basin, CA | Ozone (2008 8-hour) | Nonattainment, Extreme | 10 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Los Angeles-South Coast Air Basin, CA | PM2.5 (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 1.15 | 1.64 | 1.73 | 2.07 |
| Lowell Area, MA | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lucas County (part), OH | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Madison County; Granite City Township and Nameoki Township, IL | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.18 | 0.30 | 0.34 | 0.41 |
| Manchester Area, NH | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Maricopa and Pinal Counties; Phoenix planning area, AZ | PM10 (1987 24-hour) | Nonattainment, Serious | 70 | 0 | 0.12 | 0.13 | 0.12 | 0.14 |
| Marion County; Lawrence, Washington, and Warrant Townships, IN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Mariposa County, CA | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Marshall, WV | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.12 | 0.21 | 0.23 | 0.28 |
| Medford Area, OR | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Memphis Area, TN | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.10 | 0.15 | 0.16 | 0.19 |

Table A1-81
Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Cumulative Impacts
Diesel Particulate Matter (DPM) 2018

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|---|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Memphis, TN-MS-AR | Ozone (2008 8-hour) | Nonattainment TN & Maintenance MS/AR, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Miami, AZ | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Miami, AZ | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Miami, AZ | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Milwaukee-Racine, WI | PM2.5 (2006 24-hour) | Maintenance, -- | 100 | 0 | 0.04 | 0.04 | 0.04 | 0.05 |
| Minneapolis-St. Paul Area, MN | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.33 | 0.49 | 0.53 | 0.63 |
| Missoula Area, MT | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.02 | 0.04 | 0.04 | 0.05 |
| Missoula county; Missoula and vicinity, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.02 | 0.04 | 0.04 | 0.05 |
| Modesto Area, CA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.01 | 0.01 | 0.01 | 0.01 |
| Mohave County (part); Bullhead City, AZ | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Mono County; Mammoth Lake planning area, CA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Mono County; Mono Basin, CA | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Morenci, AZ | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Morgan County, IN | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Morongo Band of Mission Indians | Ozone (2008 8-hour) | Nonattainment, Serious | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Morristown Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Muscatine County; (part), IA | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Muscatine, IA | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Muskingum River, OH | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Nashua Area, NH | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Nassau County, FL | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Nevada County (Western part), CA | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| New Haven County, CT | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |

Appendix A Air Quality Non-Attainment Area Results

Table A1-81

Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Cumulative Impacts Diesel Particulate Matter (DPM) 2018

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| New Haven-Meriden-Waterbury Area, CT | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.03 | 0.03 | 0.03 | 0.03 |
| New Manchester-Grant magisterial district in Hancock County, WV | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| New York County, NY | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.02 | 0.02 | 0.02 | 0.02 |
| New York, NY-NJ-CT | PM2.5 (2006 24-hour) | Maintenance, -- | 100 | 0 | 0.62 | 0.74 | 0.71 | 0.84 |
| New York-N. New Jersey-Long Island Area, NY-NJ-CT | CO (1971 8-hour) | Maintenance, Moderate > 12.7ppm | 100 | 0 | 0.38 | 0.46 | 0.45 | 0.54 |
| New York-N. New Jersey-Long Island, NY-NJ-CT | Ozone (2008 8-hour) | Nonattainment, Moderate | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| NJ portion of the Northeast Pennsylvania-Upper Delaware Valley Interstate AQCR: (part), NJ | SO ₂ (1971 24-hour/Annual) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Nogales, AZ | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Oakridge, OR | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Ogden Area, UT | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Ogden Area, UT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Olmsted County; (part), MN | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Olmsted; City of Rochester, MN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |

Table A1-81
Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Cumulative Impacts
Diesel Particulate Matter (DPM) 2018

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Pechanga Band of Luiseno Mission Indians of the Pechanga Reservation | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Pekin, IL | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Penns Grove Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Peoria County: Hollis Twp, IL | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Peoria County: Peoria, IL | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Perth Amboy Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.02 | 0.03 | 0.04 | 0.04 |
| Philadelphia-Camden County Area, PA-NJ | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.22 | 0.34 | 0.38 | 0.46 |
| Philadelphia-Wilmington, PA-NJ-DE | PM _{2.5} (2006 24-hour) | Maintenance, Moderate for PA and DE Subject to Former Subpart 1 for NJ | 100 | 0 | 0.76 | 1.19 | 1.31 | 1.58 |
| Philadelphia-Wilmington-Atlantic City, PA-NJ-MD-DE | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Phoenix Area, AZ | CO (1971 8-hour) | Maintenance, Serious | 100 | 0 | 0.11 | 0.12 | 0.11 | 0.13 |
| Phoenix-Mesa, AZ | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Pierce County; Tacoma, WA | PM ₁₀ (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Pima County; Ajo planning area, AZ | PM ₁₀ (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Pima County; Rillito planning area, AZ | PM ₁₀ (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Pinal and Gila Counties; Payson, AZ | PM ₁₀ (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Pinal County (part); West Pinal, AZ | PM ₁₀ (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.01 | 0.01 | 0.01 | 0.01 |
| Pitkin County; Aspen, CO | PM ₁₀ (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Pittsburgh Area, PA | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.01 | 0.01 | 0.01 | 0.01 |
| Pittsburgh-Beaver Valley, PA | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Pittsburgh-Beaver Valley, PA | PM _{2.5} (2006 24-hour) | Maintenance, Moderate | 100 | 0 | 0.07 | 0.08 | 0.08 | 0.09 |
| Plumas County, CA | PM _{2.5} (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Polk County, TN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |

Appendix A Air Quality Non-Attainment Area Results

Table A1-81

Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Cumulative Impacts Diesel Particulate Matter (DPM) 2018

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|-------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Portland Area: Portland Metro Service District Boundary, OR | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.04 | 0.04 | 0.04 | 0.04 |
| Power-Bannock Counties; Fort Hall Indian Reservation, ID | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Power-Bannock Counties; Portneuf Valley Area, ID | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Provo Area, UT | CO (1971 8-hour) | Maintenance, Moderate > 12.7ppm | 100 | 0 | 0.01 | 0.01 | 0.01 | 0.01 |
| Provo, UT | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.02 | 0.02 | 0.02 | 0.02 |
| Prowers County; Lamar, CO | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Raleigh-Durham Area, NC | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.04 | 0.05 | 0.04 | 0.05 |
| Ramsey County; (part), MN | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Reading, PA | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Reno Area, NV | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.01 | 0.01 | 0.01 | 0.01 |
| Rhinelander, WI | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Riverside County (Coachella Valley), CA | Ozone (2008 8-hour) | Nonattainment, Severe 15 | 25 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Riverside County; Coachella Valley planning area, CA | PM10 (1987 24-hour) | Nonattainment, Serious | 70 | 0 | 0.02 | 0.02 | 0.02 | 0.02 |
| Riverside, Los Angeles, Orange, and San Bernardino Counties; South Coast Air Basin, CA | PM10 (1987 24-hour) | Maintenance, Serious | 100 | 0 | 1.15 | 1.63 | 1.73 | 2.07 |
| Rosebud County; Lame Deer, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Routt County (part); Steamboat Springs, CO | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.01 | 0.01 | 0.01 |
| Sacramento Area, CA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.04 | 0.05 | 0.04 | 0.05 |
| Sacramento County, CA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.04 | 0.04 | 0.04 | 0.05 |
| Sacramento Metro, CA | Ozone (2008 8-hour) | Nonattainment, Severe 15 | 25 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Sacramento, CA | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.14 | 0.19 | 0.20 | 0.24 |
| Salem Area, OR | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.01 | 0.01 | 0.01 | 0.01 |
| Salt Lake City Area, UT | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.08 | 0.13 | 0.14 | 0.17 |
| Salt Lake City, UT | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.13 | 0.19 | 0.20 | 0.24 |

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Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Cumulative Impacts
Diesel Particulate Matter (DPM) 2018

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|---|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Salt Lake County, UT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.10 | 0.15 | 0.16 | 0.20 |
| Salt Lake County, UT | SO ₂ (1971 24-hour/Annual) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| San Bernardino County (part); excluding Searles Valley Planning area and South Coast Air Basin, CA | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.02 | 0.02 | 0.02 | 0.02 |
| San Diego Area, CA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.11 | 0.12 | 0.11 | 0.12 |
| San Diego County, CA | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| San Francisco Bay Area, CA | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| San Francisco Bay Area, CA | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.99 | 1.52 | 1.66 | 2.01 |
| San Francisco-Oakland-San Jose Area, CA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.97 | 1.50 | 1.65 | 1.99 |
| San Joaquin Valley Air Basin; Fresno, Kern, Kings, Madera, Merced, San Joaquin, Stanislaus, Tulare Counties, CA | PM10 (1987 24-hour) | Maintenance, Serious | 100 | 0 | 0.17 | 0.19 | 0.19 | 0.22 |
| San Joaquin Valley, CA | Ozone (2008 8-hour) | Nonattainment, Extreme | 10 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| San Joaquin Valley, CA | PM2.5 (2006 24-hour) | Nonattainment, Serious | 100 | 0 | 0.17 | 0.19 | 0.19 | 0.22 |
| San Joaquin Valley, CA | PM2.5 (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 0.17 | 0.19 | 0.19 | 0.22 |
| San Luis Obispo (Eastern San Luis Obispo), CA | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| San Manuel, AZ | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| San Miguel County; Telluride, CO | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Sanders County (part); Thompson Falls and vicinity, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Santa Cruz County; Nogales planning area, AZ | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Seaford, DE | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Seattle-Tacoma Area, WA | CO (1971 8-hour) | Maintenance, Moderate > 12.7ppm | 100 | 0 | 0.09 | 0.10 | 0.09 | 0.11 |
| Seattle-Tacoma, WA | PM2.5 (2006 24-hour) | Maintenance, Moderate | 100 | 0 | 0.02 | 0.02 | 0.02 | 0.02 |
| Sheboygan County, WI | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |

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**Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Cumulative Impacts
Diesel Particulate Matter (DPM) 2018**

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|---|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Sheridan County; City of Sheridan, WY | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Shoshone County (part); excluding Pinehurst, ID | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Shoshone County; City of Pinehurst, ID | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Silver Bow County; Butte, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Somerville Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Southwest Indiana, IN | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Spokane Area, WA | CO (1971 8-hour) | Maintenance, Serious | 100 | 0 | 0.01 | 0.01 | 0.01 | 0.01 |
| Spokane County; (part), WA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.01 | 0.01 | 0.01 | 0.01 |
| Springfield Area, MA | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.01 | 0.01 | 0.01 | 0.01 |
| St. Bernard Parish, LA | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.33 | 0.54 | 0.61 | 0.74 |
| St. Louis Area, MO | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.03 | 0.03 | 0.03 | 0.03 |
| St. Louis-St. Charles-Farmington, MO-IL | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Steubenville, OH-WV | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Steubenville-Weirton, OH-WV | PM2.5 (2006 24-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.01 | 0.01 | 0.01 |
| Stockton Area, CA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.01 | 0.01 | 0.01 | 0.02 |
| Sullivan County, TN | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Syracuse Area; Onondaga County, NY | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.02 | 0.02 | 0.02 | 0.02 |
| Tazewell County; Groveland Twp, IL | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Terre Haute, IN | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.01 | 0.01 | 0.01 | 0.02 |

Table A1-81

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 Diesel Particulate Matter (DPM) 2018

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|---|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Thurston County; Cities of Olympia, Tumwater, and Lacey, WA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Toms River Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Tooele County (part), UT | SO ₂ (1971 24-hour/Annual) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Trenton Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Trona, CA | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Tucson Area, AZ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.03 | 0.03 | 0.03 | 0.03 |
| Tuscan Buttes, CA | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Union County; LaGrande, OR | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Upper Green River Basin Area, WY | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Utah County, UT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.02 | 0.02 | 0.02 | 0.02 |
| Vancouver Area: Clark County (part), WA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.01 | 0.01 | 0.01 | 0.01 |
| Ventura County, CA | Ozone (2008 8-hour) | Nonattainment, Serious | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Vermillion County; Part of Clinton Township, IN | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Vigo County, IN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Walla Walla County; Wallula, WA | PM10 (1987 24-hour) | Maintenance, Serious | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Waltham Area, MA | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Warren County: Conewago Twp, PA | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Warren County: Warren Boro, Pleasant Twp, Glade Twp, PA | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Warren, PA | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.04 | 0.07 | 0.08 | 0.10 |
| Washington Area, DC-MD-VA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.02 | 0.02 | 0.02 | 0.02 |
| Washington, DC-MD-VA | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Washoe County; Reno planning area, NV | PM10 (1987 24-hour) | Nonattainment, Serious | 70 | 0 | 0.01 | 0.01 | 0.01 | 0.01 |

Appendix A Air Quality Non-Attainment Area Results

Table A1-81

Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Cumulative Impacts Diesel Particulate Matter (DPM) 2018

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|---|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Wayne County: Boston, Center, Franklin, Wayne & Webster Townships, IN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Wayne County; (part), MI | PM ₁₀ (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.03 | 0.06 | 0.06 | 0.07 |
| West Central Pinal County, AZ | PM _{2.5} (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| West Silver Valley, ID | PM _{2.5} (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Winston-Salem Area, NC | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.01 | 0.01 | 0.01 | 0.01 |
| Worcester Area, MA | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.01 | 0.01 | 0.01 | 0.01 |
| Yakima Area, WA | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Yakima County; (part), WA | PM ₁₀ (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Yuba City-Marysville, CA | PM _{2.5} (2006 24-hour) | Maintenance, Moderate | 100 | 0 | 0.01 | 0.01 | 0.01 | 0.01 |
| Yuma County; Yuma planning area, AZ | PM ₁₀ (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.01 | 0.01 | 0.01 | 0.01 |

^a Reductions are shown as positive values. Negative values are emissions increases. Values of less than 0.005 tons per year are rounded to zero.

^b Nonattainment or maintenance status as of 5/13/2016. Source: U.S. EPA, The Green Book Nonattainment Areas for Criteria Pollutants; <http://www.epa.gov/airquality/greenbook/>. "--" indicates that no severity classification has been established for the NAAQS pollutant.

^c Emissions thresholds in tons per year. Where the threshold differs by precursor pollutant, the smallest of the precursor thresholds is shown. These thresholds are provided for information only; a general conformity determination is not required for the Proposed Action. Source: 40 CFR 93.853.

Notes: CO = carbon monoxide; NAAQS = National Ambient Air Quality Standards; NO₂ = nitrogen dioxide; PM = particulate matter; SO₂ = sulfur dioxide

Table A1-82
Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Cumulative Impacts
Diesel Particulate Matter (DPM) 2025

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Ada County; Boise, ID | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | -0.02 | -0.04 | -0.08 | -0.09 |
| Adams, Denver, and Boulder Counties; Denver Metropolitan area, CO | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.12 | 0.27 | 0.07 | 0.29 |
| Ajo, AZ | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Albuquerque Area, NM | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | -0.04 | -0.06 | -0.16 | -0.16 |
| Allegheny County Air Basin: Hazelwood monitor, PA | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Allegheny County, PA | PM2.5 (2012 Annual) | Nonattainment, Moderate | 100 | 0 | -0.04 | -0.06 | -0.19 | -0.18 |
| Allegheny County; The area including Liberty, Lincoln, Port Vue, and Glassport Boroughs and the City of Clairton, PA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.01 | 0.03 | 0.03 | 0.05 |
| Allegheny, PA | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.01 | 0.02 | 0.01 | 0.03 |
| Allentown, PA | PM2.5 (2006 24-hour) | Maintenance, Moderate | 100 | 0 | -0.03 | -0.06 | -0.15 | -0.15 |
| Allentown-Bethlehem-Easton, PA | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Anchorage Area, AK | CO (1971 8-hour) | Maintenance, Serious | 100 | 0 | -0.01 | -0.01 | -0.03 | -0.03 |
| Anchorage; Eagle River, AK | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| AQCR 012: Portions of Grant County, NM | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| AQCR 109-Millinocket, ME | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| AQCR 131: Anoka, Carver, Dakota, Hennepin, Ramsey, Scott, and Washington counties (Minneapolis-St. Paul), MN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| AQCR 237: Brown County: Green Bay sub-city area, WI | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| AQCR 238: Marathon County: Rothschild Sub-city area, Rib Mountain, Weston, WI | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| AQCR 238: Oneida County: Rhinelander Sub-city area, WI | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| AQCR 239: Milwaukee County: Milwaukee sub-city area, WI | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |

Appendix A Air Quality Non-Attainment Area Results

Table A1-82

**Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Cumulative Impacts
Diesel Particulate Matter (DPM) 2025**

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| AQCR 240: Dane County: Madison sub-city area, WI | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Archuleta County; Pagosa Springs, CO | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | -0.01 | -0.01 |
| Armstrong County: Madison Twp, Mahoning Twp, Boggs Twp, Washington Twp, Pine Twp, PA | SO ₂ (1971 24-hour/Annual) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Aroostock County; City of Presque Isle, ME | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Atlanta, GA | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Atlantic City Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | -0.01 | -0.01 | -0.02 |
| Bakersfield Area, CA | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.76 | 1.57 | 1.63 | 2.47 |
| Baltimore Area, MD | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Baltimore, MD | Ozone (2008 8-hour) | Nonattainment, Moderate | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Baton Rouge, LA | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Beaver, PA | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Benton County; (part) TVA Johnsonville, TN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Billings Area, MT | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 6.40 | 13.21 | 14.35 | 21.21 |
| Billings, MT | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 6.41 | 13.22 | 14.37 | 21.23 |
| Birmingham, AL | PM2.5 (2006 24-hour) | Maintenance, -- | 100 | 0 | -0.01 | 0.00 | -0.19 | -0.12 |
| Boise-Northern Ada County Area, ID | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | -0.02 | -0.04 | -0.08 | -0.09 |
| Bonner County; The Sandpoint Area, ID | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Boston Area, MA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.15 | 0.32 | 0.24 | 0.44 |
| Boyd County (part), KY | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Brooke; Follansbee area, WV | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Burlington Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Calaveras County, CA | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Campbell-Clermont Counties, KY-OH | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | -0.01 | -0.01 |

Table A1-82
Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Cumulative Impacts
Diesel Particulate Matter (DPM) 2025

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|---|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Canton-Massillon, OH | PM2.5 (2006 24-hour) | Maintenance, -- | 100 | 0 | 3.37 | 6.96 | 7.50 | 11.14 |
| Central New Hampshire, NH | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | -0.01 | -0.02 | -0.06 | -0.06 |
| Central Steptoe Valley, NV | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Charleston, WV | PM2.5 (2006 24-hour) | Maintenance, -- | 100 | 0 | -0.02 | -0.04 | -0.10 | -0.10 |
| Charlotte Area, NC | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | -0.08 | -0.14 | -0.35 | -0.36 |
| Charlotte-Rock Hill, NC-SC | Ozone (2008 8-hour) | Maintenance, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Chicago-Naperville, IL-IN-WI | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Chico (Butte County), CA | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Chico Area, CA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | -0.01 | -0.01 | -0.02 | -0.02 |
| Chico, CA | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | -0.01 | -0.02 | -0.05 | -0.05 |
| Cincinnati, OH-KY-IN | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Clark County; Las Vegas planning area, NV | PM10 (1987 24-hour) | Maintenance, Serious | 100 | 0 | -0.01 | -0.01 | -0.24 | -0.17 |
| Cleveland Area, OH | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | -0.06 | -0.11 | -0.26 | -0.27 |
| Cleveland, OH | PM2.5 (2012 Annual) | Nonattainment, Moderate | 100 | 0 | -0.08 | -0.14 | -0.34 | -0.35 |
| Cleveland-Akron-Lorain, OH | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Cleveland-Akron-Lorain, OH | PM2.5 (2006 24-hour) | Maintenance, -- | 100 | 0 | -0.17 | -0.31 | -0.74 | -0.76 |
| Cochise County; Paul Spur/Douglas planning area, AZ | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | -0.01 | -0.01 |
| Colorado Springs Area, CO | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.01 | 0.04 | -0.04 | 0.00 |
| Columbus, OH | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Cook County; Lyons Township, IL | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | -0.01 | -0.02 | -0.02 |
| Cook County; Southeast Chicago, IL | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | -0.01 | -0.02 | -0.02 |
| Coshocton County; Franklin Township, OH | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Coso Junction, CA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Cuyahoga County (part), OH | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Cuyahoga County, OH | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | -0.06 | -0.11 | -0.26 | -0.26 |

Appendix A Air Quality Non-Attainment Area Results

Table A1-82

Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Cumulative Impacts Diesel Particulate Matter (DPM) 2025

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Dallas-Fort Worth, TX | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Delaware County, PA | PM2.5 (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 11.73 | 24.22 | 26.28 | 38.87 |
| Denver-Boulder Area, CO | CO (1971 8-hour) | Maintenance, Serious | 100 | 0 | 4.38 | 9.07 | 9.48 | 14.32 |
| Denver-Boulder-Greeley-Ft Collins-Loveland, CO | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Detroit Area, MI | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.94 | 1.95 | 1.88 | 2.98 |
| Detroit, MI | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 1.02 | 2.11 | 2.25 | 3.35 |
| Detroit-Ann Arbor, MI | PM2.5 (2006 24-hour) | Maintenance, -- | 100 | 0 | 0.74 | 1.59 | 0.99 | 2.06 |
| Dona Ana County; Anthony, NM | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Douglas, AZ | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Dukes County, MA | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Duluth Area, MN | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | -0.01 | -0.01 | -0.03 | -0.03 |
| East Chicago Area, IN | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 4.63 | 9.56 | 10.39 | 15.35 |
| East Helena Area, MT | SO ₂ (1971 24-hour/Annual) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| East Kern County Area, CA | PM10 (1987 24-hour) | Nonattainment, Serious | 70 | 0 | 0.79 | 1.62 | 1.76 | 2.60 |
| El Paso County, TX | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 1.02 | 2.11 | 2.23 | 3.35 |
| El Paso, TX | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 1.05 | 2.16 | 2.34 | 3.46 |
| Eugene-Springfield Area, OR | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | -0.01 | -0.03 | -0.06 | -0.06 |
| Fairbanks Area, AK | CO (1971 8-hour) | Maintenance, Serious | 100 | 0 | 0.13 | 0.26 | 0.29 | 0.42 |
| Fairbanks, AK | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.13 | 0.26 | 0.28 | 0.42 |

Table A1-82
Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Cumulative Impacts
Diesel Particulate Matter (DPM) 2025

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|---|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Flathead County; Columbia Falls and vicinity, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Flathead County; Kalispell and vicinity, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | -0.01 | -0.01 |
| Flathead County; Whitefish and vicinity, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Fort Collins Area, CO | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | -0.01 | -0.01 | -0.03 | -0.03 |
| Freehold Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | -0.01 | -0.01 |
| Fremont County; Canon City Area, CO | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | -0.01 | -0.01 |
| Fresno Area, CA | CO (1971 8-hour) | Maintenance, Moderate > 12.7ppm | 100 | 0 | -0.02 | -0.04 | -0.13 | -0.12 |
| Grants Pass Area, OR | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | -0.01 | -0.01 |
| Great Falls Area, MT | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.72 | 1.49 | 1.62 | 2.40 |
| Greater Connecticut, CT | Ozone (2008 8-hour) | Nonattainment, Moderate | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Greeley Area, CO | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.07 | 0.15 | 0.11 | 0.21 |
| Hancock and Brooke Counties (Part); The city of Weirton, WV | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.02 | 0.04 | 0.05 | 0.07 |
| Hancock County (Part) The city of Weirton, including Butler and Clay: Magisterial Districts, WV | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Harrisburg-Lebanon-Carlisle-York, PA | PM2.5 (2006 24-hour) | Maintenance, Moderate | 100 | 0 | -0.08 | -0.15 | -0.35 | -0.36 |
| Hartford-New Britain-Middletown Area, CT | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | -0.07 | -0.13 | -0.31 | -0.32 |
| Hayden, AZ | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Hayden, AZ | SO ₂ (1971 24-hour/Annual) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Hayden, AZ | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Hillsborough County, FL | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Houston-Galveston-Brazoria, TX | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Humphreys County; (part) TVA Johnsonville, TN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Imperial Co, CA | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | -0.01 | -0.02 | -0.06 | -0.06 |

Appendix A Air Quality Non-Attainment Area Results

Table A1-82

**Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Cumulative Impacts
Diesel Particulate Matter (DPM) 2025**

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Imperial County, CA | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Imperial County, CA | PM2.5 (2012 Annual) | Nonattainment, Moderate | 100 | 0 | -0.01 | -0.02 | -0.06 | -0.06 |
| Imperial County; Imperial Valley planning area, CA | PM10 (1987 24-hour) | Nonattainment, Serious | 70 | 0 | -0.02 | -0.03 | -0.07 | -0.07 |
| Indian Wells, CA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.79 | 1.62 | 1.76 | 2.60 |
| Indiana, PA | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | -0.01 | -0.01 | -0.03 | -0.03 |
| Indianapolis Area, IN | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Indianapolis, IN | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | -0.03 | -0.06 | -0.13 | -0.14 |
| Inyo County; Owens Valley planning area, CA | PM10 (1987 24-hour) | Nonattainment, Serious | 70 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Jackson County, MO | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | -0.01 | -0.01 | -0.01 |
| Jackson County; Medford-Ashland (including White City), OR | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | -0.01 | -0.02 | -0.05 | -0.05 |
| Jamestown, NY | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Jefferson County, KY | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.01 | 0.03 | 0.03 | 0.04 |
| Jefferson County, MO | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | -0.01 | -0.01 | -0.01 |
| Jefferson County; (part) Steubenville & Mingo Junction, OH | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Jefferson County; (part), OH | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Johnstown, PA | PM2.5 (2006 24-hour) | Maintenance, Moderate | 100 | 0 | -0.01 | -0.01 | -0.03 | -0.04 |
| Josephine County; Grants Pass, OR | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | -0.01 | -0.01 |
| Juneau; Mendenhall Valley area, AK | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Kern County (Eastern Kern), CA | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| King County; Kent, WA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | -0.01 | -0.01 |
| King County; Seattle, WA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Klamath County; Klamath Falls, OR | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | -0.01 | -0.02 | -0.02 |
| Klamath Falls Area, OR | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | -0.01 | -0.02 | -0.02 |
| Klamath Falls, OR | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | -0.01 | -0.02 | -0.02 |

Table A1-82
Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Cumulative Impacts
Diesel Particulate Matter (DPM) 2025

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Knoxville, TN | Ozone (2008 8-hour) | Maintenance, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Knoxville-Sevierville-La Follette, TN | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | -0.06 | -0.11 | -0.27 | -0.28 |
| La Porte County: (part), IN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lake County (part); Lakeview, OR | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lake County, OH | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | -0.02 | -0.03 | -0.07 | -0.08 |
| Lake County: (part), IN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lake County; (part) Eastlake, Timberlake, Lakeline, Willoughby, Mentor, OH | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lake County; Cities of East Chicago, Hammond, Whiting, and Gary, IN | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 4.62 | 9.54 | 10.34 | 15.31 |
| Lake County; Polson, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lake County; Ronan, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lake Tahoe Nevada Area, NV | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | -0.01 |
| Lake Tahoe North Shore Area, CA | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lake Tahoe South Shore Area, CA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | -0.01 | -0.01 |
| Lancaster, PA | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lancaster, PA | PM2.5 (2006 24-hour) | Maintenance, Moderate | 100 | 0 | -0.03 | -0.06 | -0.14 | -0.15 |
| Lane County (part); Oakridge, OR | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lane County; Eugene/Springfield, OR | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | -0.01 | -0.03 | -0.06 | -0.06 |
| Las Vegas Area, NV | CO (1971 8-hour) | Maintenance, Serious | 100 | 0 | -0.01 | -0.01 | -0.24 | -0.17 |
| LaSalle County; Oglesby, IL | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | -0.01 | -0.01 |
| Laurel Area, MT | SO ₂ (1971 24-hour/Annual) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lebanon County, PA | PM2.5 (2012 Annual) | Nonattainment, Moderate | 100 | 0 | -0.01 | -0.02 | -0.05 | -0.05 |
| Lemont, IL | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 6.92 | 14.28 | 15.51 | 22.93 |
| Liberty-Clairton, PA | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.01 | 0.03 | 0.03 | 0.05 |

Appendix A Air Quality Non-Attainment Area Results

Table A1-82

Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Cumulative Impacts

Diesel Particulate Matter (DPM) 2025

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Lincoln County; Libby and vicinity, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Logan, UT-ID | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | -0.01 | -0.01 | -0.03 | -0.03 |
| Longmont Area, CO | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | -0.01 | -0.02 | -0.02 |
| Lorain County (part), OH | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Los Angeles, CA | PM2.5 (2006 24-hour) | Nonattainment, Serious | 100 | 0 | 20.78 | 43.08 | 44.60 | 67.74 |
| Los Angeles-San Bernardino Counties (West Mojave Desert), CA | Ozone (2008 8-hour) | Nonattainment, Severe 15 | 25 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Los Angeles-South Coast Air Basin Area, CA | CO (1971 8-hour) | Maintenance, Serious | 100 | 0 | 20.78 | 43.08 | 44.60 | 67.73 |
| Los Angeles-South Coast Air Basin Area, CA | NO ₂ (1971 Annual) | Maintenance, -- | 100 | 0 | 20.78 | 43.08 | 44.60 | 67.73 |
| Los Angeles-South Coast Air Basin, CA | Ozone (2008 8-hour) | Nonattainment, Extreme | 10 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Los Angeles-South Coast Air Basin, CA | PM2.5 (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 20.78 | 43.08 | 44.60 | 67.74 |
| Lowell Area, MA | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | -0.01 | -0.01 | -0.03 | -0.03 |
| Lucas County (part), OH | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Madison County; Granite City Township and Nameoki Township, IL | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 5.89 | 12.16 | 13.21 | 19.53 |
| Manchester Area, NH | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | -0.01 | -0.01 | -0.02 | -0.02 |
| Maricopa and Pinal Counties; Phoenix planning area, AZ | PM10 (1987 24-hour) | Nonattainment, Serious | 70 | 0 | -0.22 | -0.41 | -0.99 | -1.02 |
| Marion County; Lawrence, Washington, and Warrant Townships, IN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Mariposa County, CA | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Marshall, WV | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 4.04 | 8.33 | 9.05 | 13.38 |
| Medford Area, OR | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | -0.01 | -0.01 | -0.03 | -0.03 |
| Memphis Area, TN | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 2.20 | 4.56 | 4.82 | 7.24 |

Table A1-82
Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Cumulative Impacts
Diesel Particulate Matter (DPM) 2025

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|---|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Memphis, TN-MS-AR | Ozone (2008 8-hour) | Nonattainment TN & Maintenance MS/AR, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Miami, AZ | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Miami, AZ | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Miami, AZ | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Milwaukee-Racine, WI | PM2.5 (2006 24-hour) | Maintenance, -- | 100 | 0 | -0.02 | -0.02 | -0.20 | -0.15 |
| Minneapolis-St. Paul Area, MN | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 7.25 | 15.01 | 15.85 | 23.80 |
| Missoula Area, MT | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.68 | 1.40 | 1.51 | 2.24 |
| Missoula county; Missoula and vicinity, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.68 | 1.40 | 1.51 | 2.25 |
| Modesto Area, CA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | -0.01 | -0.01 | -0.04 | -0.04 |
| Mohave County (part); Bullhead City, AZ | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | -0.01 | -0.01 | -0.03 | -0.03 |
| Mono County; Mammoth Lake planning area, CA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | -0.01 | -0.01 |
| Mono County; Mono Basin, CA | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Morenci, AZ | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Morgan County, IN | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | -0.01 | -0.01 |
| Morongo Band of Mission Indians | Ozone (2008 8-hour) | Nonattainment, Serious | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Morristown Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.01 | 0.03 | 0.03 | 0.05 |
| Muscatine County; (part), IA | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Muscatine, IA | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Muskingum River, OH | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Nashua Area, NH | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | -0.01 | -0.02 | -0.02 |
| Nassau County, FL | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Nevada County (Western part), CA | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| New Haven County, CT | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | -0.01 | -0.01 |

Appendix A Air Quality Non-Attainment Area Results

Table A1-82

**Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Cumulative Impacts
Diesel Particulate Matter (DPM) 2025**

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| New Haven-Meriden-Waterbury Area, CT | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | -0.05 | -0.10 | -0.23 | -0.24 |
| New Manchester-Grant magisterial district in Hancock County, WV | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| New York County, NY | PM ₁₀ (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | -0.04 | -0.06 | -0.15 | -0.16 |
| New York, NY-NJ-CT | PM _{2.5} (2006 24-hour) | Maintenance, -- | 100 | 0 | 2.57 | 5.51 | 3.64 | 7.32 |
| New York-N. New Jersey-Long Island Area, NY-NJ-CT | CO (1971 8-hour) | Maintenance, Moderate > 12.7ppm | 100 | 0 | 2.40 | 5.08 | 4.21 | 7.30 |
| New York-N. New Jersey-Long Island, NY-NJ-CT | Ozone (2008 8-hour) | Nonattainment, Moderate | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| NJ portion of the Northeast Pennsylvania-Upper Delaware Valley Interstate AQCR: (part), NJ | SO ₂ (1971 24-hour/Annual) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Nogales, AZ | PM _{2.5} (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | -0.01 | -0.01 | -0.01 |
| Oakridge, OR | PM _{2.5} (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Ogden Area, UT | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | -0.01 | -0.01 | -0.01 |
| Ogden Area, UT | PM ₁₀ (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | -0.01 | -0.01 | -0.01 |
| Olmsted County; (part), MN | PM ₁₀ (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | -0.01 | -0.01 |
| Olmsted; City of Rochester, MN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |

Table A1-82
Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Cumulative Impacts
Diesel Particulate Matter (DPM) 2025

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Pechanga Band of Luiseno Mission Indians of the Pechanga Reservation | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Pekin, IL | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | -0.01 | -0.01 |
| Penns Grove Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Peoria County: Hollis Twp, IL | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Peoria County: Peoria, IL | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Perth Amboy Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.57 | 1.18 | 1.27 | 1.89 |
| Philadelphia-Camden County Area, PA-NJ | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 6.02 | 12.43 | 13.37 | 19.87 |
| Philadelphia-Wilmington, PA-NJ-DE | PM _{2.5} (2006 24-hour) | Maintenance, Moderate for PA and DE Subject to Former Subpart 1 for NJ | 100 | 0 | 20.13 | 41.59 | 44.58 | 66.40 |
| Philadelphia-Wilmington-Atlantic City, PA-NJ-MD-DE | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Phoenix Area, AZ | CO (1971 8-hour) | Maintenance, Serious | 100 | 0 | -0.21 | -0.40 | -0.95 | -0.97 |
| Phoenix-Mesa, AZ | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Pierce County; Tacoma, WA | PM ₁₀ (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.06 | 0.13 | 0.14 | 0.21 |
| Pima County; Ajo planning area, AZ | PM ₁₀ (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Pima County; Rillito planning area, AZ | PM ₁₀ (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | -0.01 | -0.02 | -0.02 |
| Pinal and Gila Counties; Payson, AZ | PM ₁₀ (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | -0.01 | -0.01 |
| Pinal County (part); West Pinal, AZ | PM ₁₀ (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | -0.02 | -0.05 | -0.11 | -0.11 |
| Pitkin County; Aspen, CO | PM ₁₀ (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | -0.01 | -0.01 |
| Pittsburgh Area, PA | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.01 | -0.02 | -0.01 |
| Pittsburgh-Beaver Valley, PA | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Pittsburgh-Beaver Valley, PA | PM _{2.5} (2006 24-hour) | Maintenance, Moderate | 100 | 0 | 0.26 | 0.56 | 0.35 | 0.73 |
| Plumas County, CA | PM _{2.5} (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Polk County, TN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |

Appendix A Air Quality Non-Attainment Area Results

Table A1-82

Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Cumulative Impacts Diesel Particulate Matter (DPM) 2025

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|-------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Portland Area: Portland Metro Service District Boundary, OR | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | -0.06 | -0.11 | -0.29 | -0.30 |
| Power-Bannock Counties; Fort Hall Indian Reservation, ID | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Power-Bannock Counties; Portneuf Valley Area, ID | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | -0.01 | -0.01 | -0.02 | -0.03 |
| Provo Area, UT | CO (1971 8-hour) | Maintenance, Moderate > 12.7ppm | 100 | 0 | 0.09 | 0.18 | 0.19 | 0.29 |
| Provo, UT | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.07 | 0.15 | 0.10 | 0.20 |
| Prowers County; Lamar, CO | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Raleigh-Durham Area, NC | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | -0.08 | -0.16 | -0.37 | -0.38 |
| Ramsey County; (part), MN | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Reading, PA | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Reno Area, NV | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | -0.02 | -0.04 | -0.09 | -0.09 |
| Rhinelander, WI | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | -0.01 | -0.01 |
| Riverside County (Coachella Valley), CA | Ozone (2008 8-hour) | Nonattainment, Severe 15 | 25 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Riverside County; Coachella Valley planning area, CA | PM10 (1987 24-hour) | Nonattainment, Serious | 70 | 0 | -0.03 | -0.06 | -0.14 | -0.15 |
| Riverside, Los Angeles, Orange, and San Bernardino Counties; South Coast Air Basin, CA | PM10 (1987 24-hour) | Maintenance, Serious | 100 | 0 | 20.78 | 43.09 | 44.62 | 67.76 |
| Rosebud County; Lame Deer, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Routt County (part); Steamboat Springs, CO | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.10 | 0.22 | 0.23 | 0.34 |
| Sacramento Area, CA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | -0.08 | -0.15 | -0.36 | -0.38 |
| Sacramento County, CA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | -0.08 | -0.14 | -0.33 | -0.34 |
| Sacramento Metro, CA | Ozone (2008 8-hour) | Nonattainment, Severe 15 | 25 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Sacramento, CA | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 2.04 | 4.25 | 4.28 | 6.60 |
| Salem Area, OR | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | -0.02 | -0.03 | -0.07 | -0.07 |
| Salt Lake City Area, UT | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 2.33 | 4.81 | 5.21 | 7.72 |
| Salt Lake City, UT | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 2.50 | 5.18 | 5.40 | 8.16 |

Table A1-82
Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Cumulative Impacts
Diesel Particulate Matter (DPM) 2025

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|---|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Salt Lake County, UT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 2.28 | 4.73 | 5.00 | 7.50 |
| Salt Lake County, UT | SO ₂ (1971 24-hour/Annual) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| San Bernardino County (part); excluding Searles Valley Planning area and South Coast Air Basin, CA | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | -0.04 | -0.07 | -0.16 | -0.17 |
| San Diego Area, CA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | -0.20 | -0.38 | -0.90 | -0.93 |
| San Diego County, CA | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| San Francisco Bay Area, CA | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| San Francisco Bay Area, CA | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 24.97 | 51.63 | 55.16 | 82.30 |
| San Francisco-Oakland-San Jose Area, CA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 25.01 | 51.69 | 55.31 | 82.45 |
| San Joaquin Valley Air Basin; Fresno, Kern, Kings, Madera, Merced, San Joaquin, Stanislaus, Tulare Counties, CA | PM10 (1987 24-hour) | Maintenance, Serious | 100 | 0 | 0.56 | 1.22 | 0.68 | 1.54 |
| San Joaquin Valley, CA | Ozone (2008 8-hour) | Nonattainment, Extreme | 10 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| San Joaquin Valley, CA | PM2.5 (2006 24-hour) | Nonattainment, Serious | 100 | 0 | 0.56 | 1.22 | 0.68 | 1.54 |
| San Joaquin Valley, CA | PM2.5 (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 0.56 | 1.22 | 0.68 | 1.54 |
| San Luis Obispo (Eastern San Luis Obispo), CA | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| San Manuel, AZ | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| San Miguel County; Telluride, CO | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Sanders County (part); Thompson Falls and vicinity, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Santa Cruz County; Nogales planning area, AZ | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | -0.01 | -0.01 | -0.01 |
| Seaford, DE | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Seattle-Tacoma Area, WA | CO (1971 8-hour) | Maintenance, Moderate > 12.7ppm | 100 | 0 | -0.10 | -0.18 | -0.60 | -0.55 |
| Seattle-Tacoma, WA | PM2.5 (2006 24-hour) | Maintenance, Moderate | 100 | 0 | 0.04 | 0.08 | 0.02 | 0.09 |
| Sheboygan County, WI | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |

Appendix A Air Quality Non-Attainment Area Results

Table A1-82

**Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Cumulative Impacts
Diesel Particulate Matter (DPM) 2025**

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|---|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Sheridan County; City of Sheridan, WY | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | -0.01 | -0.01 |
| Shoshone County (part); excluding Pinehurst, ID | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | -0.01 | -0.01 |
| Shoshone County; City of Pinehurst, ID | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Silver Bow County; Butte, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | -0.01 | -0.01 |
| Somerville Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Southwest Indiana, IN | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Spokane Area, WA | CO (1971 8-hour) | Maintenance, Serious | 100 | 0 | -0.02 | -0.03 | -0.08 | -0.08 |
| Spokane County; (part), WA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | -0.02 | -0.03 | -0.08 | -0.08 |
| Springfield Area, MA | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | -0.01 | -0.02 | -0.04 | -0.05 |
| St. Bernard Parish, LA | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 10.64 | 21.95 | 23.86 | 35.26 |
| St. Louis Area, MO | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | -0.05 | -0.10 | -0.24 | -0.24 |
| St. Louis-St. Charles-Farmington, MO-IL | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Steubenville, OH-WV | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | -0.01 | -0.02 | -0.02 |
| Steubenville-Weirton, OH-WV | PM2.5 (2006 24-hour) | Maintenance, -- | 100 | 0 | 0.01 | 0.03 | 0.02 | 0.04 |
| Stockton Area, CA | CO (1971 8-hour) | Maintenance, Moderate ≤ 12.7ppm | 100 | 0 | 0.00 | 0.00 | -0.06 | -0.04 |
| Sullivan County, TN | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.01 | 0.02 | 0.02 | 0.04 |
| Syracuse Area; Onondaga County, NY | CO (1971 8-hour) | Maintenance, Moderate ≤ 12.7ppm | 100 | 0 | -0.03 | -0.05 | -0.14 | -0.14 |
| Tazewell County; Groveland Twp, IL | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Terre Haute, IN | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.19 | 0.39 | 0.41 | 0.62 |

Table A1-82
Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Cumulative Impacts
Diesel Particulate Matter (DPM) 2025

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|---|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Thurston County; Cities of Olympia, Tumwater, and Lacey, WA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | -0.01 | -0.01 | -0.03 | -0.03 |
| Toms River Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Tooele County (part), UT | SO ₂ (1971 24-hour/Annual) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Trenton Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | -0.01 | -0.01 | -0.02 | -0.02 |
| Trona, CA | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Tucson Area, AZ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | -0.05 | -0.10 | -0.23 | -0.24 |
| Tuscan Buttes, CA | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Union County; LaGrande, OR | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | -0.01 | -0.01 |
| Upper Green River Basin Area, WY | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Utah County, UT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.07 | 0.15 | 0.10 | 0.20 |
| Vancouver Area: Clark County (part), WA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | -0.02 | -0.03 | -0.07 | -0.08 |
| Ventura County, CA | Ozone (2008 8-hour) | Nonattainment, Serious | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Vermillion County; Part of Clinton Township, IN | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | -0.01 | -0.01 |
| Vigo County, IN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Walla Walla County; Wallula, WA | PM10 (1987 24-hour) | Maintenance, Serious | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Waltham Area, MA | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | -0.01 | -0.02 | -0.02 |
| Warren County: Conewago Twp, PA | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Warren County: Warren Boro, Pleasant Twp, Glade Twp, PA | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Warren, PA | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 1.42 | 2.93 | 3.19 | 4.71 |
| Washington Area, DC-MD-VA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | -0.04 | -0.07 | -0.18 | -0.18 |
| Washington, DC-MD-VA | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Washoe County; Reno planning area, NV | PM10 (1987 24-hour) | Nonattainment, Serious | 70 | 0 | -0.02 | -0.04 | -0.09 | -0.09 |

Appendix A Air Quality Non-Attainment Area Results

Table A1-82

Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Cumulative Impacts Diesel Particulate Matter (DPM) 2025

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|---|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Wayne County: Boston, Center, Franklin, Wayne & Webster Townships, IN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Wayne County; (part), MI | PM ₁₀ (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 1.03 | 2.13 | 2.31 | 3.42 |
| West Central Pinal County, AZ | PM _{2.5} (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | -0.01 | -0.01 | -0.02 | -0.02 |
| West Silver Valley, ID | PM _{2.5} (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | -0.01 | -0.01 |
| Winston-Salem Area, NC | CO (1971 8-hour) | Maintenance, Moderate ≤ 12.7ppm | 100 | 0 | -0.02 | -0.04 | -0.10 | -0.10 |
| Worcester Area, MA | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | -0.01 | -0.03 | -0.06 | -0.06 |
| Yakima Area, WA | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | -0.01 | -0.01 |
| Yakima County; (part), WA | PM ₁₀ (1987 24-hour) | Maintenance, Moderate | 100 | 0 | -0.01 | -0.01 | -0.03 | -0.03 |
| Yuba City-Marysville, CA | PM _{2.5} (2006 24-hour) | Maintenance, Moderate | 100 | 0 | -0.01 | -0.02 | -0.05 | -0.05 |
| Yuma County; Yuma planning area, AZ | PM ₁₀ (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | -0.01 | -0.02 | -0.04 | -0.05 |

^a Reductions are shown as positive values. Negative values are emissions increases. Values of less than 0.005 tons per year are rounded to zero.

^b Nonattainment or maintenance status as of 5/13/2016. Source: U.S. EPA, The Green Book Nonattainment Areas for Criteria Pollutants; <http://www.epa.gov/airquality/greenbook/>. "--" indicates that no severity classification has been established for the NAAQS pollutant.

^c Emissions thresholds in tons per year. Where the threshold differs by precursor pollutant, the smallest of the precursor thresholds is shown. These thresholds are provided for information only; a general conformity determination is not required for the Proposed Action. Source: 40 CFR 93.853.

Notes: CO = carbon monoxide; NAAQS = National Ambient Air Quality Standards; NO₂ = nitrogen dioxide; PM = particulate matter; SO₂ = sulfur dioxide

Table A1-83
Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Cumulative Impacts
Diesel Particulate Matter (DPM) 2040

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Ada County; Boise, ID | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.10 | 0.24 | 0.23 | 0.30 |
| Adams, Denver, and Boulder Counties; Denver Metropolitan area, CO | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 1.24 | 2.98 | 2.66 | 3.63 |
| Ajo, AZ | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Albuquerque Area, NM | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.21 | 0.50 | 0.49 | 0.64 |
| Allegheny County Air Basin: Hazelwood monitor, PA | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Allegheny County, PA | PM2.5 (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 0.32 | 0.75 | 0.72 | 0.95 |
| Allegheny County; The area including Liberty, Lincoln, Port Vue, and Glassport Boroughs and the City of Clairton, PA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.05 | 0.13 | 0.11 | 0.15 |
| Allegheny, PA | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.07 | 0.17 | 0.15 | 0.20 |
| Allentown, PA | PM2.5 (2006 24-hour) | Maintenance, Moderate | 100 | 0 | 0.18 | 0.43 | 0.42 | 0.55 |
| Allentown-Bethlehem-Easton, PA | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Anchorage Area, AK | CO (1971 8-hour) | Maintenance, Serious | 100 | 0 | 0.04 | 0.08 | 0.08 | 0.10 |
| Anchorage; Eagle River, AK | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.01 | 0.01 | 0.01 |
| AQCR 012: Portions of Grant County, NM | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| AQCR 109-Millinocket, ME | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| AQCR 131: Anoka, Carver, Dakota, Hennepin, Ramsey, Scott, and Washington counties (Minneapolis-St. Paul), MN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| AQCR 237: Brown County: Green Bay sub-city area, WI | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| AQCR 238: Marathon County: Rothschild Sub-city area, Rib Mountain, Weston, WI | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| AQCR 238: Oneida County: Rhinelander Sub-city area, WI | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| AQCR 239: Milwaukee County: Milwaukee sub-city area, WI | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |

Appendix A Air Quality Non-Attainment Area Results

Table A1-83

Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Cumulative Impacts

Diesel Particulate Matter (DPM) 2040

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| AQCR 240: Dane County: Madison sub-city area, WI | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Archuleta County; Pagosa Springs, CO | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.01 | 0.02 | 0.02 | 0.02 |
| Armstrong County: Madison Twp, Mahoning Twp, Boggs Twp, Washington Twp, Pine Twp, PA | SO ₂ (1971 24-hour/Annual) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Aroostock County; City of Presque Isle, ME | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.01 | 0.01 | 0.01 | 0.02 |
| Atlanta, GA | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Atlantic City Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.02 | 0.04 | 0.04 | 0.05 |
| Bakersfield Area, CA | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 2.89 | 7.10 | 6.03 | 8.42 |
| Baltimore Area, MD | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.01 | 0.01 | 0.01 |
| Baltimore, MD | Ozone (2008 8-hour) | Nonattainment, Moderate | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Baton Rouge, LA | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Beaver, PA | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.01 | 0.01 | 0.01 |
| Benton County; (part) TVA Johnsonville, TN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Billings Area, MT | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 22.22 | 54.62 | 46.03 | 64.52 |
| Billings, MT | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 22.19 | 54.56 | 45.97 | 64.44 |
| Birmingham, AL | PM2.5 (2006 24-hour) | Maintenance, -- | 100 | 0 | 0.66 | 1.58 | 1.46 | 1.96 |
| Boise-Northern Ada County Area, ID | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.10 | 0.24 | 0.23 | 0.30 |
| Bonner County; The Sandpoint Area, ID | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.01 | 0.01 | 0.01 |
| Boston Area, MA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.92 | 2.23 | 1.95 | 2.68 |
| Boyd County (part), KY | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Brooke; Follansbee area, WV | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Burlington Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.01 | 0.01 | 0.01 |
| Calaveras County, CA | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Campbell-Clermont Counties, KY-OH | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.01 | 0.03 | 0.03 | 0.04 |

Table A1-83
Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Cumulative Impacts
Diesel Particulate Matter (DPM) 2040

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|---|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Canton-Massillon, OH | PM2.5 (2006 24-hour) | Maintenance, -- | 100 | 0 | 11.88 | 29.18 | 24.63 | 34.50 |
| Central New Hampshire, NH | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.07 | 0.17 | 0.16 | 0.21 |
| Central Steptoe Valley, NV | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Charleston, WV | PM2.5 (2006 24-hour) | Maintenance, -- | 100 | 0 | 0.12 | 0.28 | 0.27 | 0.35 |
| Charlotte Area, NC | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.41 | 0.96 | 0.94 | 1.23 |
| Charlotte-Rock Hill, NC-SC | Ozone (2008 8-hour) | Maintenance, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Chicago-Naperville, IL-IN-WI | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Chico (Butte County), CA | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Chico Area, CA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.03 | 0.07 | 0.07 | 0.09 |
| Chico, CA | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.06 | 0.15 | 0.14 | 0.19 |
| Cincinnati, OH-KY-IN | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Clark County; Las Vegas planning area, NV | PM10 (1987 24-hour) | Maintenance, Serious | 100 | 0 | 0.80 | 1.91 | 1.77 | 2.37 |
| Cleveland Area, OH | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.31 | 0.72 | 0.70 | 0.92 |
| Cleveland, OH | PM2.5 (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 0.40 | 0.94 | 0.91 | 1.19 |
| Cleveland-Akron-Lorain, OH | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Cleveland-Akron-Lorain, OH | PM2.5 (2006 24-hour) | Maintenance, -- | 100 | 0 | 0.88 | 2.05 | 2.00 | 2.62 |
| Cochise County; Paul Spur/Douglas planning area, AZ | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.01 | 0.03 | 0.03 | 0.04 |
| Colorado Springs Area, CO | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.34 | 0.81 | 0.74 | 0.99 |
| Columbus, OH | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Cook County; Lyons Township, IL | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.03 | 0.06 | 0.06 | 0.08 |
| Cook County; Southeast Chicago, IL | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.03 | 0.07 | 0.06 | 0.09 |
| Coshocton County; Franklin Township, OH | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Coso Junction, CA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Cuyahoga County (part), OH | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Cuyahoga County, OH | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.31 | 0.71 | 0.70 | 0.91 |

Appendix A Air Quality Non-Attainment Area Results

Table A1-83

**Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Cumulative Impacts
Diesel Particulate Matter (DPM) 2040**

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Dallas-Fort Worth, TX | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Delaware County, PA | PM2.5 (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 40.84 | 100.39 | 84.62 | 118.60 |
| Denver-Boulder Area, CO | CO (1971 8-hour) | Maintenance, Serious | 100 | 0 | 16.54 | 40.56 | 34.42 | 48.08 |
| Denver-Boulder-Greeley-Ft Collins-Loveland, CO | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Detroit Area, MI | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 4.07 | 9.94 | 8.52 | 11.84 |
| Detroit, MI | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 3.70 | 9.09 | 7.69 | 10.76 |
| Detroit-Ann Arbor, MI | PM2.5 (2006 24-hour) | Maintenance, -- | 100 | 0 | 5.24 | 12.68 | 11.18 | 15.33 |
| Dona Ana County; Anthony, NM | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.01 | 0.01 | 0.01 |
| Douglas, AZ | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Dukes County, MA | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Duluth Area, MN | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.04 | 0.10 | 0.09 | 0.12 |
| East Chicago Area, IN | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 16.06 | 39.48 | 33.26 | 46.63 |
| East Helena Area, MT | SO ₂ (1971 24-hour/Annual) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| East Kern County Area, CA | PM10 (1987 24-hour) | Nonattainment, Serious | 70 | 0 | 2.74 | 6.73 | 5.67 | 7.95 |
| El Paso County, TX | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 3.76 | 9.24 | 7.83 | 10.94 |
| El Paso, TX | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 3.63 | 8.93 | 7.53 | 10.55 |
| Eugene-Springfield Area, OR | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.08 | 0.18 | 0.17 | 0.23 |
| Fairbanks Area, AK | CO (1971 8-hour) | Maintenance, Serious | 100 | 0 | 0.45 | 1.11 | 0.94 | 1.31 |
| Fairbanks, AK | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.46 | 1.13 | 0.95 | 1.33 |

Table A1-83
Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Cumulative Impacts
Diesel Particulate Matter (DPM) 2040

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|---|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Flathead County; Columbia Falls and vicinity, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Flathead County; Kalispell and vicinity, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.01 | 0.03 | 0.03 | 0.04 |
| Flathead County; Whitefish and vicinity, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Fort Collins Area, CO | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.04 | 0.09 | 0.09 | 0.11 |
| Freehold Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.01 | 0.02 | 0.02 | 0.03 |
| Fremont County; Canon City Area, CO | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.01 | 0.03 | 0.03 | 0.04 |
| Fresno Area, CA | CO (1971 8-hour) | Maintenance, Moderate > 12.7ppm | 100 | 0 | 0.21 | 0.50 | 0.48 | 0.63 |
| Grants Pass Area, OR | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.01 | 0.03 | 0.03 | 0.04 |
| Great Falls Area, MT | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 2.50 | 6.16 | 5.19 | 7.27 |
| Greater Connecticut, CT | Ozone (2008 8-hour) | Nonattainment, Moderate | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Greeley Area, CO | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.45 | 1.10 | 0.97 | 1.33 |
| Hancock and Brooke Counties (Part); The city of Weirton, WV | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.08 | 0.20 | 0.17 | 0.23 |
| Hancock County (Part) The city of Weirton, including Butler and Clay: Magisterial Districts, WV | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Harrisburg-Lebanon-Carlisle-York, PA | PM2.5 (2006 24-hour) | Maintenance, Moderate | 100 | 0 | 0.42 | 0.97 | 0.95 | 1.24 |
| Hartford-New Britain-Middletown Area, CT | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.37 | 0.86 | 0.83 | 1.09 |
| Hayden, AZ | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Hayden, AZ | SO ₂ (1971 24-hour/Annual) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Hayden, AZ | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Hillsborough County, FL | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.01 | 0.01 | 0.01 | 0.02 |
| Houston-Galveston-Brazoria, TX | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Humphreys County; (part) TVA Johnsonville, TN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Imperial Co, CA | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.07 | 0.16 | 0.16 | 0.20 |

Appendix A Air Quality Non-Attainment Area Results

Table A1-83

Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Cumulative Impacts Diesel Particulate Matter (DPM) 2040

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Imperial County, CA | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Imperial County, CA | PM2.5 (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 0.07 | 0.16 | 0.16 | 0.20 |
| Imperial County; Imperial Valley planning area, CA | PM10 (1987 24-hour) | Nonattainment, Serious | 70 | 0 | 0.08 | 0.19 | 0.19 | 0.25 |
| Indian Wells, CA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 2.74 | 6.73 | 5.67 | 7.95 |
| Indiana, PA | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.03 | 0.07 | 0.07 | 0.09 |
| Indianapolis Area, IN | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Indianapolis, IN | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.15 | 0.36 | 0.35 | 0.45 |
| Inyo County; Owens Valley planning area, CA | PM10 (1987 24-hour) | Nonattainment, Serious | 70 | 0 | 0.00 | 0.01 | 0.01 | 0.01 |
| Jackson County, MO | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.02 | 0.04 | 0.04 | 0.05 |
| Jackson County; Medford-Ashland (including White City), OR | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.06 | 0.15 | 0.14 | 0.19 |
| Jamestown, NY | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Jefferson County, KY | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.05 | 0.12 | 0.10 | 0.14 |
| Jefferson County, MO | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.02 | 0.04 | 0.04 | 0.05 |
| Jefferson County; (part) Steubenville & Mingo Junction, OH | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Jefferson County; (part), OH | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Johnstown, PA | PM2.5 (2006 24-hour) | Maintenance, Moderate | 100 | 0 | 0.04 | 0.09 | 0.09 | 0.12 |
| Josephine County; Grants Pass, OR | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.01 | 0.03 | 0.03 | 0.04 |
| Juneau; Mendenhall Valley area, AK | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.01 | 0.01 | 0.01 |
| Kern County (Eastern Kern), CA | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| King County; Kent, WA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.01 | 0.02 | 0.02 | 0.02 |
| King County; Seattle, WA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.01 | 0.01 | 0.01 |
| Klamath County; Klamath Falls, OR | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.03 | 0.06 | 0.06 | 0.08 |
| Klamath Falls Area, OR | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.03 | 0.06 | 0.06 | 0.08 |
| Klamath Falls, OR | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.03 | 0.06 | 0.06 | 0.08 |

Table A1-83
Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Cumulative Impacts
Diesel Particulate Matter (DPM) 2040

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Knoxville, TN | Ozone (2008 8-hour) | Maintenance, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Knoxville-Sevierville-La Follette, TN | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.32 | 0.75 | 0.74 | 0.96 |
| La Porte County: (part), IN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lake County (part); Lakeview, OR | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.01 | 0.01 | 0.01 |
| Lake County, OH | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.09 | 0.21 | 0.20 | 0.26 |
| Lake County: (part), IN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lake County; (part) Eastlake, Timberlake, Lakeline, Willoughby, Mentor, OH | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lake County; Cities of East Chicago, Hammond, Whiting, and Gary, IN | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 16.10 | 39.58 | 33.37 | 46.76 |
| Lake County; Polson, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lake County; Ronan, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lake Tahoe Nevada Area, NV | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.01 | 0.01 | 0.01 | 0.02 |
| Lake Tahoe North Shore Area, CA | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.01 | 0.01 | 0.01 |
| Lake Tahoe South Shore Area, CA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.01 | 0.02 | 0.02 | 0.02 |
| Lancaster, PA | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lancaster, PA | PM2.5 (2006 24-hour) | Maintenance, Moderate | 100 | 0 | 0.17 | 0.40 | 0.39 | 0.50 |
| Lane County (part); Oakridge, OR | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lane County; Eugene/Springfield, OR | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.08 | 0.18 | 0.17 | 0.23 |
| Las Vegas Area, NV | CO (1971 8-hour) | Maintenance, Serious | 100 | 0 | 0.80 | 1.90 | 1.76 | 2.36 |
| LaSalle County; Oglesby, IL | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.01 | 0.03 | 0.03 | 0.04 |
| Laurel Area, MT | SO ₂ (1971 24-hour/Annual) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lebanon County, PA | PM2.5 (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 0.06 | 0.14 | 0.13 | 0.17 |
| Lemont, IL | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 24.06 | 59.15 | 49.85 | 69.87 |
| Liberty-Clairton, PA | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.05 | 0.13 | 0.11 | 0.15 |

Appendix A Air Quality Non-Attainment Area Results

Table A1-83

Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Cumulative Impacts Diesel Particulate Matter (DPM) 2040

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Lincoln County; Libby and vicinity, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Logan, UT-ID | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.03 | 0.07 | 0.07 | 0.09 |
| Longmont Area, CO | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.02 | 0.06 | 0.06 | 0.07 |
| Lorain County (part), OH | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Los Angeles, CA | PM2.5 (2006 24-hour) | Nonattainment, Serious | 100 | 0 | 80.12 | 196.39 | 166.98 | 233.03 |
| Los Angeles-San Bernardino Counties (West Mojave Desert), CA | Ozone (2008 8-hour) | Nonattainment, Severe 15 | 25 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Los Angeles-South Coast Air Basin Area, CA | CO (1971 8-hour) | Maintenance, Serious | 100 | 0 | 80.12 | 196.40 | 166.99 | 233.04 |
| Los Angeles-South Coast Air Basin Area, CA | NO ₂ (1971 Annual) | Maintenance, -- | 100 | 0 | 80.13 | 196.40 | 166.99 | 233.04 |
| Los Angeles-South Coast Air Basin, CA | Ozone (2008 8-hour) | Nonattainment, Extreme | 10 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Los Angeles-South Coast Air Basin, CA | PM2.5 (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 80.12 | 196.37 | 166.97 | 233.01 |
| Lowell Area, MA | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.03 | 0.08 | 0.08 | 0.10 |
| Lucas County (part), OH | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Madison County; Granite City Township and Nameoki Township, IL | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 20.44 | 50.24 | 42.34 | 59.35 |
| Manchester Area, NH | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.03 | 0.06 | 0.06 | 0.08 |
| Maricopa and Pinal Counties; Phoenix planning area, AZ | PM10 (1987 24-hour) | Nonattainment, Serious | 70 | 0 | 1.17 | 2.75 | 2.68 | 3.50 |
| Marion County; Lawrence, Washington, and Warrant Townships, IN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Mariposa County, CA | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Marshall, WV | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 13.99 | 34.40 | 28.99 | 40.63 |
| Medford Area, OR | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.03 | 0.08 | 0.07 | 0.10 |
| Memphis Area, TN | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 8.11 | 19.91 | 16.86 | 23.58 |

Table A1-83
Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Cumulative Impacts
Diesel Particulate Matter (DPM) 2040

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|---|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Memphis, TN-MS-AR | Ozone (2008 8-hour) | Nonattainment TN & Maintenance MS/AR, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Miami, AZ | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.01 | 0.01 | 0.01 |
| Miami, AZ | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Miami, AZ | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.01 | 0.01 | 0.01 |
| Milwaukee-Racine, WI | PM2.5 (2006 24-hour) | Maintenance, -- | 100 | 0 | 0.58 | 1.38 | 1.28 | 1.71 |
| Minneapolis-St. Paul Area, MN | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 26.78 | 65.72 | 55.69 | 77.85 |
| Missoula Area, MT | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 2.40 | 5.90 | 4.98 | 6.98 |
| Missoula county; Missoula and vicinity, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 2.40 | 5.90 | 4.98 | 6.97 |
| Modesto Area, CA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.08 | 0.19 | 0.18 | 0.23 |
| Mohave County (part); Bullhead City, AZ | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.03 | 0.08 | 0.07 | 0.10 |
| Mono County; Mammoth Lake planning area, CA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.01 | 0.03 | 0.03 | 0.03 |
| Mono County; Mono Basin, CA | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Morenci, AZ | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Morgan County, IN | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.01 | 0.03 | 0.02 | 0.03 |
| Morongo Band of Mission Indians | Ozone (2008 8-hour) | Nonattainment, Serious | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Morristown Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.07 | 0.18 | 0.15 | 0.21 |
| Muscatine County; (part), IA | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Muscatine, IA | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.01 | 0.02 | 0.02 | 0.02 |
| Muskingum River, OH | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.01 | 0.01 | 0.01 |
| Nashua Area, NH | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.03 | 0.06 | 0.06 | 0.08 |
| Nassau County, FL | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Nevada County (Western part), CA | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| New Haven County, CT | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.01 | 0.01 | 0.01 | 0.02 |

Appendix A Air Quality Non-Attainment Area Results

Table A1-83

Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Cumulative Impacts

Diesel Particulate Matter (DPM) 2040

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| New Haven-Meriden-Waterbury Area, CT | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.28 | 0.65 | 0.64 | 0.83 |
| New Manchester-Grant magisterial district in Hancock County, WV | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| New York County, NY | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.18 | 0.43 | 0.42 | 0.55 |
| New York, NY-NJ-CT | PM2.5 (2006 24-hour) | Maintenance, -- | 100 | 0 | 17.43 | 42.25 | 37.18 | 51.03 |
| New York-N. New Jersey-Long Island Area, NY-NJ-CT | CO (1971 8-hour) | Maintenance, Moderate > 12.7ppm | 100 | 0 | 13.06 | 31.78 | 27.65 | 38.16 |
| New York-N. New Jersey-Long Island, NY-NJ-CT | Ozone (2008 8-hour) | Nonattainment, Moderate | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| NJ portion of the Northeast Pennsylvania-Upper Delaware Valley Interstate AQCR: (part), NJ | SO ₂ (1971 24-hour/Annual) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Nogales, AZ | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.02 | 0.04 | 0.04 | 0.05 |
| Oakridge, OR | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Ogden Area, UT | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.02 | 0.05 | 0.04 | 0.06 |
| Ogden Area, UT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.02 | 0.05 | 0.04 | 0.06 |
| Olmsted County; (part), MN | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.01 | 0.02 | 0.02 | 0.02 |
| Olmsted; City of Rochester, MN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |

Table A1-83
Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Cumulative Impacts
Diesel Particulate Matter (DPM) 2040

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Pechanga Band of Luiseno Mission Indians of the Pechanga Reservation | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Pekin, IL | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.01 | 0.03 | 0.03 | 0.04 |
| Penns Grove Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Peoria County: Hollis Twp, IL | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Peoria County: Peoria, IL | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Perth Amboy Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 2.04 | 5.02 | 4.24 | 5.94 |
| Philadelphia-Camden County Area, PA-NJ | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 21.35 | 52.44 | 44.28 | 62.00 |
| Philadelphia-Wilmington, PA-NJ-DE | PM _{2.5} (2006 24-hour) | Maintenance, Moderate for PA and DE Subject to Former Subpart 1 for NJ | 100 | 0 | 72.02 | 176.89 | 149.47 | 209.23 |
| Philadelphia-Wilmington-Atlantic City, PA-NJ-MD-DE | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Phoenix Area, AZ | CO (1971 8-hour) | Maintenance, Serious | 100 | 0 | 1.12 | 2.63 | 2.56 | 3.35 |
| Phoenix-Mesa, AZ | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Pierce County; Tacoma, WA | PM ₁₀ (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.22 | 0.55 | 0.47 | 0.65 |
| Pima County; Ajo planning area, AZ | PM ₁₀ (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Pima County; Rillito planning area, AZ | PM ₁₀ (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.02 | 0.05 | 0.05 | 0.06 |
| Pinal and Gila Counties; Payson, AZ | PM ₁₀ (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.01 | 0.02 | 0.02 | 0.03 |
| Pinal County (part); West Pinal, AZ | PM ₁₀ (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.13 | 0.31 | 0.30 | 0.40 |
| Pitkin County; Aspen, CO | PM ₁₀ (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.01 | 0.02 | 0.02 | 0.02 |
| Pittsburgh Area, PA | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.11 | 0.26 | 0.24 | 0.32 |
| Pittsburgh-Beaver Valley, PA | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Pittsburgh-Beaver Valley, PA | PM _{2.5} (2006 24-hour) | Maintenance, Moderate | 100 | 0 | 1.86 | 4.50 | 3.97 | 5.44 |
| Plumas County, CA | PM _{2.5} (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Polk County, TN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |

Appendix A Air Quality Non-Attainment Area Results

Table A1-83

Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Cumulative Impacts

Diesel Particulate Matter (DPM) 2040

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|-------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Portland Area: Portland Metro Service District Boundary, OR | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.41 | 0.95 | 0.92 | 1.21 |
| Power-Bannock Counties; Fort Hall Indian Reservation, ID | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Power-Bannock Counties; Portneuf Valley Area, ID | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.03 | 0.07 | 0.07 | 0.09 |
| Provo Area, UT | CO (1971 8-hour) | Maintenance, Moderate > 12.7ppm | 100 | 0 | 0.34 | 0.84 | 0.72 | 1.00 |
| Provo, UT | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.45 | 1.09 | 0.96 | 1.31 |
| Prowers County; Lamar, CO | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Raleigh-Durham Area, NC | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.44 | 1.04 | 1.01 | 1.33 |
| Ramsey County; (part), MN | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Reading, PA | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Reno Area, NV | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.10 | 0.24 | 0.24 | 0.31 |
| Rhinelander, WI | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.01 | 0.03 | 0.03 | 0.04 |
| Riverside County (Coachella Valley), CA | Ozone (2008 8-hour) | Nonattainment, Severe 15 | 25 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Riverside County; Coachella Valley planning area, CA | PM10 (1987 24-hour) | Nonattainment, Serious | 70 | 0 | 0.16 | 0.38 | 0.37 | 0.49 |
| Riverside, Los Angeles, Orange, and San Bernardino Counties; South Coast Air Basin, CA | PM10 (1987 24-hour) | Maintenance, Serious | 100 | 0 | 80.10 | 196.34 | 166.93 | 232.97 |
| Rosebud County; Lame Deer, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.01 | 0.02 | 0.02 | 0.03 |
| Routt County (part); Steamboat Springs, CO | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.38 | 0.93 | 0.78 | 1.10 |
| Sacramento Area, CA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.42 | 0.98 | 0.96 | 1.25 |
| Sacramento County, CA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.40 | 0.93 | 0.91 | 1.19 |
| Sacramento Metro, CA | Ozone (2008 8-hour) | Nonattainment, Severe 15 | 25 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Sacramento, CA | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 8.33 | 20.39 | 17.41 | 24.25 |
| Salem Area, OR | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.08 | 0.19 | 0.19 | 0.24 |
| Salt Lake City Area, UT | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 8.16 | 20.05 | 16.91 | 23.70 |
| Salt Lake City, UT | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 9.50 | 23.30 | 19.79 | 27.63 |

Table A1-83

Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Cumulative Impacts
 Diesel Particulate Matter (DPM) 2040

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|---|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Salt Lake County, UT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 8.41 | 20.65 | 17.49 | 24.45 |
| Salt Lake County, UT | SO ₂ (1971 24-hour/Annual) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| San Bernardino County (part); excluding Searles Valley Planning area and South Coast Air Basin, CA | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.18 | 0.42 | 0.41 | 0.54 |
| San Diego Area, CA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 1.08 | 2.52 | 2.45 | 3.21 |
| San Diego County, CA | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| San Francisco Bay Area, CA | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| San Francisco Bay Area, CA | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 90.03 | 221.09 | 186.93 | 261.60 |
| San Francisco-Oakland-San Jose Area, CA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 89.85 | 220.67 | 186.52 | 261.05 |
| San Joaquin Valley Air Basin; Fresno, Kern, Kings, Madera, Merced, San Joaquin, Stanislaus, Tulare Counties, CA | PM10 (1987 24-hour) | Maintenance, Serious | 100 | 0 | 4.30 | 10.40 | 9.20 | 12.59 |
| San Joaquin Valley, CA | Ozone (2008 8-hour) | Nonattainment, Extreme | 10 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| San Joaquin Valley, CA | PM2.5 (2006 24-hour) | Nonattainment, Serious | 100 | 0 | 4.30 | 10.40 | 9.20 | 12.59 |
| San Joaquin Valley, CA | PM2.5 (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 4.30 | 10.40 | 9.20 | 12.59 |
| San Luis Obispo (Eastern San Luis Obispo), CA | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| San Manuel, AZ | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| San Miguel County; Telluride, CO | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.01 | 0.01 | 0.01 |
| Sanders County (part); Thompson Falls and vicinity, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Santa Cruz County; Nogales planning area, AZ | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.02 | 0.04 | 0.04 | 0.05 |
| Seaford, DE | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Seattle-Tacoma Area, WA | CO (1971 8-hour) | Maintenance, Moderate > 12.7ppm | 100 | 0 | 1.11 | 2.62 | 2.48 | 3.29 |
| Seattle-Tacoma, WA | PM2.5 (2006 24-hour) | Maintenance, Moderate | 100 | 0 | 0.37 | 0.88 | 0.79 | 1.07 |
| Sheboygan County, WI | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |

Appendix A Air Quality Non-Attainment Area Results

Table A1-83

Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Cumulative Impacts

Diesel Particulate Matter (DPM) 2040

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|---|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Sheridan County; City of Sheridan, WY | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.01 | 0.02 | 0.02 | 0.03 |
| Shoshone County (part); excluding Pinehurst, ID | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.01 | 0.03 | 0.03 | 0.04 |
| Shoshone County; City of Pinehurst, ID | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Silver Bow County; Butte, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.01 | 0.03 | 0.03 | 0.04 |
| Somerville Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.01 | 0.01 | 0.01 | 0.02 |
| Southwest Indiana, IN | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.01 | 0.01 | 0.01 |
| Spokane Area, WA | CO (1971 8-hour) | Maintenance, Serious | 100 | 0 | 0.09 | 0.21 | 0.21 | 0.27 |
| Spokane County; (part), WA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.09 | 0.22 | 0.22 | 0.28 |
| Springfield Area, MA | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.05 | 0.13 | 0.12 | 0.16 |
| St. Bernard Parish, LA | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 36.87 | 90.63 | 76.37 | 107.05 |
| St. Louis Area, MO | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.28 | 0.65 | 0.63 | 0.83 |
| St. Louis-St. Charles-Farmington, MO-IL | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Steubenville, OH-WV | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.02 | 0.05 | 0.05 | 0.06 |
| Steubenville-Weirton, OH-WV | PM2.5 (2006 24-hour) | Maintenance, -- | 100 | 0 | 0.12 | 0.28 | 0.25 | 0.34 |
| Stockton Area, CA | CO (1971 8-hour) | Maintenance, Moderate ≤ 12.7ppm | 100 | 0 | 0.18 | 0.43 | 0.39 | 0.53 |
| Sullivan County, TN | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.05 | 0.12 | 0.10 | 0.15 |
| Syracuse Area; Onondaga County, NY | CO (1971 8-hour) | Maintenance, Moderate ≤ 12.7ppm | 100 | 0 | 0.19 | 0.44 | 0.42 | 0.55 |
| Tazewell County; Groveland Twp, IL | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Terre Haute, IN | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.68 | 1.66 | 1.41 | 1.97 |

Table A1-83
Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Cumulative Impacts
Diesel Particulate Matter (DPM) 2040

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|---|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Thurston County; Cities of Olympia, Tumwater, and Lacey, WA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.03 | 0.07 | 0.07 | 0.09 |
| Toms River Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Tooele County (part), UT | SO ₂ (1971 24-hour/Annual) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Trenton Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.03 | 0.07 | 0.06 | 0.08 |
| Trona, CA | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Tucson Area, AZ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.27 | 0.64 | 0.62 | 0.81 |
| Tuscan Buttes, CA | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Union County; LaGrande, OR | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.01 | 0.03 | 0.03 | 0.03 |
| Upper Green River Basin Area, WY | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Utah County, UT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.45 | 1.09 | 0.96 | 1.31 |
| Vancouver Area: Clark County (part), WA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.09 | 0.20 | 0.20 | 0.26 |
| Ventura County, CA | Ozone (2008 8-hour) | Nonattainment, Serious | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Vermillion County; Part of Clinton Township, IN | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.01 | 0.03 | 0.03 | 0.04 |
| Vigo County, IN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Walla Walla County; Wallula, WA | PM10 (1987 24-hour) | Maintenance, Serious | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Waltham Area, MA | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.02 | 0.04 | 0.04 | 0.05 |
| Warren County: Conewago Twp, PA | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Warren County: Warren Boro, Pleasant Twp, Glade Twp, PA | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Warren, PA | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 4.93 | 12.13 | 10.22 | 14.33 |
| Washington Area, DC-MD-VA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.21 | 0.49 | 0.48 | 0.63 |
| Washington, DC-MD-VA | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Washoe County; Reno planning area, NV | PM10 (1987 24-hour) | Nonattainment, Serious | 70 | 0 | 0.10 | 0.24 | 0.23 | 0.31 |

Appendix A Air Quality Non-Attainment Area Results

Table A1-83

Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Cumulative Impacts Diesel Particulate Matter (DPM) 2040

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|---|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Wayne County: Boston, Center, Franklin, Wayne & Webster Townships, IN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Wayne County; (part), MI | PM ₁₀ (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 3.62 | 8.90 | 7.50 | 10.51 |
| West Central Pinal County, AZ | PM _{2.5} (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.03 | 0.07 | 0.06 | 0.08 |
| West Silver Valley, ID | PM _{2.5} (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 0.01 | 0.02 | 0.02 | 0.02 |
| Winston-Salem Area, NC | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.12 | 0.28 | 0.27 | 0.35 |
| Worcester Area, MA | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.08 | 0.18 | 0.17 | 0.22 |
| Yakima Area, WA | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.01 | 0.03 | 0.03 | 0.04 |
| Yakima County; (part), WA | PM ₁₀ (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.04 | 0.09 | 0.08 | 0.11 |
| Yuba City-Marysville, CA | PM _{2.5} (2006 24-hour) | Maintenance, Moderate | 100 | 0 | 0.06 | 0.14 | 0.14 | 0.18 |
| Yuma County; Yuma planning area, AZ | PM ₁₀ (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.05 | 0.12 | 0.12 | 0.16 |

^a Reductions are shown as positive values. Negative values are emissions increases. Values of less than 0.005 tons per year are rounded to zero.

^b Nonattainment or maintenance status as of 5/13/2016. Source: U.S. EPA, The Green Book Nonattainment Areas for Criteria Pollutants; <http://www.epa.gov/airquality/greenbook/>. "--" indicates that no severity classification has been established for the NAAQS pollutant.

^c Emissions thresholds in tons per year. Where the threshold differs by precursor pollutant, the smallest of the precursor thresholds is shown. These thresholds are provided for information only; a general conformity determination is not required for the Proposed Action. Source: 40 CFR 93.853.

Notes: CO = carbon monoxide; NAAQS = National Ambient Air Quality Standards; NO₂ = nitrogen dioxide; PM = particulate matter; SO₂ = sulfur dioxide

Table A1-84
Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Cumulative Impacts
Diesel Particulate Matter (DPM) 2050

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Ada County; Boise, ID | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.13 | 0.32 | 0.31 | 0.40 |
| Adams, Denver, and Boulder Counties; Denver Metropolitan area, CO | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 1.53 | 3.73 | 3.33 | 4.51 |
| Ajo, AZ | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Albuquerque Area, NM | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.28 | 0.66 | 0.65 | 0.85 |
| Allegheny County Air Basin: Hazelwood monitor, PA | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Allegheny County, PA | PM2.5 (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 0.41 | 0.98 | 0.95 | 1.24 |
| Allegheny County; The area including Liberty, Lincoln, Port Vue, and Glassport Boroughs and the City of Clairton, PA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.06 | 0.16 | 0.13 | 0.18 |
| Allegheny, PA | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.08 | 0.19 | 0.17 | 0.23 |
| Allentown, PA | PM2.5 (2006 24-hour) | Maintenance, Moderate | 100 | 0 | 0.24 | 0.57 | 0.56 | 0.73 |
| Allentown-Bethlehem-Easton, PA | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Anchorage Area, AK | CO (1971 8-hour) | Maintenance, Serious | 100 | 0 | 0.05 | 0.11 | 0.11 | 0.14 |
| Anchorage; Eagle River, AK | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.01 | 0.01 | 0.01 |
| AQCR 012: Portions of Grant County, NM | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| AQCR 109-Millinocket, ME | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| AQCR 131: Anoka, Carver, Dakota, Hennepin, Ramsey, Scott, and Washington counties (Minneapolis-St. Paul), MN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| AQCR 237: Brown County: Green Bay sub-city area, WI | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| AQCR 238: Marathon County: Rothschild Sub-city area, Rib Mountain, Weston, WI | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| AQCR 238: Oneida County: Rhinelander Sub-city area, WI | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| AQCR 239: Milwaukee County: Milwaukee sub-city area, WI | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |

Appendix A Air Quality Non-Attainment Area Results

Table A1-84

Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Cumulative Impacts Diesel Particulate Matter (DPM) 2050

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| AQCR 240: Dane County: Madison sub-city area, WI | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Archuleta County; Pagosa Springs, CO | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.01 | 0.02 | 0.02 | 0.03 |
| Armstrong County: Madison Twp, Mahoning Twp, Boggs Twp, Washington Twp, Pine Twp, PA | SO ₂ (1971 24-hour/Annual) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Aroostock County; City of Presque Isle, ME | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.01 | 0.02 | 0.02 | 0.02 |
| Atlanta, GA | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Atlantic City Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.02 | 0.05 | 0.05 | 0.07 |
| Bakersfield Area, CA | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 3.45 | 8.60 | 7.19 | 10.01 |
| Baltimore Area, MD | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.01 | 0.01 | 0.01 | 0.02 |
| Baltimore, MD | Ozone (2008 8-hour) | Nonattainment, Moderate | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Baton Rouge, LA | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Beaver, PA | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.01 | 0.02 | 0.02 | 0.02 |
| Benton County; (part) TVA Johnsonville, TN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Billings Area, MT | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 26.35 | 65.85 | 54.43 | 76.13 |
| Billings, MT | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 26.32 | 65.77 | 54.35 | 76.02 |
| Birmingham, AL | PM2.5 (2006 24-hour) | Maintenance, -- | 100 | 0 | 0.84 | 2.02 | 1.88 | 2.50 |
| Boise-Northern Ada County Area, ID | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.13 | 0.32 | 0.31 | 0.40 |
| Bonner County; The Sandpoint Area, ID | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.01 | 0.01 | 0.01 | 0.02 |
| Boston Area, MA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 1.12 | 2.76 | 2.40 | 3.28 |
| Boyd County (part), KY | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Brooke; Follansbee area, WV | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Burlington Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.01 | 0.01 | 0.01 |
| Calaveras County, CA | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Campbell-Clermont Counties, KY-OH | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.02 | 0.04 | 0.04 | 0.05 |

Table A1-84
Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Cumulative Impacts
Diesel Particulate Matter (DPM) 2050

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|---|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Canton-Massillon, OH | PM2.5 (2006 24-hour) | Maintenance, -- | 100 | 0 | 14.10 | 35.21 | 29.16 | 40.75 |
| Central New Hampshire, NH | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.09 | 0.22 | 0.22 | 0.28 |
| Central Steptoe Valley, NV | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Charleston, WV | PM2.5 (2006 24-hour) | Maintenance, -- | 100 | 0 | 0.16 | 0.37 | 0.37 | 0.47 |
| Charlotte Area, NC | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.54 | 1.27 | 1.26 | 1.63 |
| Charlotte-Rock Hill, NC-SC | Ozone (2008 8-hour) | Maintenance, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Chicago-Naperville, IL-IN-WI | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Chico (Butte County), CA | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Chico Area, CA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.04 | 0.10 | 0.10 | 0.13 |
| Chico, CA | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.08 | 0.20 | 0.19 | 0.25 |
| Cincinnati, OH-KY-IN | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Clark County; Las Vegas planning area, NV | PM10 (1987 24-hour) | Maintenance, Serious | 100 | 0 | 1.02 | 2.44 | 2.28 | 3.03 |
| Cleveland Area, OH | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.40 | 0.95 | 0.94 | 1.22 |
| Cleveland, OH | PM2.5 (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 0.53 | 1.24 | 1.23 | 1.59 |
| Cleveland-Akron-Lorain, OH | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Cleveland-Akron-Lorain, OH | PM2.5 (2006 24-hour) | Maintenance, -- | 100 | 0 | 1.15 | 2.71 | 2.69 | 3.48 |
| Cochise County; Paul Spur/Douglas planning area, AZ | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.02 | 0.04 | 0.04 | 0.05 |
| Colorado Springs Area, CO | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.42 | 1.02 | 0.94 | 1.25 |
| Columbus, OH | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Cook County; Lyons Township, IL | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.03 | 0.08 | 0.08 | 0.11 |
| Cook County; Southeast Chicago, IL | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.03 | 0.08 | 0.08 | 0.10 |
| Coshocton County; Franklin Township, OH | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Coso Junction, CA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Cuyahoga County (part), OH | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Cuyahoga County, OH | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.40 | 0.95 | 0.94 | 1.21 |

Appendix A Air Quality Non-Attainment Area Results

Table A1-84

**Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Cumulative Impacts
Diesel Particulate Matter (DPM) 2050**

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Dallas-Fort Worth, TX | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Delaware County, PA | PM2.5 (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 48.44 | 121.05 | 100.08 | 139.96 |
| Denver-Boulder Area, CO | CO (1971 8-hour) | Maintenance, Serious | 100 | 0 | 19.71 | 49.11 | 41.00 | 57.10 |
| Denver-Boulder-Greeley-Ft Collins-Loveland, CO | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Detroit Area, MI | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 4.81 | 11.95 | 10.09 | 13.98 |
| Detroit, MI | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 4.43 | 11.05 | 9.19 | 12.82 |
| Detroit-Ann Arbor, MI | PM2.5 (2006 24-hour) | Maintenance, -- | 100 | 0 | 6.41 | 15.72 | 13.82 | 18.82 |
| Dona Ana County; Anthony, NM | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.01 | 0.01 | 0.01 |
| Douglas, AZ | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Dukes County, MA | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Duluth Area, MN | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.06 | 0.14 | 0.14 | 0.18 |
| East Chicago Area, IN | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 19.04 | 47.59 | 39.32 | 55.01 |
| East Helena Area, MT | SO ₂ (1971 24-hour/Annual) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| East Kern County Area, CA | PM10 (1987 24-hour) | Nonattainment, Serious | 70 | 0 | 3.25 | 8.11 | 6.71 | 9.38 |
| El Paso County, TX | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 4.48 | 11.17 | 9.29 | 12.96 |
| El Paso, TX | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 4.31 | 10.76 | 8.90 | 12.44 |
| Eugene-Springfield Area, OR | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.10 | 0.24 | 0.24 | 0.31 |
| Fairbanks Area, AK | CO (1971 8-hour) | Maintenance, Serious | 100 | 0 | 0.53 | 1.34 | 1.11 | 1.55 |
| Fairbanks, AK | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.55 | 1.36 | 1.13 | 1.58 |

Table A1-84
Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Cumulative Impacts
Diesel Particulate Matter (DPM) 2050

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|---|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Flathead County; Columbia Falls and vicinity, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Flathead County; Kalispell and vicinity, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.02 | 0.04 | 0.04 | 0.05 |
| Flathead County; Whitefish and vicinity, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.01 |
| Fort Collins Area, CO | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.05 | 0.12 | 0.12 | 0.15 |
| Freehold Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.01 | 0.03 | 0.03 | 0.04 |
| Fremont County; Canon City Area, CO | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.02 | 0.04 | 0.04 | 0.05 |
| Fresno Area, CA | CO (1971 8-hour) | Maintenance, Moderate > 12.7ppm | 100 | 0 | 0.27 | 0.65 | 0.63 | 0.82 |
| Grants Pass Area, OR | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.02 | 0.05 | 0.05 | 0.06 |
| Great Falls Area, MT | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 2.97 | 7.42 | 6.13 | 8.58 |
| Greater Connecticut, CT | Ozone (2008 8-hour) | Nonattainment, Moderate | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Greeley Area, CO | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.55 | 1.36 | 1.19 | 1.62 |
| Hancock and Brooke Counties (Part); The city of Weirton, WV | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.10 | 0.24 | 0.20 | 0.28 |
| Hancock County (Part) The city of Weirton, including Butler and Clay: Magisterial Districts, WV | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Harrisburg-Lebanon-Carlisle-York, PA | PM2.5 (2006 24-hour) | Maintenance, Moderate | 100 | 0 | 0.55 | 1.29 | 1.27 | 1.65 |
| Hartford-New Britain-Middletown Area, CT | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.48 | 1.13 | 1.12 | 1.46 |
| Hayden, AZ | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Hayden, AZ | SO ₂ (1971 24-hour/Annual) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Hayden, AZ | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Hillsborough County, FL | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.01 | 0.02 | 0.02 | 0.02 |
| Houston-Galveston-Brazoria, TX | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Humphreys County; (part) TVA Johnsonville, TN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Imperial Co, CA | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.09 | 0.21 | 0.21 | 0.27 |

Appendix A Air Quality Non-Attainment Area Results

Table A1-84

**Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Cumulative Impacts
Diesel Particulate Matter (DPM) 2050**

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Imperial County, CA | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Imperial County, CA | PM2.5 (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 0.09 | 0.21 | 0.21 | 0.27 |
| Imperial County; Imperial Valley planning area, CA | PM10 (1987 24-hour) | Nonattainment, Serious | 70 | 0 | 0.11 | 0.26 | 0.25 | 0.33 |
| Indian Wells, CA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 3.25 | 8.11 | 6.71 | 9.38 |
| Indiana, PA | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.04 | 0.09 | 0.09 | 0.12 |
| Indianapolis Area, IN | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Indianapolis, IN | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.20 | 0.46 | 0.46 | 0.59 |
| Inyo County; Owens Valley planning area, CA | PM10 (1987 24-hour) | Nonattainment, Serious | 70 | 0 | 0.00 | 0.01 | 0.01 | 0.01 |
| Jackson County, MO | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.02 | 0.05 | 0.05 | 0.07 |
| Jackson County; Medford-Ashland (including White City), OR | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.08 | 0.20 | 0.20 | 0.25 |
| Jamestown, NY | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Jefferson County, KY | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.06 | 0.14 | 0.11 | 0.16 |
| Jefferson County, MO | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.02 | 0.05 | 0.05 | 0.07 |
| Jefferson County; (part) Steubenville & Mingo Junction, OH | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Jefferson County; (part), OH | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.01 |
| Johnstown, PA | PM2.5 (2006 24-hour) | Maintenance, Moderate | 100 | 0 | 0.05 | 0.12 | 0.12 | 0.16 |
| Josephine County; Grants Pass, OR | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.02 | 0.05 | 0.05 | 0.06 |
| Juneau; Mendenhall Valley area, AK | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.01 | 0.01 | 0.01 |
| Kern County (Eastern Kern), CA | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| King County; Kent, WA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.01 | 0.03 | 0.02 | 0.03 |
| King County; Seattle, WA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.01 | 0.01 | 0.01 |
| Klamath County; Klamath Falls, OR | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.04 | 0.09 | 0.09 | 0.12 |
| Klamath Falls Area, OR | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.04 | 0.09 | 0.09 | 0.12 |
| Klamath Falls, OR | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.04 | 0.10 | 0.10 | 0.12 |

Table A1-84

Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Cumulative Impacts
 Diesel Particulate Matter (DPM) 2050

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Knoxville, TN | Ozone (2008 8-hour) | Maintenance, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Knoxville-Sevierville-La Follette, TN | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.42 | 1.00 | 0.99 | 1.28 |
| La Porte County: (part), IN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lake County (part); Lakeview, OR | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.01 | 0.02 | 0.02 | 0.02 |
| Lake County, OH | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.12 | 0.27 | 0.27 | 0.35 |
| Lake County: (part), IN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lake County; (part) Eastlake, Timberlake, Lakeline, Willoughby, Mentor, OH | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lake County; Cities of East Chicago, Hammond, Whiting, and Gary, IN | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 19.09 | 47.72 | 39.45 | 55.17 |
| Lake County; Polson, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lake County; Ronan, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lake Tahoe Nevada Area, NV | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.01 | 0.01 | 0.01 | 0.02 |
| Lake Tahoe North Shore Area, CA | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.01 | 0.01 | 0.01 |
| Lake Tahoe South Shore Area, CA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.01 | 0.02 | 0.02 | 0.02 |
| Lancaster, PA | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lancaster, PA | PM2.5 (2006 24-hour) | Maintenance, Moderate | 100 | 0 | 0.22 | 0.52 | 0.52 | 0.67 |
| Lane County (part); Oakridge, OR | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lane County; Eugene/Springfield, OR | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.10 | 0.24 | 0.24 | 0.31 |
| Las Vegas Area, NV | CO (1971 8-hour) | Maintenance, Serious | 100 | 0 | 1.01 | 2.44 | 2.28 | 3.02 |
| LaSalle County; Oglesby, IL | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.02 | 0.04 | 0.04 | 0.05 |
| Laurel Area, MT | SO ₂ (1971 24-hour/Annual) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lebanon County, PA | PM2.5 (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 0.08 | 0.18 | 0.18 | 0.23 |
| Lemont, IL | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 28.54 | 71.31 | 58.95 | 82.45 |
| Liberty-Clairton, PA | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.06 | 0.16 | 0.13 | 0.18 |

Appendix A Air Quality Non-Attainment Area Results

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Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Cumulative Impacts Diesel Particulate Matter (DPM) 2050

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Lincoln County; Libby and vicinity, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.01 |
| Logan, UT-ID | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.04 | 0.09 | 0.09 | 0.12 |
| Longmont Area, CO | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.03 | 0.08 | 0.08 | 0.10 |
| Lorain County (part), OH | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Los Angeles, CA | PM2.5 (2006 24-hour) | Nonattainment, Serious | 100 | 0 | 95.64 | 238.10 | 199.25 | 277.16 |
| Los Angeles-San Bernardino Counties (West Mojave Desert), CA | Ozone (2008 8-hour) | Nonattainment, Severe 15 | 25 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Los Angeles-South Coast Air Basin Area, CA | CO (1971 8-hour) | Maintenance, Serious | 100 | 0 | 95.64 | 238.11 | 199.26 | 277.17 |
| Los Angeles-South Coast Air Basin Area, CA | NO ₂ (1971 Annual) | Maintenance, -- | 100 | 0 | 95.64 | 238.11 | 199.26 | 277.18 |
| Los Angeles-South Coast Air Basin, CA | Ozone (2008 8-hour) | Nonattainment, Extreme | 10 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Los Angeles-South Coast Air Basin, CA | PM2.5 (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 95.63 | 238.08 | 199.23 | 277.13 |
| Lowell Area, MA | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.05 | 0.11 | 0.11 | 0.14 |
| Lucas County (part), OH | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Madison County; Granite City Township and Nameoki Township, IL | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 24.23 | 60.57 | 50.05 | 70.01 |
| Manchester Area, NH | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.03 | 0.08 | 0.08 | 0.11 |
| Maricopa and Pinal Counties; Phoenix planning area, AZ | PM10 (1987 24-hour) | Nonattainment, Serious | 70 | 0 | 1.54 | 3.63 | 3.60 | 4.66 |
| Marion County; Lawrence, Washington, and Warrant Townships, IN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Mariposa County, CA | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Marshall, WV | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 16.59 | 41.47 | 34.27 | 47.94 |
| Medford Area, OR | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.04 | 0.10 | 0.10 | 0.13 |
| Memphis Area, TN | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 9.66 | 24.08 | 20.04 | 27.95 |

Table A1-84

Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Cumulative Impacts
 Diesel Particulate Matter (DPM) 2050

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|---|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Memphis, TN-MS-AR | Ozone (2008 8-hour) | Nonattainment TN & Maintenance MS/AR, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Miami, AZ | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.01 | 0.01 | 0.01 |
| Miami, AZ | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Miami, AZ | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.01 | 0.01 | 0.01 |
| Milwaukee-Racine, WI | PM2.5 (2006 24-hour) | Maintenance, -- | 100 | 0 | 0.74 | 1.77 | 1.66 | 2.20 |
| Minneapolis-St. Paul Area, MN | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 31.88 | 79.50 | 66.20 | 92.29 |
| Missoula Area, MT | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 2.85 | 7.12 | 5.90 | 8.24 |
| Missoula county; Missoula and vicinity, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 2.85 | 7.12 | 5.90 | 8.24 |
| Modesto Area, CA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.10 | 0.23 | 0.22 | 0.29 |
| Mohave County (part); Bullhead City, AZ | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.04 | 0.10 | 0.10 | 0.13 |
| Mono County; Mammoth Lake planning area, CA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.02 | 0.04 | 0.04 | 0.05 |
| Mono County; Mono Basin, CA | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Morenci, AZ | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Morgan County, IN | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.01 | 0.03 | 0.03 | 0.04 |
| Morongo Band of Mission Indians | Ozone (2008 8-hour) | Nonattainment, Serious | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Morristown Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.09 | 0.22 | 0.19 | 0.26 |
| Muscatine County; (part), IA | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Muscatine, IA | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.01 | 0.03 | 0.02 | 0.03 |
| Muskingum River, OH | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.01 | 0.01 | 0.01 |
| Nashua Area, NH | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.03 | 0.08 | 0.08 | 0.10 |
| Nassau County, FL | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Nevada County (Western part), CA | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| New Haven County, CT | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.01 | 0.02 | 0.02 | 0.02 |

Appendix A Air Quality Non-Attainment Area Results

Table A1-84

**Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Cumulative Impacts
Diesel Particulate Matter (DPM) 2050**

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| New Haven-Meriden-Waterbury Area, CT | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.37 | 0.86 | 0.86 | 1.11 |
| New Manchester-Grant magisterial district in Hancock County, WV | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| New York County, NY | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.24 | 0.57 | 0.56 | 0.73 |
| New York, NY-NJ-CT | PM2.5 (2006 24-hour) | Maintenance, -- | 100 | 0 | 21.33 | 52.34 | 45.87 | 62.53 |
| New York-N. New Jersey-Long Island Area, NY-NJ-CT | CO (1971 8-hour) | Maintenance, Moderate > 12.7ppm | 100 | 0 | 15.86 | 39.10 | 33.77 | 46.32 |
| New York-N. New Jersey-Long Island, NY-NJ-CT | Ozone (2008 8-hour) | Nonattainment, Moderate | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| NJ portion of the Northeast Pennsylvania-Upper Delaware Valley Interstate AQCR: (part), NJ | SO ₂ (1971 24-hour/Annual) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Nogales, AZ | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.02 | 0.05 | 0.05 | 0.06 |
| Oakridge, OR | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Ogden Area, UT | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.03 | 0.06 | 0.06 | 0.08 |
| Ogden Area, UT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.03 | 0.06 | 0.06 | 0.08 |
| Olmsted County; (part), MN | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.01 | 0.02 | 0.02 | 0.03 |
| Olmsted; City of Rochester, MN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |

Table A1-84
Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Cumulative Impacts
Diesel Particulate Matter (DPM) 2050

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Pechanga Band of Luiseno Mission Indians of the Pechanga Reservation | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Pekin, IL | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.02 | 0.04 | 0.04 | 0.05 |
| Penns Grove Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Peoria County: Hollis Twp, IL | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Peoria County: Peoria, IL | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Perth Amboy Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 2.43 | 6.07 | 5.04 | 7.04 |
| Philadelphia-Camden County Area, PA-NJ | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 25.35 | 63.30 | 52.45 | 73.28 |
| Philadelphia-Wilmington, PA-NJ-DE | PM _{2.5} (2006 24-hour) | Maintenance, Moderate for PA and DE Subject to Former Subpart 1 for NJ | 100 | 0 | 85.57 | 213.61 | 177.21 | 247.45 |
| Philadelphia-Wilmington-Atlantic City, PA-NJ-MD-DE | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Phoenix Area, AZ | CO (1971 8-hour) | Maintenance, Serious | 100 | 0 | 1.47 | 3.47 | 3.44 | 4.45 |
| Phoenix-Mesa, AZ | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Pierce County; Tacoma, WA | PM ₁₀ (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.27 | 0.67 | 0.55 | 0.77 |
| Pima County; Ajo planning area, AZ | PM ₁₀ (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Pima County; Rillito planning area, AZ | PM ₁₀ (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.03 | 0.07 | 0.07 | 0.09 |
| Pinal and Gila Counties; Payson, AZ | PM ₁₀ (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.01 | 0.04 | 0.03 | 0.05 |
| Pinal County (part); West Pinal, AZ | PM ₁₀ (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.18 | 0.42 | 0.41 | 0.54 |
| Pitkin County; Aspen, CO | PM ₁₀ (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.01 | 0.03 | 0.02 | 0.03 |
| Pittsburgh Area, PA | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.13 | 0.32 | 0.29 | 0.39 |
| Pittsburgh-Beaver Valley, PA | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Pittsburgh-Beaver Valley, PA | PM _{2.5} (2006 24-hour) | Maintenance, Moderate | 100 | 0 | 2.28 | 5.58 | 4.91 | 6.68 |
| Plumas County, CA | PM _{2.5} (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Polk County, TN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |

Appendix A Air Quality Non-Attainment Area Results

Table A1-84

Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Cumulative Impacts

Diesel Particulate Matter (DPM) 2050

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|-------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Portland Area: Portland Metro Service District Boundary, OR | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.53 | 1.25 | 1.23 | 1.60 |
| Power-Bannock Counties; Fort Hall Indian Reservation, ID | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Power-Bannock Counties; Portneuf Valley Area, ID | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.04 | 0.10 | 0.10 | 0.12 |
| Provo Area, UT | CO (1971 8-hour) | Maintenance, Moderate > 12.7ppm | 100 | 0 | 0.41 | 1.02 | 0.85 | 1.19 |
| Provo, UT | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.55 | 1.35 | 1.18 | 1.61 |
| Prowers County; Lamar, CO | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Raleigh-Durham Area, NC | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.58 | 1.37 | 1.36 | 1.77 |
| Ramsey County; (part), MN | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Reading, PA | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Reno Area, NV | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.13 | 0.32 | 0.31 | 0.40 |
| Rhinelander, WI | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.02 | 0.05 | 0.05 | 0.06 |
| Riverside County (Coachella Valley), CA | Ozone (2008 8-hour) | Nonattainment, Severe 15 | 25 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Riverside County; Coachella Valley planning area, CA | PM10 (1987 24-hour) | Nonattainment, Serious | 70 | 0 | 0.21 | 0.50 | 0.49 | 0.64 |
| Riverside, Los Angeles, Orange, and San Bernardino Counties; South Coast Air Basin, CA | PM10 (1987 24-hour) | Maintenance, Serious | 100 | 0 | 95.61 | 238.04 | 199.19 | 277.08 |
| Rosebud County; Lame Deer, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.01 | 0.03 | 0.03 | 0.04 |
| Routt County (part); Steamboat Springs, CO | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.45 | 1.12 | 0.93 | 1.30 |
| Sacramento Area, CA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.54 | 1.27 | 1.26 | 1.63 |
| Sacramento County, CA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.52 | 1.23 | 1.22 | 1.58 |
| Sacramento Metro, CA | Ozone (2008 8-hour) | Nonattainment, Severe 15 | 25 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Sacramento, CA | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 9.98 | 24.79 | 20.87 | 28.96 |
| Salem Area, OR | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.11 | 0.26 | 0.25 | 0.33 |
| Salt Lake City Area, UT | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 9.68 | 24.18 | 20.00 | 27.97 |
| Salt Lake City, UT | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 11.33 | 28.23 | 23.59 | 32.83 |

Table A1-84
Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Cumulative Impacts
Diesel Particulate Matter (DPM) 2050

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|---|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Salt Lake County, UT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 10.01 | 24.97 | 20.79 | 28.98 |
| Salt Lake County, UT | SO ₂ (1971 24-hour/Annual) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| San Bernardino County (part); excluding Searles Valley Planning area and South Coast Air Basin, CA | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.22 | 0.53 | 0.52 | 0.68 |
| San Diego Area, CA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 1.41 | 3.33 | 3.30 | 4.28 |
| San Diego County, CA | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| San Francisco Bay Area, CA | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| San Francisco Bay Area, CA | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 107.03 | 267.10 | 221.78 | 309.57 |
| San Francisco-Oakland-San Jose Area, CA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 106.79 | 266.53 | 221.22 | 308.84 |
| San Joaquin Valley Air Basin; Fresno, Kern, Kings, Madera, Merced, San Joaquin, Stanislaus, Tulare Counties, CA | PM10 (1987 24-hour) | Maintenance, Serious | 100 | 0 | 5.28 | 12.93 | 11.41 | 15.51 |
| San Joaquin Valley, CA | Ozone (2008 8-hour) | Nonattainment, Extreme | 10 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| San Joaquin Valley, CA | PM2.5 (2006 24-hour) | Nonattainment, Serious | 100 | 0 | 5.28 | 12.93 | 11.41 | 15.51 |
| San Joaquin Valley, CA | PM2.5 (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 5.28 | 12.93 | 11.41 | 15.51 |
| San Luis Obispo (Eastern San Luis Obispo), CA | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| San Manuel, AZ | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| San Miguel County; Telluride, CO | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.01 | 0.01 | 0.01 |
| Sanders County (part); Thompson Falls and vicinity, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Santa Cruz County; Nogales planning area, AZ | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.02 | 0.05 | 0.05 | 0.06 |
| Seaford, DE | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Seattle-Tacoma Area, WA | CO (1971 8-hour) | Maintenance, Moderate > 12.7ppm | 100 | 0 | 1.42 | 3.40 | 3.26 | 4.27 |
| Seattle-Tacoma, WA | PM2.5 (2006 24-hour) | Maintenance, Moderate | 100 | 0 | 0.45 | 1.10 | 0.98 | 1.33 |
| Sheboygan County, WI | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |

Appendix A Air Quality Non-Attainment Area Results

Table A1-84

Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Cumulative Impacts

Diesel Particulate Matter (DPM) 2050

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|---|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Sheridan County; City of Sheridan, WY | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.01 | 0.03 | 0.03 | 0.03 |
| Shoshone County (part); excluding Pinehurst, ID | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.02 | 0.04 | 0.04 | 0.05 |
| Shoshone County; City of Pinehurst, ID | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Silver Bow County; Butte, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.02 | 0.04 | 0.04 | 0.05 |
| Somerville Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.01 | 0.02 | 0.02 | 0.02 |
| Southwest Indiana, IN | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.01 | 0.01 | 0.01 | 0.02 |
| Spokane Area, WA | CO (1971 8-hour) | Maintenance, Serious | 100 | 0 | 0.12 | 0.28 | 0.28 | 0.36 |
| Spokane County; (part), WA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.12 | 0.29 | 0.29 | 0.37 |
| Springfield Area, MA | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.07 | 0.17 | 0.17 | 0.22 |
| St. Bernard Parish, LA | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 43.71 | 109.25 | 90.28 | 126.29 |
| St. Louis Area, MO | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.36 | 0.85 | 0.84 | 1.09 |
| St. Louis-St. Charles-Farmington, MO-IL | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Steubenville, OH-WV | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.03 | 0.07 | 0.07 | 0.09 |
| Steubenville-Weirton, OH-WV | PM2.5 (2006 24-hour) | Maintenance, -- | 100 | 0 | 0.14 | 0.35 | 0.31 | 0.42 |
| Stockton Area, CA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.22 | 0.54 | 0.50 | 0.67 |
| Sullivan County, TN | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.06 | 0.15 | 0.12 | 0.17 |
| Syracuse Area; Onondaga County, NY | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.24 | 0.57 | 0.56 | 0.73 |
| Tazewell County; Groveland Twp, IL | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Terre Haute, IN | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.80 | 2.00 | 1.66 | 2.31 |

Table A1-84
Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Cumulative Impacts
Diesel Particulate Matter (DPM) 2050

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|---|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Thurston County; Cities of Olympia, Tumwater, and Lacey, WA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.04 | 0.10 | 0.10 | 0.12 |
| Toms River Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.01 | 0.01 | 0.01 |
| Tooele County (part), UT | SO ₂ (1971 24-hour/Annual) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Trenton Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.04 | 0.09 | 0.09 | 0.11 |
| Trona, CA | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Tucson Area, AZ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.36 | 0.84 | 0.84 | 1.08 |
| Tuscan Buttes, CA | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Union County; LaGrande, OR | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.02 | 0.04 | 0.04 | 0.05 |
| Upper Green River Basin Area, WY | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Utah County, UT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.55 | 1.35 | 1.18 | 1.61 |
| Vancouver Area: Clark County (part), WA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.11 | 0.27 | 0.26 | 0.34 |
| Ventura County, CA | Ozone (2008 8-hour) | Nonattainment, Serious | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Vermillion County; Part of Clinton Township, IN | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Vigo County, IN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Walla Walla County; Wallula, WA | PM10 (1987 24-hour) | Maintenance, Serious | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Waltham Area, MA | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.02 | 0.05 | 0.05 | 0.07 |
| Warren County: Conewago Twp, PA | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Warren County: Warren Boro, Pleasant Twp, Glade Twp, PA | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Warren, PA | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 5.85 | 14.62 | 12.08 | 16.90 |
| Washington Area, DC-MD-VA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.28 | 0.65 | 0.65 | 0.84 |
| Washington, DC-MD-VA | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Washoe County; Reno planning area, NV | PM10 (1987 24-hour) | Nonattainment, Serious | 70 | 0 | 0.13 | 0.31 | 0.31 | 0.40 |

Appendix A Air Quality Non-Attainment Area Results

Table A1-84

Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Cumulative Impacts Diesel Particulate Matter (DPM) 2050

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|---|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Wayne County: Boston, Center, Franklin, Wayne & Webster Townships, IN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Wayne County; (part), MI | PM ₁₀ (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 4.30 | 10.75 | 8.90 | 12.44 |
| West Central Pinal County, AZ | PM _{2.5} (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.04 | 0.09 | 0.09 | 0.11 |
| West Silver Valley, ID | PM _{2.5} (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 0.01 | 0.03 | 0.02 | 0.03 |
| Winston-Salem Area, NC | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.16 | 0.37 | 0.36 | 0.47 |
| Worcester Area, MA | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.10 | 0.24 | 0.24 | 0.31 |
| Yakima Area, WA | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.02 | 0.04 | 0.04 | 0.06 |
| Yakima County; (part), WA | PM ₁₀ (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.05 | 0.11 | 0.11 | 0.15 |
| Yuba City-Marysville, CA | PM _{2.5} (2006 24-hour) | Maintenance, Moderate | 100 | 0 | 0.08 | 0.19 | 0.19 | 0.24 |
| Yuma County; Yuma planning area, AZ | PM ₁₀ (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.07 | 0.16 | 0.16 | 0.21 |

^a Reductions are shown as positive values. Negative values are emissions increases. Values of less than 0.005 tons per year are rounded to zero.

^b Nonattainment or maintenance status as of 5/13/2016. Source: U.S. EPA, The Green Book Nonattainment Areas for Criteria Pollutants; <http://www.epa.gov/airquality/greenbook/>. "--" indicates that no severity classification has been established for the NAAQS pollutant.

^c Emissions thresholds in tons per year. Where the threshold differs by precursor pollutant, the smallest of the precursor thresholds is shown. These thresholds are provided for information only; a general conformity determination is not required for the Proposed Action. Source: 40 CFR 93.853.

Notes: CO = carbon monoxide; NAAQS = National Ambient Air Quality Standards; NO₂ = nitrogen dioxide; PM = particulate matter; SO₂ = sulfur dioxide

Table A1-85
Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Cumulative Impacts
Formaldehyde 2018

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Ada County; Boise, ID | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Adams, Denver, and Boulder Counties; Denver Metropolitan area, CO | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Ajo, AZ | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Albuquerque Area, NM | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Allegheny County Air Basin: Hazelwood monitor, PA | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Allegheny County, PA | PM2.5 (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Allegheny County; The area including Liberty, Lincoln, Port Vue, and Glassport Boroughs and the City of Clairton, PA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Allegheny, PA | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Allentown, PA | PM2.5 (2006 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Allentown-Bethlehem-Easton, PA | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Anchorage Area, AK | CO (1971 8-hour) | Maintenance, Serious | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Anchorage; Eagle River, AK | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| AQCR 012: Portions of Grant County, NM | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| AQCR 109-Millinocket, ME | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| AQCR 131: Anoka, Carver, Dakota, Hennepin, Ramsey, Scott, and Washington counties (Minneapolis-St. Paul), MN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| AQCR 237: Brown County: Green Bay sub-city area, WI | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| AQCR 238: Marathon County: Rothschild Sub-city area, Rib Mountain, Weston, WI | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| AQCR 238: Oneida County: Rhinelander Sub-city area, WI | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| AQCR 239: Milwaukee County: Milwaukee sub-city area, WI | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |

Appendix A Air Quality Non-Attainment Area Results

Table A1-85

Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Cumulative Impacts

Formaldehyde 2018

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| AQCR 240: Dane County: Madison sub-city area, WI | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Archuleta County; Pagosa Springs, CO | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Armstrong County: Madison Twp, Mahoning Twp, Boggs Twp, Washington Twp, Pine Twp, PA | SO ₂ (1971 24-hour/Annual) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Aroostock County; City of Presque Isle, ME | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Atlanta, GA | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Atlantic City Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Bakersfield Area, CA | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.01 | 0.01 | 0.01 | 0.01 |
| Baltimore Area, MD | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Baltimore, MD | Ozone (2008 8-hour) | Nonattainment, Moderate | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Baton Rouge, LA | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Beaver, PA | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Benton County; (part) TVA Johnsonville, TN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Billings Area, MT | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Billings, MT | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Birmingham, AL | PM2.5 (2006 24-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Boise-Northern Ada County Area, ID | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Bonner County; The Sandpoint Area, ID | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Boston Area, MA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Boyd County (part), KY | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Brooke; Follansbee area, WV | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Burlington Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Calaveras County, CA | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Campbell-Clermont Counties, KY-OH | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |

Table A1-85

Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Cumulative Impacts

Formaldehyde 2018

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|---|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Canton-Massillon, OH | PM2.5 (2006 24-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Central New Hampshire, NH | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Central Steptoe Valley, NV | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Charleston, WV | PM2.5 (2006 24-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Charlotte Area, NC | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Charlotte-Rock Hill, NC-SC | Ozone (2008 8-hour) | Maintenance, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Chicago-Naperville, IL-IN-WI | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Chico (Butte County), CA | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Chico Area, CA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Chico, CA | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Cincinnati, OH-KY-IN | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Clark County; Las Vegas planning area, NV | PM10 (1987 24-hour) | Maintenance, Serious | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Cleveland Area, OH | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Cleveland, OH | PM2.5 (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Cleveland-Akron-Lorain, OH | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Cleveland-Akron-Lorain, OH | PM2.5 (2006 24-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Cochise County; Paul Spur/Douglas planning area, AZ | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Colorado Springs Area, CO | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Columbus, OH | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Cook County; Lyons Township, IL | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Cook County; Southeast Chicago, IL | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Coshocton County; Franklin Township, OH | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Coso Junction, CA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Cuyahoga County (part), OH | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Cuyahoga County, OH | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |

Appendix A Air Quality Non-Attainment Area Results

Table A1-85

Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Cumulative Impacts

Formaldehyde 2018

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Dallas-Fort Worth, TX | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Delaware County, PA | PM2.5 (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Denver-Boulder Area, CO | CO (1971 8-hour) | Maintenance, Serious | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Denver-Boulder-Greeley-Ft Collins-Loveland, CO | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Detroit Area, MI | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.02 | 0.04 | 0.05 | 0.06 |
| Detroit, MI | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.03 | 0.04 | 0.05 | 0.06 |
| Detroit-Ann Arbor, MI | PM2.5 (2006 24-hour) | Maintenance, -- | 100 | 0 | 0.02 | 0.04 | 0.04 | 0.05 |
| Dona Ana County; Anthony, NM | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Douglas, AZ | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Dukes County, MA | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Duluth Area, MN | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| East Chicago Area, IN | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| East Helena Area, MT | SO ₂ (1971 24-hour/Annual) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| East Kern County Area, CA | PM10 (1987 24-hour) | Nonattainment, Serious | 70 | 0 | 0.01 | 0.01 | 0.01 | 0.01 |
| El Paso County, TX | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| El Paso, TX | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Eugene-Springfield Area, OR | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Fairbanks Area, AK | CO (1971 8-hour) | Maintenance, Serious | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Fairbanks, AK | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |

Table A1-85
Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Cumulative Impacts
Formaldehyde 2018

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|---|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Flathead County; Columbia Falls and vicinity, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Flathead County; Kalispell and vicinity, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Flathead County; Whitefish and vicinity, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Fort Collins Area, CO | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Freehold Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Fremont County; Canon City Area, CO | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Fresno Area, CA | CO (1971 8-hour) | Maintenance, Moderate > 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Grants Pass Area, OR | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Great Falls Area, MT | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Greater Connecticut, CT | Ozone (2008 8-hour) | Nonattainment, Moderate | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Greeley Area, CO | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Hancock and Brooke Counties (Part); The city of Weirton, WV | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Hancock County (Part) The city of Weirton, including Butler and Clay: Magisterial Districts, WV | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Harrisburg-Lebanon-Carlisle-York, PA | PM2.5 (2006 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Hartford-New Britain-Middletown Area, CT | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Hayden, AZ | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Hayden, AZ | SO ₂ (1971 24-hour/Annual) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Hayden, AZ | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Hillsborough County, FL | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Houston-Galveston-Brazoria, TX | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Humphreys County; (part) TVA Johnsonville, TN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Imperial Co, CA | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |

Appendix A Air Quality Non-Attainment Area Results

Table A1-85

Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Cumulative Impacts

Formaldehyde 2018

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Imperial County, CA | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Imperial County, CA | PM2.5 (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Imperial County; Imperial Valley planning area, CA | PM10 (1987 24-hour) | Nonattainment, Serious | 70 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Indian Wells, CA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.01 | 0.01 | 0.01 | 0.01 |
| Indiana, PA | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Indianapolis Area, IN | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Indianapolis, IN | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Inyo County; Owens Valley planning area, CA | PM10 (1987 24-hour) | Nonattainment, Serious | 70 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Jackson County, MO | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Jackson County; Medford-Ashland (including White City), OR | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Jamestown, NY | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Jefferson County, KY | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Jefferson County, MO | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Jefferson County; (part) Steubenville & Mingo Junction, OH | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Jefferson County; (part), OH | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Johnstown, PA | PM2.5 (2006 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Josephine County; Grants Pass, OR | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Juneau; Mendenhall Valley area, AK | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Kern County (Eastern Kern), CA | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| King County; Kent, WA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| King County; Seattle, WA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Klamath County; Klamath Falls, OR | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Klamath Falls Area, OR | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Klamath Falls, OR | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |

Table A1-85
Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Cumulative Impacts
Formaldehyde 2018

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Knoxville, TN | Ozone (2008 8-hour) | Maintenance, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Knoxville-Sevierville-La Follette, TN | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| La Porte County: (part), IN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lake County (part); Lakeview, OR | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lake County, OH | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lake County: (part), IN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lake County; (part) Eastlake, Timberlake, Lakeline, Willoughby, Mentor, OH | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lake County; Cities of East Chicago, Hammond, Whiting, and Gary, IN | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lake County; Polson, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lake County; Ronan, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lake Tahoe Nevada Area, NV | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lake Tahoe North Shore Area, CA | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lake Tahoe South Shore Area, CA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lancaster, PA | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lancaster, PA | PM2.5 (2006 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lane County (part); Oakridge, OR | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lane County; Eugene/Springfield, OR | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Las Vegas Area, NV | CO (1971 8-hour) | Maintenance, Serious | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| LaSalle County; Oglesby, IL | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Laurel Area, MT | SO ₂ (1971 24-hour/Annual) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lebanon County, PA | PM2.5 (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lemont, IL | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Liberty-Clairton, PA | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |

Appendix A Air Quality Non-Attainment Area Results

Table A1-85

Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Cumulative Impacts

Formaldehyde 2018

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Lincoln County; Libby and vicinity, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Logan, UT-ID | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Longmont Area, CO | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lorain County (part), OH | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Los Angeles, CA | PM2.5 (2006 24-hour) | Nonattainment, Serious | 100 | 0 | 0.02 | 0.04 | 0.04 | 0.05 |
| Los Angeles-San Bernardino Counties (West Mojave Desert), CA | Ozone (2008 8-hour) | Nonattainment, Severe 15 | 25 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Los Angeles-South Coast Air Basin Area, CA | CO (1971 8-hour) | Maintenance, Serious | 100 | 0 | 0.02 | 0.04 | 0.04 | 0.05 |
| Los Angeles-South Coast Air Basin Area, CA | NO ₂ (1971 Annual) | Maintenance, -- | 100 | 0 | 0.02 | 0.04 | 0.04 | 0.05 |
| Los Angeles-South Coast Air Basin, CA | Ozone (2008 8-hour) | Nonattainment, Extreme | 10 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Los Angeles-South Coast Air Basin, CA | PM2.5 (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 0.02 | 0.04 | 0.04 | 0.05 |
| Lowell Area, MA | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lucas County (part), OH | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Madison County; Granite City Township and Nameoki Township, IL | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.04 | 0.06 | 0.07 | 0.08 |
| Manchester Area, NH | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Maricopa and Pinal Counties; Phoenix planning area, AZ | PM10 (1987 24-hour) | Nonattainment, Serious | 70 | 0 | 0.00 | 0.00 | -0.01 | -0.01 |
| Marion County; Lawrence, Washington, and Warrant Townships, IN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Mariposa County, CA | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Marshall, WV | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Medford Area, OR | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Memphis Area, TN | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |

Table A1-85
Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Cumulative Impacts
Formaldehyde 2018

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|---|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Memphis, TN-MS-AR | Ozone (2008 8-hour) | Nonattainment TN & Maintenance MS/AR, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Miami, AZ | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Miami, AZ | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Miami, AZ | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Milwaukee-Racine, WI | PM2.5 (2006 24-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Minneapolis-St. Paul Area, MN | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.01 | 0.01 | 0.01 | 0.01 |
| Missoula Area, MT | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Missoula county; Missoula and vicinity, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Modesto Area, CA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Mohave County (part); Bullhead City, AZ | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Mono County; Mammoth Lake planning area, CA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Mono County; Mono Basin, CA | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Morenci, AZ | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Morgan County, IN | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Morongo Band of Mission Indians | Ozone (2008 8-hour) | Nonattainment, Serious | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Morristown Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Muscatine County; (part), IA | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Muscatine, IA | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Muskingum River, OH | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Nashua Area, NH | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Nassau County, FL | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Nevada County (Western part), CA | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| New Haven County, CT | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |

Appendix A Air Quality Non-Attainment Area Results

Table A1-85

Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Cumulative Impacts

Formaldehyde 2018

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| New Haven-Meriden-Waterbury Area, CT | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| New Manchester-Grant magisterial district in Hancock County, WV | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| New York County, NY | PM ₁₀ (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| New York, NY-NJ-CT | PM _{2.5} (2006 24-hour) | Maintenance, -- | 100 | 0 | -0.01 | -0.02 | -0.03 | -0.03 |
| New York-N. New Jersey-Long Island Area, NY-NJ-CT | CO (1971 8-hour) | Maintenance, Moderate > 12.7ppm | 100 | 0 | -0.01 | -0.01 | -0.01 | -0.01 |
| New York-N. New Jersey-Long Island, NY-NJ-CT | Ozone (2008 8-hour) | Nonattainment, Moderate | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| NJ portion of the Northeast Pennsylvania-Upper Delaware Valley Interstate AQCR: (part), NJ | SO ₂ (1971 24-hour/Annual) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Nogales, AZ | PM _{2.5} (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Oakridge, OR | PM _{2.5} (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Ogden Area, UT | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Ogden Area, UT | PM ₁₀ (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Olmsted County; (part), MN | PM ₁₀ (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Olmsted; City of Rochester, MN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |

Table A1-85
Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Cumulative Impacts
Formaldehyde 2018

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Pechanga Band of Luiseno Mission Indians of the Pechanga Reservation | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Pekin, IL | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Penns Grove Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Peoria County: Hollis Twp, IL | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Peoria County: Peoria, IL | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Perth Amboy Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Philadelphia-Camden County Area, PA-NJ | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Philadelphia-Wilmington, PA-NJ-DE | PM _{2.5} (2006 24-hour) | Maintenance, Moderate for PA and DE Subject to Former Subpart 1 for NJ | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Philadelphia-Wilmington-Atlantic City, PA-NJ-MD-DE | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Phoenix Area, AZ | CO (1971 8-hour) | Maintenance, Serious | 100 | 0 | 0.00 | 0.00 | -0.01 | -0.01 |
| Phoenix-Mesa, AZ | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Pierce County; Tacoma, WA | PM ₁₀ (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Pima County; Ajo planning area, AZ | PM ₁₀ (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Pima County; Rillito planning area, AZ | PM ₁₀ (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Pinal and Gila Counties; Payson, AZ | PM ₁₀ (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Pinal County (part); West Pinal, AZ | PM ₁₀ (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Pitkin County; Aspen, CO | PM ₁₀ (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Pittsburgh Area, PA | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Pittsburgh-Beaver Valley, PA | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Pittsburgh-Beaver Valley, PA | PM _{2.5} (2006 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Plumas County, CA | PM _{2.5} (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Polk County, TN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |

Appendix A Air Quality Non-Attainment Area Results

Table A1-85

Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Cumulative Impacts

Formaldehyde 2018

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|-------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Portland Area: Portland Metro Service District Boundary, OR | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Power-Bannock Counties; Fort Hall Indian Reservation, ID | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Power-Bannock Counties; Portneuf Valley Area, ID | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Provo Area, UT | CO (1971 8-hour) | Maintenance, Moderate > 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Provo, UT | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Prowers County; Lamar, CO | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Raleigh-Durham Area, NC | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Ramsey County; (part), MN | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Reading, PA | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Reno Area, NV | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Rhinelander, WI | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Riverside County (Coachella Valley), CA | Ozone (2008 8-hour) | Nonattainment, Severe 15 | 25 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Riverside County; Coachella Valley planning area, CA | PM10 (1987 24-hour) | Nonattainment, Serious | 70 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Riverside, Los Angeles, Orange, and San Bernardino Counties; South Coast Air Basin, CA | PM10 (1987 24-hour) | Maintenance, Serious | 100 | 0 | 0.02 | 0.04 | 0.04 | 0.05 |
| Rosebud County; Lame Deer, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Routt County (part); Steamboat Springs, CO | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Sacramento Area, CA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Sacramento County, CA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Sacramento Metro, CA | Ozone (2008 8-hour) | Nonattainment, Severe 15 | 25 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Sacramento, CA | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Salem Area, OR | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Salt Lake City Area, UT | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Salt Lake City, UT | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |

Table A1-85

Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Cumulative Impacts

Formaldehyde 2018

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|---|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Salt Lake County, UT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Salt Lake County, UT | SO ₂ (1971 24-hour/Annual) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| San Bernardino County (part); excluding Searles Valley Planning area and South Coast Air Basin, CA | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| San Diego Area, CA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | -0.01 | -0.01 |
| San Diego County, CA | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| San Francisco Bay Area, CA | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| San Francisco Bay Area, CA | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | -0.01 | -0.01 | -0.01 |
| San Francisco-Oakland-San Jose Area, CA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | -0.01 | -0.01 | -0.01 |
| San Joaquin Valley Air Basin; Fresno, Kern, Kings, Madera, Merced, San Joaquin, Stanislaus, Tulare Counties, CA | PM10 (1987 24-hour) | Maintenance, Serious | 100 | 0 | 0.00 | 0.01 | 0.00 | 0.01 |
| San Joaquin Valley, CA | Ozone (2008 8-hour) | Nonattainment, Extreme | 10 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| San Joaquin Valley, CA | PM2.5 (2006 24-hour) | Nonattainment, Serious | 100 | 0 | 0.00 | 0.01 | 0.00 | 0.01 |
| San Joaquin Valley, CA | PM2.5 (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.01 | 0.00 | 0.01 |
| San Luis Obispo (Eastern San Luis Obispo), CA | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| San Manuel, AZ | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| San Miguel County; Telluride, CO | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Sanders County (part); Thompson Falls and vicinity, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Santa Cruz County; Nogales planning area, AZ | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Seaford, DE | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Seattle-Tacoma Area, WA | CO (1971 8-hour) | Maintenance, Moderate > 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Seattle-Tacoma, WA | PM2.5 (2006 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Sheboygan County, WI | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |

Appendix A Air Quality Non-Attainment Area Results

Table A1-85

Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Cumulative Impacts

Formaldehyde 2018

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|---|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Sheridan County; City of Sheridan, WY | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Shoshone County (part); excluding Pinehurst, ID | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Shoshone County; City of Pinehurst, ID | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Silver Bow County; Butte, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Somerville Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Southwest Indiana, IN | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Spokane Area, WA | CO (1971 8-hour) | Maintenance, Serious | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Spokane County; (part), WA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Springfield Area, MA | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| St. Bernard Parish, LA | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| St. Louis Area, MO | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| St. Louis-St. Charles-Farmington, MO-IL | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Steubenville, OH-WV | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Steubenville-Weirton, OH-WV | PM2.5 (2006 24-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Stockton Area, CA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Sullivan County, TN | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Syracuse Area; Onondaga County, NY | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Tazewell County; Groveland Twp, IL | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Terre Haute, IN | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |

Table A1-85
Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Cumulative Impacts
Formaldehyde 2018

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|---|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Thurston County; Cities of Olympia, Tumwater, and Lacey, WA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Toms River Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Tooele County (part), UT | SO ₂ (1971 24-hour/Annual) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Trenton Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Trona, CA | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Tucson Area, AZ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Tuscan Buttes, CA | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Union County; LaGrande, OR | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Upper Green River Basin Area, WY | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Utah County, UT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Vancouver Area: Clark County (part), WA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Ventura County, CA | Ozone (2008 8-hour) | Nonattainment, Serious | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Vermillion County; Part of Clinton Township, IN | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Vigo County, IN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Walla Walla County; Wallula, WA | PM10 (1987 24-hour) | Maintenance, Serious | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Waltham Area, MA | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Warren County: Conewago Twp, PA | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Warren County: Warren Boro, Pleasant Twp, Glade Twp, PA | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Warren, PA | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Washington Area, DC-MD-VA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Washington, DC-MD-VA | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Washoe County; Reno planning area, NV | PM10 (1987 24-hour) | Nonattainment, Serious | 70 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |

Appendix A Air Quality Non-Attainment Area Results

Table A1-85

**Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Cumulative Impacts
Formaldehyde 2018**

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|---|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Wayne County: Boston, Center, Franklin, Wayne & Webster Townships, IN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Wayne County; (part), MI | PM ₁₀ (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.03 | 0.04 | 0.05 | 0.06 |
| West Central Pinal County, AZ | PM _{2.5} (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| West Silver Valley, ID | PM _{2.5} (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Winston-Salem Area, NC | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Worcester Area, MA | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Yakima Area, WA | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Yakima County; (part), WA | PM ₁₀ (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Yuba City-Marysville, CA | PM _{2.5} (2006 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Yuma County; Yuma planning area, AZ | PM ₁₀ (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |

^a Reductions are shown as positive values. Negative values are emissions increases. Values of less than 0.005 tons per year are rounded to zero.

^b Nonattainment or maintenance status as of 5/13/2016. Source: U.S. EPA, The Green Book Nonattainment Areas for Criteria Pollutants; <http://www.epa.gov/airquality/greenbook/>. "--" indicates that no severity classification has been established for the NAAQS pollutant.

^c Emissions thresholds in tons per year. Where the threshold differs by precursor pollutant, the smallest of the precursor thresholds is shown. These thresholds are provided for information only; a general conformity determination is not required for the Proposed Action. Source: 40 CFR 93.853.

Notes: CO = carbon monoxide; NAAQS = National Ambient Air Quality Standards; NO₂ = nitrogen dioxide; PM = particulate matter; SO₂ = sulfur dioxide

Table A1-86
Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Cumulative Impacts
Formaldehyde 2025

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Ada County; Boise, ID | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.01 | 0.02 | 0.03 | 0.04 |
| Adams, Denver, and Boulder Counties; Denver Metropolitan area, CO | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.04 | 0.09 | 0.16 | 0.20 |
| Ajo, AZ | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Albuquerque Area, NM | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.01 | 0.04 | 0.07 | 0.08 |
| Allegheny County Air Basin: Hazelwood monitor, PA | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Allegheny County, PA | PM2.5 (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 0.02 | 0.05 | 0.09 | 0.11 |
| Allegheny County; The area including Liberty, Lincoln, Port Vue, and Glassport Boroughs and the City of Clairton, PA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Allegheny, PA | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.01 | 0.01 |
| Allentown, PA | PM2.5 (2006 24-hour) | Maintenance, Moderate | 100 | 0 | 0.01 | 0.03 | 0.06 | 0.07 |
| Allentown-Bethlehem-Easton, PA | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Anchorage Area, AK | CO (1971 8-hour) | Maintenance, Serious | 100 | 0 | 0.00 | 0.01 | 0.01 | 0.01 |
| Anchorage; Eagle River, AK | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| AQCR 012: Portions of Grant County, NM | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| AQCR 109-Millinocket, ME | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| AQCR 131: Anoka, Carver, Dakota, Hennepin, Ramsey, Scott, and Washington counties (Minneapolis-St. Paul), MN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| AQCR 237: Brown County: Green Bay sub-city area, WI | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| AQCR 238: Marathon County: Rothschild Sub-city area, Rib Mountain, Weston, WI | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| AQCR 238: Oneida County: Rhinelander Sub-city area, WI | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| AQCR 239: Milwaukee County: Milwaukee sub-city area, WI | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |

Appendix A Air Quality Non-Attainment Area Results

Table A1-86

Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Cumulative Impacts

Formaldehyde 2025

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| AQCR 240: Dane County: Madison sub-city area, WI | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Archuleta County; Pagosa Springs, CO | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Armstrong County: Madison Twp, Mahoning Twp, Boggs Twp, Washington Twp, Pine Twp, PA | SO ₂ (1971 24-hour/Annual) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Aroostock County; City of Presque Isle, ME | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Atlanta, GA | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Atlantic City Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.01 | 0.01 |
| Bakersfield Area, CA | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.19 | 0.40 | 0.46 | 0.66 |
| Baltimore Area, MD | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Baltimore, MD | Ozone (2008 8-hour) | Nonattainment, Moderate | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Baton Rouge, LA | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Beaver, PA | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Benton County; (part) TVA Johnsonville, TN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Billings Area, MT | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.01 | 0.01 |
| Billings, MT | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Birmingham, AL | PM2.5 (2006 24-hour) | Maintenance, -- | 100 | 0 | 0.03 | 0.07 | 0.14 | 0.17 |
| Boise-Northern Ada County Area, ID | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.01 | 0.02 | 0.03 | 0.04 |
| Bonner County; The Sandpoint Area, ID | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Boston Area, MA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.02 | 0.04 | 0.08 | 0.10 |
| Boyd County (part), KY | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Brooke; Follansbee area, WV | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Burlington Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Calaveras County, CA | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Campbell-Clermont Counties, KY-OH | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |

Table A1-86
Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Cumulative Impacts
Formaldehyde 2025

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|---|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Canton-Massillon, OH | PM2.5 (2006 24-hour) | Maintenance, -- | 100 | 0 | 0.01 | 0.03 | 0.05 | 0.07 |
| Central New Hampshire, NH | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.01 | 0.01 | 0.02 | 0.03 |
| Central Steptoe Valley, NV | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Charleston, WV | PM2.5 (2006 24-hour) | Maintenance, -- | 100 | 0 | 0.01 | 0.02 | 0.04 | 0.05 |
| Charlotte Area, NC | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.03 | 0.07 | 0.13 | 0.17 |
| Charlotte-Rock Hill, NC-SC | Ozone (2008 8-hour) | Maintenance, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Chicago-Naperville, IL-IN-WI | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Chico (Butte County), CA | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Chico Area, CA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.01 | 0.01 |
| Chico, CA | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.01 | 0.02 | 0.03 |
| Cincinnati, OH-KY-IN | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Clark County; Las Vegas planning area, NV | PM10 (1987 24-hour) | Maintenance, Serious | 100 | 0 | 0.04 | 0.09 | 0.17 | 0.21 |
| Cleveland Area, OH | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.02 | 0.05 | 0.10 | 0.13 |
| Cleveland, OH | PM2.5 (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 0.03 | 0.07 | 0.13 | 0.16 |
| Cleveland-Akron-Lorain, OH | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Cleveland-Akron-Lorain, OH | PM2.5 (2006 24-hour) | Maintenance, -- | 100 | 0 | 0.06 | 0.15 | 0.29 | 0.36 |
| Cochise County; Paul Spur/Douglas planning area, AZ | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.01 |
| Colorado Springs Area, CO | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.01 | 0.03 | 0.06 | 0.07 |
| Columbus, OH | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Cook County; Lyons Township, IL | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.01 | 0.01 |
| Cook County; Southeast Chicago, IL | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.01 | 0.01 |
| Coshocton County; Franklin Township, OH | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Coso Junction, CA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Cuyahoga County (part), OH | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Cuyahoga County, OH | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.02 | 0.05 | 0.10 | 0.13 |

Appendix A Air Quality Non-Attainment Area Results

Table A1-86

Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Cumulative Impacts

Formaldehyde 2025

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Dallas-Fort Worth, TX | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Delaware County, PA | PM2.5 (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 0.01 | 0.02 | 0.04 | 0.05 |
| Denver-Boulder Area, CO | CO (1971 8-hour) | Maintenance, Serious | 100 | 0 | 0.13 | 0.28 | 0.42 | 0.56 |
| Denver-Boulder-Greeley-Ft Collins-Loveland, CO | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Detroit Area, MI | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.79 | 1.64 | 1.85 | 2.68 |
| Detroit, MI | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.76 | 1.56 | 1.71 | 2.50 |
| Detroit-Ann Arbor, MI | PM2.5 (2006 24-hour) | Maintenance, -- | 100 | 0 | 0.87 | 1.82 | 2.21 | 3.12 |
| Dona Ana County; Anthony, NM | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Douglas, AZ | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Dukes County, MA | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Duluth Area, MN | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.01 | 0.01 | 0.01 |
| East Chicago Area, IN | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| East Helena Area, MT | SO ₂ (1971 24-hour/Annual) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| East Kern County Area, CA | PM10 (1987 24-hour) | Nonattainment, Serious | 70 | 0 | 0.18 | 0.37 | 0.40 | 0.59 |
| El Paso County, TX | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.02 | 0.05 | 0.07 | 0.10 |
| El Paso, TX | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.01 | 0.03 | 0.03 | 0.04 |
| Eugene-Springfield Area, OR | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.01 | 0.01 | 0.02 | 0.03 |
| Fairbanks Area, AK | CO (1971 8-hour) | Maintenance, Serious | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Fairbanks, AK | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.01 |

Table A1-86
Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Cumulative Impacts
Formaldehyde 2025

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|---|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Flathead County; Columbia Falls and vicinity, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Flathead County; Kalispell and vicinity, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Flathead County; Whitefish and vicinity, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Fort Collins Area, CO | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.01 | 0.01 | 0.02 |
| Freehold Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Fremont County; Canon City Area, CO | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.01 |
| Fresno Area, CA | CO (1971 8-hour) | Maintenance, Moderate > 12.7ppm | 100 | 0 | 0.01 | 0.03 | 0.06 | 0.07 |
| Grants Pass Area, OR | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.01 |
| Great Falls Area, MT | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Greater Connecticut, CT | Ozone (2008 8-hour) | Nonattainment, Moderate | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Greeley Area, CO | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.01 | 0.02 | 0.04 | 0.05 |
| Hancock and Brooke Counties (Part); The city of Weirton, WV | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Hancock County (Part) The city of Weirton, including Butler and Clay: Magisterial Districts, WV | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Harrisburg-Lebanon-Carlisle-York, PA | PM2.5 (2006 24-hour) | Maintenance, Moderate | 100 | 0 | 0.03 | 0.07 | 0.14 | 0.17 |
| Hartford-New Britain-Middletown Area, CT | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.03 | 0.06 | 0.12 | 0.15 |
| Hayden, AZ | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Hayden, AZ | SO ₂ (1971 24-hour/Annual) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Hayden, AZ | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Hillsborough County, FL | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Houston-Galveston-Brazoria, TX | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Humphreys County; (part) TVA Johnsonville, TN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Imperial Co, CA | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.01 | 0.02 | 0.03 |

Appendix A Air Quality Non-Attainment Area Results

Table A1-86

Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Cumulative Impacts

Formaldehyde 2025

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Imperial County, CA | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Imperial County, CA | PM2.5 (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.01 | 0.02 | 0.03 |
| Imperial County; Imperial Valley planning area, CA | PM10 (1987 24-hour) | Nonattainment, Serious | 70 | 0 | 0.01 | 0.01 | 0.03 | 0.03 |
| Indian Wells, CA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.18 | 0.37 | 0.40 | 0.59 |
| Indiana, PA | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.01 | 0.01 | 0.01 |
| Indianapolis Area, IN | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Indianapolis, IN | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.01 | 0.03 | 0.05 | 0.06 |
| Inyo County; Owens Valley planning area, CA | PM10 (1987 24-hour) | Nonattainment, Serious | 70 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Jackson County, MO | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.01 | 0.01 |
| Jackson County; Medford-Ashland (including White City), OR | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.01 | 0.02 | 0.02 |
| Jamestown, NY | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Jefferson County, KY | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Jefferson County, MO | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.01 | 0.01 |
| Jefferson County; (part) Steubenville & Mingo Junction, OH | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Jefferson County; (part), OH | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Johnstown, PA | PM2.5 (2006 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.01 | 0.01 | 0.02 |
| Josephine County; Grants Pass, OR | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.01 |
| Juneau; Mendenhall Valley area, AK | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Kern County (Eastern Kern), CA | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| King County; Kent, WA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| King County; Seattle, WA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Klamath County; Klamath Falls, OR | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.01 | 0.01 |
| Klamath Falls Area, OR | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.01 | 0.01 |
| Klamath Falls, OR | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.01 | 0.01 |

Table A1-86
Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Cumulative Impacts
Formaldehyde 2025

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Knoxville, TN | Ozone (2008 8-hour) | Maintenance, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Knoxville-Sevierville-La Follette, TN | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.02 | 0.06 | 0.11 | 0.13 |
| La Porte County: (part), IN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lake County (part); Lakeview, OR | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lake County, OH | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.01 | 0.02 | 0.03 | 0.04 |
| Lake County: (part), IN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lake County; (part) Eastlake, Timberlake, Lakeline, Willoughby, Mentor, OH | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lake County; Cities of East Chicago, Hammond, Whiting, and Gary, IN | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.01 | 0.02 | 0.02 |
| Lake County; Polson, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lake County; Ronan, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lake Tahoe Nevada Area, NV | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lake Tahoe North Shore Area, CA | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lake Tahoe South Shore Area, CA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lancaster, PA | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lancaster, PA | PM2.5 (2006 24-hour) | Maintenance, Moderate | 100 | 0 | 0.01 | 0.03 | 0.06 | 0.07 |
| Lane County (part); Oakridge, OR | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lane County; Eugene/Springfield, OR | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.01 | 0.01 | 0.02 | 0.03 |
| Las Vegas Area, NV | CO (1971 8-hour) | Maintenance, Serious | 100 | 0 | 0.04 | 0.09 | 0.17 | 0.21 |
| LaSalle County; Oglesby, IL | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Laurel Area, MT | SO ₂ (1971 24-hour/Annual) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lebanon County, PA | PM2.5 (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.01 | 0.02 | 0.02 |
| Lemont, IL | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.03 | 0.05 | 0.07 | 0.09 |
| Liberty-Clairton, PA | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |

Appendix A Air Quality Non-Attainment Area Results

Table A1-86

Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Cumulative Impacts

Formaldehyde 2025

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Lincoln County; Libby and vicinity, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Logan, UT-ID | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.01 | 0.01 | 0.01 |
| Longmont Area, CO | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.01 | 0.01 |
| Lorain County (part), OH | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Los Angeles, CA | PM2.5 (2006 24-hour) | Nonattainment, Serious | 100 | 0 | 1.29 | 2.76 | 3.67 | 5.05 |
| Los Angeles-San Bernardino Counties (West Mojave Desert), CA | Ozone (2008 8-hour) | Nonattainment, Severe 15 | 25 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Los Angeles-South Coast Air Basin Area, CA | CO (1971 8-hour) | Maintenance, Serious | 100 | 0 | 1.29 | 2.76 | 3.67 | 5.05 |
| Los Angeles-South Coast Air Basin Area, CA | NO ₂ (1971 Annual) | Maintenance, -- | 100 | 0 | 1.29 | 2.76 | 3.67 | 5.05 |
| Los Angeles-South Coast Air Basin, CA | Ozone (2008 8-hour) | Nonattainment, Extreme | 10 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Los Angeles-South Coast Air Basin, CA | PM2.5 (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 1.29 | 2.76 | 3.67 | 5.05 |
| Lowell Area, MA | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.01 | 0.01 | 0.01 |
| Lucas County (part), OH | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Madison County; Granite City Township and Nameoki Township, IL | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 1.09 | 2.24 | 2.43 | 3.57 |
| Manchester Area, NH | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.01 | 0.01 |
| Maricopa and Pinal Counties; Phoenix planning area, AZ | PM10 (1987 24-hour) | Nonattainment, Serious | 70 | 0 | 0.09 | 0.20 | 0.39 | 0.48 |
| Marion County; Lawrence, Washington, and Warrant Townships, IN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Mariposa County, CA | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Marshall, WV | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Medford Area, OR | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.01 | 0.01 | 0.01 |
| Memphis Area, TN | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.04 | 0.08 | 0.13 | 0.16 |

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Formaldehyde 2025

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|---|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Memphis, TN-MS-AR | Ozone (2008 8-hour) | Nonattainment TN & Maintenance MS/AR, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Miami, AZ | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Miami, AZ | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Miami, AZ | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Milwaukee-Racine, WI | PM2.5 (2006 24-hour) | Maintenance, -- | 100 | 0 | 0.03 | 0.07 | 0.13 | 0.16 |
| Minneapolis-St. Paul Area, MN | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.32 | 0.68 | 0.88 | 1.22 |
| Missoula Area, MT | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.01 | 0.01 | 0.01 |
| Missoula county; Missoula and vicinity, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.01 | 0.01 | 0.01 |
| Modesto Area, CA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.01 | 0.02 | 0.03 |
| Mohave County (part); Bullhead City, AZ | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.01 | 0.01 | 0.01 |
| Mono County; Mammoth Lake planning area, CA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Mono County; Mono Basin, CA | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Morenci, AZ | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Morgan County, IN | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Morongo Band of Mission Indians | Ozone (2008 8-hour) | Nonattainment, Serious | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Morristown Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.01 |
| Muscatine County; (part), IA | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Muscatine, IA | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Muskingum River, OH | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Nashua Area, NH | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.01 | 0.01 |
| Nassau County, FL | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Nevada County (Western part), CA | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| New Haven County, CT | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |

Appendix A Air Quality Non-Attainment Area Results

Table A1-86

Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Cumulative Impacts

Formaldehyde 2025

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| New Haven-Meriden-Waterbury Area, CT | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.02 | 0.05 | 0.09 | 0.11 |
| New Manchester-Grant magisterial district in Hancock County, WV | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| New York County, NY | PM ₁₀ (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.01 | 0.03 | 0.06 | 0.08 |
| New York, NY-NJ-CT | PM _{2.5} (2006 24-hour) | Maintenance, -- | 100 | 0 | 0.38 | 0.90 | 1.68 | 2.11 |
| New York-N. New Jersey-Long Island Area, NY-NJ-CT | CO (1971 8-hour) | Maintenance, Moderate > 12.7ppm | 100 | 0 | 0.21 | 0.50 | 0.94 | 1.17 |
| New York-N. New Jersey-Long Island, NY-NJ-CT | Ozone (2008 8-hour) | Nonattainment, Moderate | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| NJ portion of the Northeast Pennsylvania-Upper Delaware Valley Interstate AQCR: (part), NJ | SO ₂ (1971 24-hour/Annual) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Nogales, AZ | PM _{2.5} (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.01 |
| Oakridge, OR | PM _{2.5} (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Ogden Area, UT | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.01 | 0.01 |
| Ogden Area, UT | PM ₁₀ (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.01 | 0.01 |
| Olmsted County; (part), MN | PM ₁₀ (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Olmsted; City of Rochester, MN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |

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Formaldehyde 2025

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Pechanga Band of Luiseno Mission Indians of the Pechanga Reservation | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Pekin, IL | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.01 |
| Penns Grove Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Peoria County: Hollis Twp, IL | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Peoria County: Peoria, IL | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Perth Amboy Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.01 | 0.01 | 0.01 |
| Philadelphia-Camden County Area, PA-NJ | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.05 | 0.12 | 0.17 | 0.23 |
| Philadelphia-Wilmington, PA-NJ-DE | PM _{2.5} (2006 24-hour) | Maintenance, Moderate for PA and DE Subject to Former Subpart 1 for NJ | 100 | 0 | 0.13 | 0.31 | 0.52 | 0.67 |
| Philadelphia-Wilmington-Atlantic City, PA-NJ-MD-DE | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Phoenix Area, AZ | CO (1971 8-hour) | Maintenance, Serious | 100 | 0 | 0.08 | 0.20 | 0.37 | 0.46 |
| Phoenix-Mesa, AZ | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Pierce County; Tacoma, WA | PM ₁₀ (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Pima County; Ajo planning area, AZ | PM ₁₀ (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Pima County; Rillito planning area, AZ | PM ₁₀ (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.01 | 0.01 |
| Pinal and Gila Counties; Payson, AZ | PM ₁₀ (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Pinal County (part); West Pinal, AZ | PM ₁₀ (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.01 | 0.02 | 0.04 | 0.05 |
| Pitkin County; Aspen, CO | PM ₁₀ (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Pittsburgh Area, PA | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.01 | 0.02 | 0.03 |
| Pittsburgh-Beaver Valley, PA | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Pittsburgh-Beaver Valley, PA | PM _{2.5} (2006 24-hour) | Maintenance, Moderate | 100 | 0 | 0.04 | 0.10 | 0.19 | 0.24 |
| Plumas County, CA | PM _{2.5} (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Polk County, TN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |

Appendix A Air Quality Non-Attainment Area Results

Table A1-86

Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Cumulative Impacts

Formaldehyde 2025

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|-------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Portland Area: Portland Metro Service District Boundary, OR | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.03 | 0.07 | 0.12 | 0.15 |
| Power-Bannock Counties; Fort Hall Indian Reservation, ID | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Power-Bannock Counties; Portneuf Valley Area, ID | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.01 | 0.01 | 0.01 |
| Provo Area, UT | CO (1971 8-hour) | Maintenance, Moderate > 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.01 | 0.01 |
| Provo, UT | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.01 | 0.02 | 0.04 | 0.05 |
| Prowers County; Lamar, CO | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Raleigh-Durham Area, NC | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.03 | 0.08 | 0.15 | 0.18 |
| Ramsey County; (part), MN | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Reading, PA | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Reno Area, NV | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.01 | 0.02 | 0.03 | 0.04 |
| Rhinelander, WI | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Riverside County (Coachella Valley), CA | Ozone (2008 8-hour) | Nonattainment, Severe 15 | 25 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Riverside County; Coachella Valley planning area, CA | PM10 (1987 24-hour) | Nonattainment, Serious | 70 | 0 | 0.01 | 0.03 | 0.06 | 0.07 |
| Riverside, Los Angeles, Orange, and San Bernardino Counties; South Coast Air Basin, CA | PM10 (1987 24-hour) | Maintenance, Serious | 100 | 0 | 1.29 | 2.76 | 3.67 | 5.04 |
| Rosebud County; Lame Deer, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Routt County (part); Steamboat Springs, CO | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Sacramento Area, CA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.03 | 0.08 | 0.14 | 0.18 |
| Sacramento County, CA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.03 | 0.07 | 0.13 | 0.16 |
| Sacramento Metro, CA | Ozone (2008 8-hour) | Nonattainment, Severe 15 | 25 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Sacramento, CA | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.06 | 0.14 | 0.25 | 0.32 |
| Salem Area, OR | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.01 | 0.01 | 0.03 | 0.03 |
| Salt Lake City Area, UT | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.01 | 0.02 | 0.02 |
| Salt Lake City, UT | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.04 | 0.09 | 0.17 | 0.21 |

Table A1-86
Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Cumulative Impacts
Formaldehyde 2025

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|---|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Salt Lake County, UT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.02 | 0.05 | 0.10 | 0.12 |
| Salt Lake County, UT | SO ₂ (1971 24-hour/Annual) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| San Bernardino County (part); excluding Searles Valley Planning area and South Coast Air Basin, CA | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.02 | 0.04 | 0.07 | 0.09 |
| San Diego Area, CA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.08 | 0.19 | 0.35 | 0.44 |
| San Diego County, CA | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| San Francisco Bay Area, CA | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| San Francisco Bay Area, CA | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.18 | 0.42 | 0.75 | 0.95 |
| San Francisco-Oakland-San Jose Area, CA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.17 | 0.39 | 0.69 | 0.87 |
| San Joaquin Valley Air Basin; Fresno, Kern, Kings, Madera, Merced, San Joaquin, Stanislaus, Tulare Counties, CA | PM10 (1987 24-hour) | Maintenance, Serious | 100 | 0 | 0.28 | 0.62 | 0.87 | 1.17 |
| San Joaquin Valley, CA | Ozone (2008 8-hour) | Nonattainment, Extreme | 10 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| San Joaquin Valley, CA | PM2.5 (2006 24-hour) | Nonattainment, Serious | 100 | 0 | 0.28 | 0.62 | 0.87 | 1.17 |
| San Joaquin Valley, CA | PM2.5 (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 0.28 | 0.62 | 0.87 | 1.17 |
| San Luis Obispo (Eastern San Luis Obispo), CA | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| San Manuel, AZ | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| San Miguel County; Telluride, CO | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Sanders County (part); Thompson Falls and vicinity, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Santa Cruz County; Nogales planning area, AZ | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.01 |
| Seaford, DE | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Seattle-Tacoma Area, WA | CO (1971 8-hour) | Maintenance, Moderate > 12.7ppm | 100 | 0 | 0.06 | 0.15 | 0.29 | 0.36 |
| Seattle-Tacoma, WA | PM2.5 (2006 24-hour) | Maintenance, Moderate | 100 | 0 | 0.01 | 0.03 | 0.05 | 0.06 |
| Sheboygan County, WI | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |

Appendix A Air Quality Non-Attainment Area Results

Table A1-86

Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Cumulative Impacts

Formaldehyde 2025

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|---|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Sheridan County; City of Sheridan, WY | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Shoshone County (part); excluding Pinehurst, ID | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.01 |
| Shoshone County; City of Pinehurst, ID | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Silver Bow County; Butte, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.01 |
| Somerville Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Southwest Indiana, IN | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Spokane Area, WA | CO (1971 8-hour) | Maintenance, Serious | 100 | 0 | 0.01 | 0.02 | 0.03 | 0.04 |
| Spokane County; (part), WA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.01 | 0.02 | 0.03 | 0.04 |
| Springfield Area, MA | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.01 | 0.02 | 0.02 |
| St. Bernard Parish, LA | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.05 | 0.11 | 0.12 | 0.18 |
| St. Louis Area, MO | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.02 | 0.05 | 0.09 | 0.12 |
| St. Louis-St. Charles-Farmington, MO-IL | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Steubenville, OH-WV | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.01 | 0.01 |
| Steubenville-Weirton, OH-WV | PM2.5 (2006 24-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.01 | 0.01 | 0.02 |
| Stockton Area, CA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.01 | 0.02 | 0.04 | 0.05 |
| Sullivan County, TN | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Syracuse Area; Onondaga County, NY | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.01 | 0.03 | 0.06 | 0.07 |
| Tazewell County; Groveland Twp, IL | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Terre Haute, IN | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.01 | 0.01 |

Table A1-86
Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Cumulative Impacts
Formaldehyde 2025

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|---|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Thurston County; Cities of Olympia, Tumwater, and Lacey, WA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.01 | 0.01 | 0.01 |
| Toms River Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Tooele County (part), UT | SO ₂ (1971 24-hour/Annual) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Trenton Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.01 | 0.01 |
| Trona, CA | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.01 |
| Tucson Area, AZ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.02 | 0.05 | 0.09 | 0.11 |
| Tuscan Buttes, CA | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Union County; LaGrande, OR | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Upper Green River Basin Area, WY | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Utah County, UT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.01 | 0.02 | 0.04 | 0.05 |
| Vancouver Area: Clark County (part), WA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.01 | 0.02 | 0.03 | 0.04 |
| Ventura County, CA | Ozone (2008 8-hour) | Nonattainment, Serious | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Vermillion County; Part of Clinton Township, IN | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Vigo County, IN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Walla Walla County; Wallula, WA | PM10 (1987 24-hour) | Maintenance, Serious | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Waltham Area, MA | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.01 | 0.01 |
| Warren County: Conewago Twp, PA | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Warren County: Warren Boro, Pleasant Twp, Glade Twp, PA | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Warren, PA | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Washington Area, DC-MD-VA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.02 | 0.04 | 0.07 | 0.09 |
| Washington, DC-MD-VA | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Washoe County; Reno planning area, NV | PM10 (1987 24-hour) | Nonattainment, Serious | 70 | 0 | 0.01 | 0.02 | 0.03 | 0.04 |

Appendix A Air Quality Non-Attainment Area Results

Table A1-86

**Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Cumulative Impacts
Formaldehyde 2025**

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|---|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Wayne County: Boston, Center, Franklin, Wayne & Webster Townships, IN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Wayne County; (part), MI | PM ₁₀ (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.76 | 1.55 | 1.68 | 2.47 |
| West Central Pinal County, AZ | PM _{2.5} (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.01 | 0.01 |
| West Silver Valley, ID | PM _{2.5} (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Winston-Salem Area, NC | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.01 | 0.02 | 0.04 | 0.05 |
| Worcester Area, MA | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.01 | 0.01 | 0.02 | 0.03 |
| Yakima Area, WA | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.01 |
| Yakima County; (part), WA | PM ₁₀ (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.01 | 0.01 | 0.02 |
| Yuba City-Marysville, CA | PM _{2.5} (2006 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.01 | 0.02 | 0.02 |
| Yuma County; Yuma planning area, AZ | PM ₁₀ (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.01 | 0.02 | 0.02 |

^a Reductions are shown as positive values. Negative values are emissions increases. Values of less than 0.005 tons per year are rounded to zero.

^b Nonattainment or maintenance status as of 5/13/2016. Source: U.S. EPA, The Green Book Nonattainment Areas for Criteria Pollutants; <http://www.epa.gov/airquality/greenbook/>. "--" indicates that no severity classification has been established for the NAAQS pollutant.

^c Emissions thresholds in tons per year. Where the threshold differs by precursor pollutant, the smallest of the precursor thresholds is shown. These thresholds are provided for information only; a general conformity determination is not required for the Proposed Action. Source: 40 CFR 93.853.

Notes: CO = carbon monoxide; NAAQS = National Ambient Air Quality Standards; NO₂ = nitrogen dioxide; PM = particulate matter; SO₂ = sulfur dioxide

Table A1-87

Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Cumulative Impacts

Formaldehyde 2040

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Ada County; Boise, ID | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.03 | 0.08 | 0.11 | 0.12 |
| Adams, Denver, and Boulder Counties; Denver Metropolitan area, CO | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.17 | 0.39 | 0.52 | 0.60 |
| Ajo, AZ | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Albuquerque Area, NM | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.07 | 0.16 | 0.22 | 0.25 |
| Allegheny County Air Basin: Hazelwood monitor, PA | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Allegheny County, PA | PM2.5 (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 0.09 | 0.21 | 0.28 | 0.33 |
| Allegheny County; The area including Liberty, Lincoln, Port Vue, and Glassport Boroughs and the City of Clairton, PA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Allegheny, PA | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.01 | 0.01 | 0.02 | 0.02 |
| Allentown, PA | PM2.5 (2006 24-hour) | Maintenance, Moderate | 100 | 0 | 0.06 | 0.14 | 0.19 | 0.22 |
| Allentown-Bethlehem-Easton, PA | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Anchorage Area, AK | CO (1971 8-hour) | Maintenance, Serious | 100 | 0 | 0.01 | 0.03 | 0.04 | 0.04 |
| Anchorage; Eagle River, AK | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| AQCR 012: Portions of Grant County, NM | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| AQCR 109-Millinocket, ME | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| AQCR 131: Anoka, Carver, Dakota, Hennepin, Ramsey, Scott, and Washington counties (Minneapolis-St. Paul), MN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| AQCR 237: Brown County: Green Bay sub-city area, WI | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| AQCR 238: Marathon County: Rothschild Sub-city area, Rib Mountain, Weston, WI | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| AQCR 238: Oneida County: Rhinelander Sub-city area, WI | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| AQCR 239: Milwaukee County: Milwaukee sub-city area, WI | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |

Appendix A Air Quality Non-Attainment Area Results

Table A1-87

Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Cumulative Impacts

Formaldehyde 2040

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| AQCR 240: Dane County: Madison sub-city area, WI | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Archuleta County; Pagosa Springs, CO | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.01 | 0.01 | 0.01 |
| Armstrong County: Madison Twp, Mahoning Twp, Boggs Twp, Washington Twp, Pine Twp, PA | SO ₂ (1971 24-hour/Annual) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Aroostock County; City of Presque Isle, ME | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.01 | 0.01 |
| Atlanta, GA | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Atlantic City Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.01 | 0.01 | 0.02 | 0.02 |
| Bakersfield Area, CA | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.67 | 1.64 | 1.45 | 1.98 |
| Baltimore Area, MD | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Baltimore, MD | Ozone (2008 8-hour) | Nonattainment, Moderate | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Baton Rouge, LA | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Beaver, PA | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.01 | 0.01 |
| Benton County; (part) TVA Johnsonville, TN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Billings Area, MT | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.01 | 0.02 | 0.03 | 0.03 |
| Billings, MT | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Birmingham, AL | PM2.5 (2006 24-hour) | Maintenance, -- | 100 | 0 | 0.14 | 0.32 | 0.44 | 0.51 |
| Boise-Northern Ada County Area, ID | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.03 | 0.08 | 0.11 | 0.12 |
| Bonner County; The Sandpoint Area, ID | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Boston Area, MA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.08 | 0.19 | 0.26 | 0.30 |
| Boyd County (part), KY | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Brooke; Follansbee area, WV | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Burlington Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Calaveras County, CA | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Campbell-Clermont Counties, KY-OH | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.01 | 0.01 | 0.01 |

Table A1-87
Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Cumulative Impacts
Formaldehyde 2040

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|---|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Canton-Massillon, OH | PM2.5 (2006 24-hour) | Maintenance, -- | 100 | 0 | 0.06 | 0.14 | 0.17 | 0.20 |
| Central New Hampshire, NH | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.02 | 0.06 | 0.07 | 0.09 |
| Central Steptoe Valley, NV | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Charleston, WV | PM2.5 (2006 24-hour) | Maintenance, -- | 100 | 0 | 0.04 | 0.09 | 0.13 | 0.15 |
| Charlotte Area, NC | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.14 | 0.32 | 0.44 | 0.50 |
| Charlotte-Rock Hill, NC-SC | Ozone (2008 8-hour) | Maintenance, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Chicago-Naperville, IL-IN-WI | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Chico (Butte County), CA | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Chico Area, CA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.01 | 0.02 | 0.03 | 0.04 |
| Chico, CA | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.02 | 0.05 | 0.07 | 0.08 |
| Cincinnati, OH-KY-IN | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Clark County; Las Vegas planning area, NV | PM10 (1987 24-hour) | Maintenance, Serious | 100 | 0 | 0.17 | 0.40 | 0.54 | 0.63 |
| Cleveland Area, OH | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.10 | 0.24 | 0.33 | 0.38 |
| Cleveland, OH | PM2.5 (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 0.14 | 0.31 | 0.42 | 0.49 |
| Cleveland-Akron-Lorain, OH | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Cleveland-Akron-Lorain, OH | PM2.5 (2006 24-hour) | Maintenance, -- | 100 | 0 | 0.30 | 0.69 | 0.93 | 1.07 |
| Cochise County; Paul Spur/Douglas planning area, AZ | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.01 | 0.01 | 0.02 |
| Colorado Springs Area, CO | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.06 | 0.14 | 0.19 | 0.21 |
| Columbus, OH | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Cook County; Lyons Township, IL | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.01 | 0.02 | 0.02 | 0.03 |
| Cook County; Southeast Chicago, IL | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.01 | 0.02 | 0.03 | 0.03 |
| Coshocton County; Franklin Township, OH | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Coso Junction, CA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Cuyahoga County (part), OH | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Cuyahoga County, OH | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.10 | 0.24 | 0.32 | 0.37 |

Appendix A Air Quality Non-Attainment Area Results

Table A1-87

Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Cumulative Impacts

Formaldehyde 2040

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Dallas-Fort Worth, TX | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Delaware County, PA | PM2.5 (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 0.04 | 0.09 | 0.12 | 0.14 |
| Denver-Boulder Area, CO | CO (1971 8-hour) | Maintenance, Serious | 100 | 0 | 0.52 | 1.22 | 1.36 | 1.68 |
| Denver-Boulder-Greeley-Ft Collins-Loveland, CO | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Detroit Area, MI | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 2.73 | 6.66 | 5.81 | 7.99 |
| Detroit, MI | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 2.61 | 6.37 | 5.43 | 7.55 |
| Detroit-Ann Arbor, MI | PM2.5 (2006 24-hour) | Maintenance, -- | 100 | 0 | 3.12 | 7.56 | 7.02 | 9.39 |
| Dona Ana County; Anthony, NM | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Douglas, AZ | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Dukes County, MA | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Duluth Area, MN | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.01 | 0.03 | 0.04 | 0.05 |
| East Chicago Area, IN | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.01 | 0.01 |
| East Helena Area, MT | SO ₂ (1971 24-hour/Annual) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| East Kern County Area, CA | PM10 (1987 24-hour) | Nonattainment, Serious | 70 | 0 | 0.62 | 1.51 | 1.28 | 1.79 |
| El Paso County, TX | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.09 | 0.21 | 0.23 | 0.29 |
| El Paso, TX | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.05 | 0.11 | 0.10 | 0.13 |
| Eugene-Springfield Area, OR | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.03 | 0.06 | 0.08 | 0.09 |
| Fairbanks Area, AK | CO (1971 8-hour) | Maintenance, Serious | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.01 |
| Fairbanks, AK | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.01 | 0.01 | 0.01 |

Table A1-87

Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Cumulative Impacts

Formaldehyde 2040

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|---|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Flathead County; Columbia Falls and vicinity, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Flathead County; Kalispell and vicinity, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.01 | 0.01 | 0.01 |
| Flathead County; Whitefish and vicinity, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Fort Collins Area, CO | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.01 | 0.03 | 0.04 | 0.05 |
| Freehold Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.01 | 0.01 | 0.01 |
| Fremont County; Canon City Area, CO | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.01 | 0.01 | 0.02 |
| Fresno Area, CA | CO (1971 8-hour) | Maintenance, Moderate > 12.7ppm | 100 | 0 | 0.06 | 0.14 | 0.19 | 0.22 |
| Grants Pass Area, OR | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.01 | 0.01 | 0.02 | 0.02 |
| Great Falls Area, MT | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Greater Connecticut, CT | Ozone (2008 8-hour) | Nonattainment, Moderate | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Greeley Area, CO | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.04 | 0.10 | 0.13 | 0.15 |
| Hancock and Brooke Counties (Part); The city of Weirton, WV | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Hancock County (Part) The city of Weirton, including Butler and Clay; Magisterial Districts, WV | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Harrisburg-Lebanon-Carlisle-York, PA | PM2.5 (2006 24-hour) | Maintenance, Moderate | 100 | 0 | 0.14 | 0.33 | 0.44 | 0.51 |
| Hartford-New Britain-Middletown Area, CT | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.12 | 0.29 | 0.39 | 0.45 |
| Hayden, AZ | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Hayden, AZ | SO ₂ (1971 24-hour/Annual) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Hayden, AZ | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Hillsborough County, FL | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.01 | 0.01 |
| Houston-Galveston-Brazoria, TX | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Humphreys County; (part) TVA Johnsonville, TN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Imperial Co, CA | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.02 | 0.05 | 0.07 | 0.08 |

Appendix A Air Quality Non-Attainment Area Results

Table A1-87

Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Cumulative Impacts

Formaldehyde 2040

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Imperial County, CA | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Imperial County, CA | PM2.5 (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 0.02 | 0.05 | 0.07 | 0.08 |
| Imperial County; Imperial Valley planning area, CA | PM10 (1987 24-hour) | Nonattainment, Serious | 70 | 0 | 0.03 | 0.07 | 0.09 | 0.10 |
| Indian Wells, CA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.62 | 1.51 | 1.28 | 1.79 |
| Indiana, PA | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.01 | 0.02 | 0.03 | 0.04 |
| Indianapolis Area, IN | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Indianapolis, IN | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.05 | 0.12 | 0.16 | 0.19 |
| Inyo County; Owens Valley planning area, CA | PM10 (1987 24-hour) | Nonattainment, Serious | 70 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Jackson County, MO | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.01 | 0.01 | 0.02 | 0.02 |
| Jackson County; Medford-Ashland (including White City), OR | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.02 | 0.05 | 0.07 | 0.08 |
| Jamestown, NY | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Jefferson County, KY | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Jefferson County, MO | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.01 | 0.01 | 0.02 | 0.02 |
| Jefferson County; (part) Steubenville & Mingo Junction, OH | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Jefferson County; (part), OH | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Johnstown, PA | PM2.5 (2006 24-hour) | Maintenance, Moderate | 100 | 0 | 0.01 | 0.03 | 0.04 | 0.05 |
| Josephine County; Grants Pass, OR | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.01 | 0.01 | 0.02 | 0.02 |
| Juneau; Mendenhall Valley area, AK | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Kern County (Eastern Kern), CA | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| King County; Kent, WA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.01 | 0.01 | 0.01 |
| King County; Seattle, WA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Klamath County; Klamath Falls, OR | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.01 | 0.02 | 0.03 | 0.03 |
| Klamath Falls Area, OR | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.01 | 0.02 | 0.03 | 0.03 |
| Klamath Falls, OR | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.01 | 0.02 | 0.03 | 0.03 |

Table A1-87

Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Cumulative Impacts

Formaldehyde 2040

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Knoxville, TN | Ozone (2008 8-hour) | Maintenance, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Knoxville-Sevierville-La Follette, TN | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.11 | 0.25 | 0.34 | 0.39 |
| La Porte County: (part), IN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lake County (part); Lakeview, OR | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lake County, OH | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.03 | 0.07 | 0.09 | 0.11 |
| Lake County: (part), IN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lake County; (part) Eastlake, Timberlake, Lakeline, Willoughby, Mentor, OH | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lake County; Cities of East Chicago, Hammond, Whiting, and Gary, IN | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.02 | 0.04 | 0.05 | 0.06 |
| Lake County; Polson, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lake County; Ronan, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lake Tahoe Nevada Area, NV | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.01 | 0.01 |
| Lake Tahoe North Shore Area, CA | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.01 | 0.01 | 0.01 |
| Lake Tahoe South Shore Area, CA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.01 | 0.01 | 0.01 |
| Lancaster, PA | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lancaster, PA | PM2.5 (2006 24-hour) | Maintenance, Moderate | 100 | 0 | 0.06 | 0.13 | 0.18 | 0.21 |
| Lane County (part); Oakridge, OR | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lane County; Eugene/Springfield, OR | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.03 | 0.06 | 0.08 | 0.09 |
| Las Vegas Area, NV | CO (1971 8-hour) | Maintenance, Serious | 100 | 0 | 0.17 | 0.40 | 0.54 | 0.63 |
| LaSalle County; Oglesby, IL | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.01 | 0.01 | 0.01 |
| Laurel Area, MT | SO ₂ (1971 24-hour/Annual) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lebanon County, PA | PM2.5 (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 0.02 | 0.05 | 0.06 | 0.07 |
| Lemont, IL | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.09 | 0.22 | 0.21 | 0.28 |
| Liberty-Clairton, PA | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |

Appendix A Air Quality Non-Attainment Area Results

Table A1-87

Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Cumulative Impacts

Formaldehyde 2040

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Lincoln County; Libby and vicinity, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Logan, UT-ID | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.01 | 0.02 | 0.03 | 0.04 |
| Longmont Area, CO | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.01 | 0.02 | 0.03 | 0.03 |
| Lorain County (part), OH | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Los Angeles, CA | PM2.5 (2006 24-hour) | Nonattainment, Serious | 100 | 0 | 4.85 | 11.63 | 11.76 | 15.17 |
| Los Angeles-San Bernardino Counties (West Mojave Desert), CA | Ozone (2008 8-hour) | Nonattainment, Severe 15 | 25 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Los Angeles-South Coast Air Basin Area, CA | CO (1971 8-hour) | Maintenance, Serious | 100 | 0 | 4.85 | 11.64 | 11.77 | 15.17 |
| Los Angeles-South Coast Air Basin Area, CA | NO ₂ (1971 Annual) | Maintenance, -- | 100 | 0 | 4.85 | 11.64 | 11.77 | 15.17 |
| Los Angeles-South Coast Air Basin, CA | Ozone (2008 8-hour) | Nonattainment, Extreme | 10 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Los Angeles-South Coast Air Basin, CA | PM2.5 (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 4.85 | 11.63 | 11.76 | 15.16 |
| Lowell Area, MA | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.01 | 0.03 | 0.04 | 0.04 |
| Lucas County (part), OH | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Madison County; Granite City Township and Nameoki Township, IL | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 3.73 | 9.11 | 7.70 | 10.75 |
| Manchester Area, NH | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.01 | 0.02 | 0.03 | 0.03 |
| Maricopa and Pinal Counties; Phoenix planning area, AZ | PM10 (1987 24-hour) | Nonattainment, Serious | 70 | 0 | 0.40 | 0.92 | 1.25 | 1.44 |
| Marion County; Lawrence, Washington, and Warrant Townships, IN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Mariposa County, CA | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Marshall, WV | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.01 |
| Medford Area, OR | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.01 | 0.03 | 0.03 | 0.04 |
| Memphis Area, TN | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.15 | 0.34 | 0.40 | 0.49 |

Table A1-87
Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Cumulative Impacts
Formaldehyde 2040

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|---|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Memphis, TN-MS-AR | Ozone (2008 8-hour) | Nonattainment TN & Maintenance MS/AR, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Miami, AZ | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Miami, AZ | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Miami, AZ | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Milwaukee-Racine, WI | PM2.5 (2006 24-hour) | Maintenance, -- | 100 | 0 | 0.13 | 0.30 | 0.41 | 0.47 |
| Minneapolis-St. Paul Area, MN | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 1.18 | 2.85 | 2.80 | 3.65 |
| Missoula Area, MT | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.01 | 0.03 | 0.03 | 0.04 |
| Missoula county; Missoula and vicinity, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.01 | 0.02 | 0.03 | 0.04 |
| Modesto Area, CA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.02 | 0.05 | 0.06 | 0.07 |
| Mohave County (part); Bullhead City, AZ | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.01 | 0.03 | 0.03 | 0.04 |
| Mono County; Mammoth Lake planning area, CA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.01 | 0.01 | 0.01 |
| Mono County; Mono Basin, CA | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Morenci, AZ | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Morgan County, IN | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.01 | 0.01 | 0.01 |
| Morongo Band of Mission Indians | Ozone (2008 8-hour) | Nonattainment, Serious | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Morristown Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.01 | 0.01 | 0.02 |
| Muscatine County; (part), IA | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Muscatine, IA | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.01 | 0.01 | 0.01 |
| Muskingum River, OH | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Nashua Area, NH | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.01 | 0.02 | 0.03 | 0.03 |
| Nassau County, FL | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Nevada County (Western part), CA | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| New Haven County, CT | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.01 | 0.01 |

Appendix A Air Quality Non-Attainment Area Results

Table A1-87

Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Cumulative Impacts

Formaldehyde 2040

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| New Haven-Meriden-Waterbury Area, CT | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.10 | 0.22 | 0.30 | 0.34 |
| New Manchester-Grant magisterial district in Hancock County, WV | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| New York County, NY | PM ₁₀ (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.06 | 0.14 | 0.19 | 0.22 |
| New York, NY-NJ-CT | PM _{2.5} (2006 24-hour) | Maintenance, -- | 100 | 0 | 1.75 | 4.04 | 5.45 | 6.29 |
| New York-N. New Jersey-Long Island Area, NY-NJ-CT | CO (1971 8-hour) | Maintenance, Moderate > 12.7ppm | 100 | 0 | 0.97 | 2.25 | 3.03 | 3.50 |
| New York-N. New Jersey-Long Island, NY-NJ-CT | Ozone (2008 8-hour) | Nonattainment, Moderate | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| NJ portion of the Northeast Pennsylvania-Upper Delaware Valley Interstate AQCR: (part), NJ | SO ₂ (1971 24-hour/Annual) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Nogales, AZ | PM _{2.5} (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.01 | 0.01 | 0.02 | 0.02 |
| Oakridge, OR | PM _{2.5} (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Ogden Area, UT | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.01 | 0.01 | 0.02 | 0.02 |
| Ogden Area, UT | PM ₁₀ (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.01 | 0.01 | 0.02 | 0.02 |
| Olmsted County; (part), MN | PM ₁₀ (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.01 | 0.01 | 0.01 |
| Olmsted; City of Rochester, MN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |

Table A1-87
Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Cumulative Impacts
Formaldehyde 2040

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Pechanga Band of Luiseno Mission Indians of the Pechanga Reservation | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Pekin, IL | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.01 | 0.01 | 0.02 |
| Penns Grove Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Peoria County: Hollis Twp, IL | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Peoria County: Peoria, IL | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Perth Amboy Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.01 | 0.03 | 0.04 | 0.05 |
| Philadelphia-Camden County Area, PA-NJ | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.21 | 0.51 | 0.55 | 0.69 |
| Philadelphia-Wilmington, PA-NJ-DE | PM _{2.5} (2006 24-hour) | Maintenance, Moderate for PA and DE Subject to Former Subpart 1 for NJ | 100 | 0 | 0.58 | 1.35 | 1.69 | 2.00 |
| Philadelphia-Wilmington-Atlantic City, PA-NJ-MD-DE | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Phoenix Area, AZ | CO (1971 8-hour) | Maintenance, Serious | 100 | 0 | 0.38 | 0.88 | 1.19 | 1.37 |
| Phoenix-Mesa, AZ | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Pierce County; Tacoma, WA | PM ₁₀ (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Pima County; Ajo planning area, AZ | PM ₁₀ (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Pima County; Rillito planning area, AZ | PM ₁₀ (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.01 | 0.02 | 0.02 | 0.03 |
| Pinal and Gila Counties; Payson, AZ | PM ₁₀ (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.01 | 0.01 | 0.01 |
| Pinal County (part); West Pinal, AZ | PM ₁₀ (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.05 | 0.10 | 0.14 | 0.16 |
| Pitkin County; Aspen, CO | PM ₁₀ (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.01 | 0.01 | 0.01 |
| Pittsburgh Area, PA | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.02 | 0.05 | 0.06 | 0.07 |
| Pittsburgh-Beaver Valley, PA | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Pittsburgh-Beaver Valley, PA | PM _{2.5} (2006 24-hour) | Maintenance, Moderate | 100 | 0 | 0.20 | 0.45 | 0.61 | 0.70 |
| Plumas County, CA | PM _{2.5} (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Polk County, TN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |

Appendix A Air Quality Non-Attainment Area Results

Table A1-87

Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Cumulative Impacts

Formaldehyde 2040

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|-------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Portland Area: Portland Metro Service District Boundary, OR | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.13 | 0.30 | 0.40 | 0.46 |
| Power-Bannock Counties; Fort Hall Indian Reservation, ID | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Power-Bannock Counties; Portneuf Valley Area, ID | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.01 | 0.02 | 0.03 | 0.04 |
| Provo Area, UT | CO (1971 8-hour) | Maintenance, Moderate > 12.7ppm | 100 | 0 | 0.01 | 0.02 | 0.02 | 0.03 |
| Provo, UT | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.04 | 0.10 | 0.14 | 0.16 |
| Prowers County; Lamar, CO | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Raleigh-Durham Area, NC | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.15 | 0.35 | 0.47 | 0.54 |
| Ramsey County; (part), MN | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Reading, PA | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Reno Area, NV | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.04 | 0.08 | 0.11 | 0.13 |
| Rhinelander, WI | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.01 | 0.01 | 0.02 |
| Riverside County (Coachella Valley), CA | Ozone (2008 8-hour) | Nonattainment, Severe 15 | 25 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Riverside County; Coachella Valley planning area, CA | PM10 (1987 24-hour) | Nonattainment, Serious | 70 | 0 | 0.06 | 0.13 | 0.17 | 0.20 |
| Riverside, Los Angeles, Orange, and San Bernardino Counties; South Coast Air Basin, CA | PM10 (1987 24-hour) | Maintenance, Serious | 100 | 0 | 4.85 | 11.62 | 11.74 | 15.14 |
| Rosebud County; Lame Deer, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.01 | 0.01 | 0.01 |
| Routt County (part); Steamboat Springs, CO | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.01 | 0.01 | 0.01 |
| Sacramento Area, CA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.15 | 0.34 | 0.45 | 0.52 |
| Sacramento County, CA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.14 | 0.31 | 0.42 | 0.49 |
| Sacramento Metro, CA | Ozone (2008 8-hour) | Nonattainment, Severe 15 | 25 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Sacramento, CA | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.27 | 0.62 | 0.82 | 0.96 |
| Salem Area, OR | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.03 | 0.06 | 0.09 | 0.10 |
| Salt Lake City Area, UT | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.02 | 0.04 | 0.05 | 0.06 |
| Salt Lake City, UT | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.17 | 0.40 | 0.54 | 0.62 |

Table A1-87
Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Cumulative Impacts
Formaldehyde 2040

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|---|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Salt Lake County, UT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.10 | 0.24 | 0.32 | 0.37 |
| Salt Lake County, UT | SO ₂ (1971 24-hour/Annual) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| San Bernardino County (part); excluding Searles Valley Planning area and South Coast Air Basin, CA | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.07 | 0.16 | 0.20 | 0.24 |
| San Diego Area, CA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.37 | 0.85 | 1.14 | 1.32 |
| San Diego County, CA | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| San Francisco Bay Area, CA | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| San Francisco Bay Area, CA | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.80 | 1.87 | 2.41 | 2.83 |
| San Francisco-Oakland-San Jose Area, CA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.74 | 1.73 | 2.22 | 2.60 |
| San Joaquin Valley Air Basin; Fresno, Kern, Kings, Madera, Merced, San Joaquin, Stanislaus, Tulare Counties, CA | PM10 (1987 24-hour) | Maintenance, Serious | 100 | 0 | 1.10 | 2.63 | 2.78 | 3.52 |
| San Joaquin Valley, CA | Ozone (2008 8-hour) | Nonattainment, Extreme | 10 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| San Joaquin Valley, CA | PM2.5 (2006 24-hour) | Nonattainment, Serious | 100 | 0 | 1.10 | 2.63 | 2.78 | 3.52 |
| San Joaquin Valley, CA | PM2.5 (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 1.10 | 2.63 | 2.78 | 3.52 |
| San Luis Obispo (Eastern San Luis Obispo), CA | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| San Manuel, AZ | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| San Miguel County; Telluride, CO | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Sanders County (part); Thompson Falls and vicinity, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Santa Cruz County; Nogales planning area, AZ | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.01 | 0.01 | 0.02 | 0.02 |
| Seaford, DE | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Seattle-Tacoma Area, WA | CO (1971 8-hour) | Maintenance, Moderate > 12.7ppm | 100 | 0 | 0.30 | 0.69 | 0.94 | 1.08 |
| Seattle-Tacoma, WA | PM2.5 (2006 24-hour) | Maintenance, Moderate | 100 | 0 | 0.05 | 0.11 | 0.15 | 0.17 |
| Sheboygan County, WI | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |

Appendix A Air Quality Non-Attainment Area Results

Table A1-87

Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Cumulative Impacts

Formaldehyde 2040

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|---|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Sheridan County; City of Sheridan, WY | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.01 | 0.01 | 0.01 |
| Shoshone County (part); excluding Pinehurst, ID | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.01 | 0.01 | 0.02 |
| Shoshone County; City of Pinehurst, ID | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Silver Bow County; Butte, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.01 | 0.01 | 0.02 |
| Somerville Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.01 | 0.01 |
| Southwest Indiana, IN | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Spokane Area, WA | CO (1971 8-hour) | Maintenance, Serious | 100 | 0 | 0.03 | 0.07 | 0.10 | 0.11 |
| Spokane County; (part), WA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.03 | 0.07 | 0.10 | 0.12 |
| Springfield Area, MA | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.02 | 0.04 | 0.06 | 0.07 |
| St. Bernard Parish, LA | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.19 | 0.46 | 0.39 | 0.54 |
| St. Louis Area, MO | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.09 | 0.22 | 0.29 | 0.34 |
| St. Louis-St. Charles-Farmington, MO-IL | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Steubenville, OH-WV | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.01 | 0.02 | 0.02 | 0.03 |
| Steubenville-Weirton, OH-WV | PM2.5 (2006 24-hour) | Maintenance, -- | 100 | 0 | 0.01 | 0.03 | 0.04 | 0.05 |
| Stockton Area, CA | CO (1971 8-hour) | Maintenance, Moderate ≤ 12.7ppm | 100 | 0 | 0.04 | 0.09 | 0.12 | 0.14 |
| Sullivan County, TN | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.01 | 0.01 |
| Syracuse Area; Onondaga County, NY | CO (1971 8-hour) | Maintenance, Moderate ≤ 12.7ppm | 100 | 0 | 0.06 | 0.14 | 0.19 | 0.21 |
| Tazewell County; Groveland Twp, IL | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Terre Haute, IN | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.01 | 0.02 | 0.02 |

Table A1-87

Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Cumulative Impacts

Formaldehyde 2040

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|---|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Thurston County; Cities of Olympia, Tumwater, and Lacey, WA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.01 | 0.03 | 0.03 | 0.04 |
| Toms River Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Tooele County (part), UT | SO ₂ (1971 24-hour/Annual) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Trenton Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.01 | 0.02 | 0.03 | 0.03 |
| Trona, CA | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.01 | 0.02 | 0.01 | 0.02 |
| Tucson Area, AZ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.09 | 0.21 | 0.29 | 0.33 |
| Tuscan Buttes, CA | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Union County; LaGrande, OR | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.01 | 0.01 | 0.01 |
| Upper Green River Basin Area, WY | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Utah County, UT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.04 | 0.10 | 0.14 | 0.16 |
| Vancouver Area: Clark County (part), WA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.03 | 0.07 | 0.09 | 0.11 |
| Ventura County, CA | Ozone (2008 8-hour) | Nonattainment, Serious | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Vermillion County; Part of Clinton Township, IN | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.01 | 0.01 | 0.02 |
| Vigo County, IN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Walla Walla County; Wallula, WA | PM10 (1987 24-hour) | Maintenance, Serious | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Waltham Area, MA | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.01 | 0.01 | 0.02 | 0.02 |
| Warren County: Conewago Twp, PA | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Warren County: Warren Boro, Pleasant Twp, Glade Twp, PA | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Warren, PA | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.01 | 0.01 | 0.01 |
| Washington Area, DC-MD-VA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.07 | 0.17 | 0.22 | 0.26 |
| Washington, DC-MD-VA | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Washoe County; Reno planning area, NV | PM10 (1987 24-hour) | Nonattainment, Serious | 70 | 0 | 0.03 | 0.08 | 0.11 | 0.13 |

Appendix A Air Quality Non-Attainment Area Results

Table A1-87

Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Cumulative Impacts

Formaldehyde 2040

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|---|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Wayne County: Boston, Center, Franklin, Wayne & Webster Townships, IN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Wayne County; (part), MI | PM ₁₀ (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 2.58 | 6.31 | 5.34 | 7.45 |
| West Central Pinal County, AZ | PM _{2.5} (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.01 | 0.02 | 0.03 | 0.03 |
| West Silver Valley, ID | PM _{2.5} (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.01 | 0.01 | 0.01 |
| Winston-Salem Area, NC | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.04 | 0.09 | 0.13 | 0.14 |
| Worcester Area, MA | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.03 | 0.06 | 0.08 | 0.09 |
| Yakima Area, WA | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.01 | 0.01 | 0.02 |
| Yakima County; (part), WA | PM ₁₀ (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.01 | 0.03 | 0.04 | 0.05 |
| Yuba City-Marysville, CA | PM _{2.5} (2006 24-hour) | Maintenance, Moderate | 100 | 0 | 0.02 | 0.05 | 0.06 | 0.07 |
| Yuma County; Yuma planning area, AZ | PM ₁₀ (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.02 | 0.04 | 0.06 | 0.06 |

^a Reductions are shown as positive values. Negative values are emissions increases. Values of less than 0.005 tons per year are rounded to zero.

^b Nonattainment or maintenance status as of 5/13/2016. Source: U.S. EPA, The Green Book Nonattainment Areas for Criteria Pollutants; <http://www.epa.gov/airquality/greenbook/>. "--" indicates that no severity classification has been established for the NAAQS pollutant.

^c Emissions thresholds in tons per year. Where the threshold differs by precursor pollutant, the smallest of the precursor thresholds is shown. These thresholds are provided for information only; a general conformity determination is not required for the Proposed Action. Source: 40 CFR 93.853.

Notes: CO = carbon monoxide; NAAQS = National Ambient Air Quality Standards; NO₂ = nitrogen dioxide; PM = particulate matter; SO₂ = sulfur dioxide

Table A1-88

Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Cumulative Impacts

Formaldehyde 2050

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Ada County; Boise, ID | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.04 | 0.10 | 0.13 | 0.15 |
| Adams, Denver, and Boulder Counties; Denver Metropolitan area, CO | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.20 | 0.48 | 0.62 | 0.71 |
| Ajo, AZ | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Albuquerque Area, NM | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.08 | 0.20 | 0.26 | 0.29 |
| Allegheny County Air Basin: Hazelwood monitor, PA | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Allegheny County, PA | PM2.5 (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 0.11 | 0.26 | 0.34 | 0.39 |
| Allegheny County; The area including Liberty, Lincoln, Port Vue, and Glassport Boroughs and the City of Clairton, PA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Allegheny, PA | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.01 | 0.01 | 0.02 | 0.02 |
| Allentown, PA | PM2.5 (2006 24-hour) | Maintenance, Moderate | 100 | 0 | 0.07 | 0.17 | 0.23 | 0.26 |
| Allentown-Bethlehem-Easton, PA | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Anchorage Area, AK | CO (1971 8-hour) | Maintenance, Serious | 100 | 0 | 0.01 | 0.03 | 0.04 | 0.05 |
| Anchorage; Eagle River, AK | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| AQCR 012: Portions of Grant County, NM | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| AQCR 109-Millinocket, ME | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| AQCR 131: Anoka, Carver, Dakota, Hennepin, Ramsey, Scott, and Washington counties (Minneapolis-St. Paul), MN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| AQCR 237: Brown County: Green Bay sub-city area, WI | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| AQCR 238: Marathon County: Rothschild Sub-city area, Rib Mountain, Weston, WI | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| AQCR 238: Oneida County: Rhinelander Sub-city area, WI | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| AQCR 239: Milwaukee County: Milwaukee sub-city area, WI | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |

Appendix A Air Quality Non-Attainment Area Results

Table A1-88

Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Cumulative Impacts

Formaldehyde 2050

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| AQCR 240: Dane County: Madison sub-city area, WI | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Archuleta County; Pagosa Springs, CO | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.01 | 0.01 | 0.01 |
| Armstrong County: Madison Twp, Mahoning Twp, Boggs Twp, Washington Twp, Pine Twp, PA | SO ₂ (1971 24-hour/Annual) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Aroostock County; City of Presque Isle, ME | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.01 | 0.01 | 0.01 |
| Atlanta, GA | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Atlantic City Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.01 | 0.02 | 0.02 | 0.03 |
| Bakersfield Area, CA | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.80 | 1.97 | 1.71 | 2.33 |
| Baltimore Area, MD | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.00 | 0.01 | 0.01 |
| Baltimore, MD | Ozone (2008 8-hour) | Nonattainment, Moderate | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Baton Rouge, LA | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Beaver, PA | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.01 | 0.01 | 0.01 |
| Benton County; (part) TVA Johnsonville, TN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Billings Area, MT | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.01 | 0.03 | 0.03 | 0.04 |
| Billings, MT | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Birmingham, AL | PM2.5 (2006 24-hour) | Maintenance, -- | 100 | 0 | 0.17 | 0.40 | 0.52 | 0.60 |
| Boise-Northern Ada County Area, ID | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.04 | 0.10 | 0.13 | 0.15 |
| Bonner County; The Sandpoint Area, ID | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.01 | 0.01 |
| Boston Area, MA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.10 | 0.24 | 0.31 | 0.35 |
| Boyd County (part), KY | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Brooke; Follansbee area, WV | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Burlington Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Calaveras County, CA | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Campbell-Clermont Counties, KY-OH | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.01 | 0.02 | 0.02 |

Table A1-88

Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Cumulative Impacts

Formaldehyde 2050

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|---|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Canton-Massillon, OH | PM2.5 (2006 24-hour) | Maintenance, -- | 100 | 0 | 0.07 | 0.17 | 0.20 | 0.24 |
| Central New Hampshire, NH | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.03 | 0.07 | 0.09 | 0.10 |
| Central Steptoe Valley, NV | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Charleston, WV | PM2.5 (2006 24-hour) | Maintenance, -- | 100 | 0 | 0.05 | 0.12 | 0.15 | 0.17 |
| Charlotte Area, NC | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.17 | 0.40 | 0.52 | 0.60 |
| Charlotte-Rock Hill, NC-SC | Ozone (2008 8-hour) | Maintenance, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Chicago-Naperville, IL-IN-WI | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Chico (Butte County), CA | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Chico Area, CA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.01 | 0.03 | 0.04 | 0.05 |
| Chico, CA | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.03 | 0.06 | 0.08 | 0.09 |
| Cincinnati, OH-KY-IN | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Clark County; Las Vegas planning area, NV | PM10 (1987 24-hour) | Maintenance, Serious | 100 | 0 | 0.21 | 0.50 | 0.65 | 0.74 |
| Cleveland Area, OH | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.13 | 0.30 | 0.39 | 0.45 |
| Cleveland, OH | PM2.5 (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 0.17 | 0.39 | 0.51 | 0.58 |
| Cleveland-Akron-Lorain, OH | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Cleveland-Akron-Lorain, OH | PM2.5 (2006 24-hour) | Maintenance, -- | 100 | 0 | 0.36 | 0.85 | 1.11 | 1.27 |
| Cochise County; Paul Spur/Douglas planning area, AZ | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.01 | 0.01 | 0.02 | 0.02 |
| Colorado Springs Area, CO | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.07 | 0.17 | 0.22 | 0.25 |
| Columbus, OH | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Cook County; Lyons Township, IL | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.01 | 0.02 | 0.03 | 0.03 |
| Cook County; Southeast Chicago, IL | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.01 | 0.02 | 0.03 | 0.03 |
| Coshocton County; Franklin Township, OH | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Coso Junction, CA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Cuyahoga County (part), OH | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Cuyahoga County, OH | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.13 | 0.30 | 0.39 | 0.44 |

Appendix A Air Quality Non-Attainment Area Results

Table A1-88

Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Cumulative Impacts

Formaldehyde 2050

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Dallas-Fort Worth, TX | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Delaware County, PA | PM2.5 (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 0.05 | 0.11 | 0.14 | 0.16 |
| Denver-Boulder Area, CO | CO (1971 8-hour) | Maintenance, Serious | 100 | 0 | 0.62 | 1.49 | 1.62 | 1.99 |
| Denver-Boulder-Greeley-Ft Collins-Loveland, CO | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Detroit Area, MI | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 3.22 | 7.97 | 6.79 | 9.34 |
| Detroit, MI | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 3.10 | 7.69 | 6.42 | 8.92 |
| Detroit-Ann Arbor, MI | PM2.5 (2006 24-hour) | Maintenance, -- | 100 | 0 | 3.71 | 9.12 | 8.31 | 11.06 |
| Dona Ana County; Anthony, NM | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.01 |
| Douglas, AZ | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Dukes County, MA | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Duluth Area, MN | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.02 | 0.04 | 0.05 | 0.06 |
| East Chicago Area, IN | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.01 | 0.01 | 0.01 |
| East Helena Area, MT | SO ₂ (1971 24-hour/Annual) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| East Kern County Area, CA | PM10 (1987 24-hour) | Nonattainment, Serious | 70 | 0 | 0.73 | 1.82 | 1.51 | 2.10 |
| El Paso County, TX | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.11 | 0.26 | 0.27 | 0.34 |
| El Paso, TX | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.05 | 0.13 | 0.11 | 0.16 |
| Eugene-Springfield Area, OR | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.03 | 0.07 | 0.10 | 0.11 |
| Fairbanks Area, AK | CO (1971 8-hour) | Maintenance, Serious | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.01 |
| Fairbanks, AK | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.01 | 0.02 | 0.02 |

Table A1-88

Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Cumulative Impacts

Formaldehyde 2050

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|---|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Flathead County; Columbia Falls and vicinity, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Flathead County; Kalispell and vicinity, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.01 | 0.01 | 0.02 | 0.02 |
| Flathead County; Whitefish and vicinity, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Fort Collins Area, CO | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.02 | 0.04 | 0.05 | 0.05 |
| Freehold Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.01 | 0.01 | 0.01 |
| Fremont County; Canon City Area, CO | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.01 | 0.01 | 0.02 | 0.02 |
| Fresno Area, CA | CO (1971 8-hour) | Maintenance, Moderate > 12.7ppm | 100 | 0 | 0.07 | 0.17 | 0.22 | 0.26 |
| Grants Pass Area, OR | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.01 | 0.02 | 0.02 | 0.02 |
| Great Falls Area, MT | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Greater Connecticut, CT | Ozone (2008 8-hour) | Nonattainment, Moderate | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Greeley Area, CO | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.05 | 0.12 | 0.16 | 0.18 |
| Hancock and Brooke Counties (Part); The city of Weirton, WV | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Hancock County (Part) The city of Weirton, including Butler and Clay; Magisterial Districts, WV | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Harrisburg-Lebanon-Carlisle-York, PA | PM2.5 (2006 24-hour) | Maintenance, Moderate | 100 | 0 | 0.17 | 0.40 | 0.53 | 0.60 |
| Hartford-New Britain-Middletown Area, CT | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.15 | 0.36 | 0.47 | 0.53 |
| Hayden, AZ | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Hayden, AZ | SO ₂ (1971 24-hour/Annual) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Hayden, AZ | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Hillsborough County, FL | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.01 | 0.01 | 0.01 |
| Houston-Galveston-Brazoria, TX | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Humphreys County; (part) TVA Johnsonville, TN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Imperial Co, CA | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.03 | 0.07 | 0.09 | 0.10 |

Appendix A Air Quality Non-Attainment Area Results

Table A1-88

Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Cumulative Impacts

Formaldehyde 2050

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Imperial County, CA | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Imperial County, CA | PM2.5 (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 0.03 | 0.07 | 0.09 | 0.10 |
| Imperial County; Imperial Valley planning area, CA | PM10 (1987 24-hour) | Nonattainment, Serious | 70 | 0 | 0.03 | 0.08 | 0.11 | 0.12 |
| Indian Wells, CA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.73 | 1.82 | 1.51 | 2.10 |
| Indiana, PA | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.01 | 0.03 | 0.04 | 0.04 |
| Indianapolis Area, IN | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Indianapolis, IN | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.06 | 0.14 | 0.19 | 0.22 |
| Inyo County; Owens Valley planning area, CA | PM10 (1987 24-hour) | Nonattainment, Serious | 70 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Jackson County, MO | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.01 | 0.02 | 0.02 | 0.03 |
| Jackson County; Medford-Ashland (including White City), OR | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.03 | 0.06 | 0.08 | 0.09 |
| Jamestown, NY | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Jefferson County, KY | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Jefferson County, MO | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.01 | 0.02 | 0.02 | 0.02 |
| Jefferson County; (part) Steubenville & Mingo Junction, OH | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Jefferson County; (part), OH | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Johnstown, PA | PM2.5 (2006 24-hour) | Maintenance, Moderate | 100 | 0 | 0.02 | 0.04 | 0.05 | 0.06 |
| Josephine County; Grants Pass, OR | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.01 | 0.02 | 0.02 | 0.02 |
| Juneau; Mendenhall Valley area, AK | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Kern County (Eastern Kern), CA | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| King County; Kent, WA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.01 | 0.01 | 0.01 |
| King County; Seattle, WA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Klamath County; Klamath Falls, OR | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.01 | 0.03 | 0.04 | 0.04 |
| Klamath Falls Area, OR | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.01 | 0.03 | 0.04 | 0.04 |
| Klamath Falls, OR | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.01 | 0.03 | 0.04 | 0.04 |

Table A1-88
Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Cumulative Impacts
Formaldehyde 2050

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Knoxville, TN | Ozone (2008 8-hour) | Maintenance, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Knoxville-Sevierville-La Follette, TN | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.13 | 0.31 | 0.41 | 0.47 |
| La Porte County: (part), IN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lake County (part); Lakeview, OR | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.01 | 0.01 | 0.01 |
| Lake County, OH | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.04 | 0.09 | 0.11 | 0.13 |
| Lake County: (part), IN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lake County; (part) Eastlake, Timberlake, Lakeline, Willoughby, Mentor, OH | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lake County; Cities of East Chicago, Hammond, Whiting, and Gary, IN | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.02 | 0.05 | 0.06 | 0.07 |
| Lake County; Polson, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lake County; Ronan, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lake Tahoe Nevada Area, NV | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.01 | 0.01 |
| Lake Tahoe North Shore Area, CA | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.01 | 0.01 | 0.01 |
| Lake Tahoe South Shore Area, CA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.00 | 0.01 | 0.01 | 0.01 |
| Lancaster, PA | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lancaster, PA | PM2.5 (2006 24-hour) | Maintenance, Moderate | 100 | 0 | 0.07 | 0.16 | 0.21 | 0.24 |
| Lane County (part); Oakridge, OR | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lane County; Eugene/Springfield, OR | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.03 | 0.07 | 0.10 | 0.11 |
| Las Vegas Area, NV | CO (1971 8-hour) | Maintenance, Serious | 100 | 0 | 0.21 | 0.50 | 0.65 | 0.74 |
| LaSalle County; Oglesby, IL | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.01 | 0.02 | 0.02 |
| Laurel Area, MT | SO ₂ (1971 24-hour/Annual) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lebanon County, PA | PM2.5 (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 0.02 | 0.06 | 0.07 | 0.08 |
| Lemont, IL | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.11 | 0.27 | 0.25 | 0.33 |
| Liberty-Clairton, PA | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |

Appendix A Air Quality Non-Attainment Area Results

Table A1-88

Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Cumulative Impacts

Formaldehyde 2050

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Lincoln County; Libby and vicinity, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Logan, UT-ID | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.01 | 0.03 | 0.04 | 0.04 |
| Longmont Area, CO | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.01 | 0.02 | 0.03 | 0.04 |
| Lorain County (part), OH | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Los Angeles, CA | PM2.5 (2006 24-hour) | Nonattainment, Serious | 100 | 0 | 5.79 | 14.11 | 13.97 | 17.90 |
| Los Angeles-San Bernardino Counties (West Mojave Desert), CA | Ozone (2008 8-hour) | Nonattainment, Severe 15 | 25 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Los Angeles-South Coast Air Basin Area, CA | CO (1971 8-hour) | Maintenance, Serious | 100 | 0 | 5.79 | 14.11 | 13.98 | 17.91 |
| Los Angeles-South Coast Air Basin Area, CA | NO ₂ (1971 Annual) | Maintenance, -- | 100 | 0 | 5.79 | 14.11 | 13.98 | 17.91 |
| Los Angeles-South Coast Air Basin, CA | Ozone (2008 8-hour) | Nonattainment, Extreme | 10 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Los Angeles-South Coast Air Basin, CA | PM2.5 (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 5.79 | 14.10 | 13.96 | 17.89 |
| Lowell Area, MA | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.01 | 0.03 | 0.04 | 0.05 |
| Lucas County (part), OH | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Madison County; Granite City Township and Nameoki Township, IL | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 4.41 | 10.96 | 9.08 | 12.65 |
| Manchester Area, NH | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.01 | 0.03 | 0.03 | 0.04 |
| Maricopa and Pinal Counties; Phoenix planning area, AZ | PM10 (1987 24-hour) | Nonattainment, Serious | 70 | 0 | 0.48 | 1.14 | 1.49 | 1.70 |
| Marion County; Lawrence, Washington, and Warrant Townships, IN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Mariposa County, CA | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Marshall, WV | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.01 | 0.01 |
| Medford Area, OR | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.01 | 0.03 | 0.04 | 0.05 |
| Memphis Area, TN | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.18 | 0.42 | 0.48 | 0.58 |

Table A1-88
Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Cumulative Impacts
Formaldehyde 2050

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|---|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Memphis, TN-MS-AR | Ozone (2008 8-hour) | Nonattainment TN & Maintenance MS/AR, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Miami, AZ | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Miami, AZ | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Miami, AZ | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Milwaukee-Racine, WI | PM2.5 (2006 24-hour) | Maintenance, -- | 100 | 0 | 0.16 | 0.38 | 0.49 | 0.56 |
| Minneapolis-St. Paul Area, MN | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 1.41 | 3.45 | 3.32 | 4.31 |
| Missoula Area, MT | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.01 | 0.03 | 0.04 | 0.05 |
| Missoula county; Missoula and vicinity, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.01 | 0.03 | 0.04 | 0.04 |
| Modesto Area, CA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.02 | 0.06 | 0.07 | 0.08 |
| Mohave County (part); Bullhead City, AZ | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.01 | 0.03 | 0.04 | 0.05 |
| Mono County; Mammoth Lake planning area, CA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.01 | 0.01 | 0.02 | 0.02 |
| Mono County; Mono Basin, CA | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Morenci, AZ | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Morgan County, IN | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.01 | 0.01 | 0.02 |
| Morongo Band of Mission Indians | Ozone (2008 8-hour) | Nonattainment, Serious | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Morristown Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.01 | 0.01 | 0.02 | 0.02 |
| Muscatine County; (part), IA | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Muscatine, IA | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.01 | 0.01 | 0.01 |
| Muskingum River, OH | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Nashua Area, NH | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.01 | 0.03 | 0.03 | 0.04 |
| Nassau County, FL | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Nevada County (Western part), CA | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| New Haven County, CT | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.01 | 0.01 | 0.01 |

Appendix A Air Quality Non-Attainment Area Results

Table A1-88

Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Cumulative Impacts

Formaldehyde 2050

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| New Haven-Meriden-Waterbury Area, CT | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.12 | 0.27 | 0.35 | 0.40 |
| New Manchester-Grant magisterial district in Hancock County, WV | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| New York County, NY | PM ₁₀ (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.08 | 0.18 | 0.23 | 0.27 |
| New York, NY-NJ-CT | PM _{2.5} (2006 24-hour) | Maintenance, -- | 100 | 0 | 2.12 | 4.98 | 6.52 | 7.44 |
| New York-N. New Jersey-Long Island Area, NY-NJ-CT | CO (1971 8-hour) | Maintenance, Moderate > 12.7ppm | 100 | 0 | 1.18 | 2.77 | 3.63 | 4.14 |
| New York-N. New Jersey-Long Island, NY-NJ-CT | Ozone (2008 8-hour) | Nonattainment, Moderate | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| NJ portion of the Northeast Pennsylvania-Upper Delaware Valley Interstate AQCR: (part), NJ | SO ₂ (1971 24-hour/Annual) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Nogales, AZ | PM _{2.5} (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.01 | 0.02 | 0.02 | 0.02 |
| Oakridge, OR | PM _{2.5} (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Ogden Area, UT | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.01 | 0.02 | 0.02 | 0.03 |
| Ogden Area, UT | PM ₁₀ (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.01 | 0.02 | 0.02 | 0.03 |
| Olmsted County; (part), MN | PM ₁₀ (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.01 | 0.01 | 0.01 |
| Olmsted; City of Rochester, MN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |

Table A1-88
Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Cumulative Impacts
Formaldehyde 2050

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Pechanga Band of Luiseno Mission Indians of the Pechanga Reservation | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Pekin, IL | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.01 | 0.01 | 0.02 | 0.02 |
| Penns Grove Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Peoria County: Hollis Twp, IL | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Peoria County: Peoria, IL | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Perth Amboy Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.02 | 0.04 | 0.05 | 0.06 |
| Philadelphia-Camden County Area, PA-NJ | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.25 | 0.62 | 0.65 | 0.81 |
| Philadelphia-Wilmington, PA-NJ-DE | PM _{2.5} (2006 24-hour) | Maintenance, Moderate for PA and DE Subject to Former Subpart 1 for NJ | 100 | 0 | 0.70 | 1.66 | 2.01 | 2.36 |
| Philadelphia-Wilmington-Atlantic City, PA-NJ-MD-DE | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Phoenix Area, AZ | CO (1971 8-hour) | Maintenance, Serious | 100 | 0 | 0.46 | 1.09 | 1.42 | 1.62 |
| Phoenix-Mesa, AZ | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Pierce County; Tacoma, WA | PM ₁₀ (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Pima County; Ajo planning area, AZ | PM ₁₀ (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Pima County; Rillito planning area, AZ | PM ₁₀ (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.01 | 0.02 | 0.03 | 0.03 |
| Pinal and Gila Counties; Payson, AZ | PM ₁₀ (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.01 | 0.01 | 0.02 |
| Pinal County (part); West Pinal, AZ | PM ₁₀ (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.06 | 0.13 | 0.17 | 0.20 |
| Pitkin County; Aspen, CO | PM ₁₀ (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.01 | 0.01 | 0.01 |
| Pittsburgh Area, PA | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.02 | 0.05 | 0.07 | 0.08 |
| Pittsburgh-Beaver Valley, PA | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Pittsburgh-Beaver Valley, PA | PM _{2.5} (2006 24-hour) | Maintenance, Moderate | 100 | 0 | 0.24 | 0.56 | 0.73 | 0.83 |
| Plumas County, CA | PM _{2.5} (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Polk County, TN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |

Appendix A Air Quality Non-Attainment Area Results

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Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Cumulative Impacts

Formaldehyde 2050

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|--|-------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Portland Area: Portland Metro Service District Boundary, OR | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.16 | 0.36 | 0.48 | 0.54 |
| Power-Bannock Counties; Fort Hall Indian Reservation, ID | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Power-Bannock Counties; Portneuf Valley Area, ID | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.01 | 0.03 | 0.04 | 0.04 |
| Provo Area, UT | CO (1971 8-hour) | Maintenance, Moderate > 12.7ppm | 100 | 0 | 0.01 | 0.02 | 0.03 | 0.03 |
| Provo, UT | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.05 | 0.12 | 0.16 | 0.19 |
| Prowers County; Lamar, CO | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Raleigh-Durham Area, NC | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.18 | 0.43 | 0.56 | 0.64 |
| Ramsey County; (part), MN | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Reading, PA | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Reno Area, NV | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.04 | 0.10 | 0.13 | 0.15 |
| Rhinelander, WI | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.01 | 0.02 | 0.02 | 0.02 |
| Riverside County (Coachella Valley), CA | Ozone (2008 8-hour) | Nonattainment, Severe 15 | 25 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Riverside County; Coachella Valley planning area, CA | PM10 (1987 24-hour) | Nonattainment, Serious | 70 | 0 | 0.07 | 0.16 | 0.20 | 0.23 |
| Riverside, Los Angeles, Orange, and San Bernardino Counties; South Coast Air Basin, CA | PM10 (1987 24-hour) | Maintenance, Serious | 100 | 0 | 5.78 | 14.09 | 13.95 | 17.87 |
| Rosebud County; Lame Deer, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.01 | 0.01 | 0.01 |
| Routt County (part); Steamboat Springs, CO | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.01 | 0.01 | 0.01 |
| Sacramento Area, CA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.17 | 0.41 | 0.53 | 0.60 |
| Sacramento County, CA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.16 | 0.39 | 0.50 | 0.58 |
| Sacramento Metro, CA | Ozone (2008 8-hour) | Nonattainment, Severe 15 | 25 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Sacramento, CA | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.33 | 0.77 | 0.99 | 1.13 |
| Salem Area, OR | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.03 | 0.08 | 0.10 | 0.12 |
| Salt Lake City Area, UT | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.02 | 0.04 | 0.06 | 0.07 |
| Salt Lake City, UT | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.21 | 0.49 | 0.65 | 0.74 |

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Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Cumulative Impacts
Formaldehyde 2050

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|---|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Salt Lake County, UT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.12 | 0.29 | 0.38 | 0.44 |
| Salt Lake County, UT | SO ₂ (1971 24-hour/Annual) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| San Bernardino County (part); excluding Searles Valley Planning area and South Coast Air Basin, CA | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.08 | 0.18 | 0.23 | 0.27 |
| San Diego Area, CA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.44 | 1.04 | 1.37 | 1.56 |
| San Diego County, CA | Ozone (2008 8-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| San Francisco Bay Area, CA | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| San Francisco Bay Area, CA | PM2.5 (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.97 | 2.30 | 2.89 | 3.35 |
| San Francisco-Oakland-San Jose Area, CA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.90 | 2.12 | 2.66 | 3.08 |
| San Joaquin Valley Air Basin; Fresno, Kern, Kings, Madera, Merced, San Joaquin, Stanislaus, Tulare Counties, CA | PM10 (1987 24-hour) | Maintenance, Serious | 100 | 0 | 1.32 | 3.20 | 3.31 | 4.16 |
| San Joaquin Valley, CA | Ozone (2008 8-hour) | Nonattainment, Extreme | 10 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| San Joaquin Valley, CA | PM2.5 (2006 24-hour) | Nonattainment, Serious | 100 | 0 | 1.32 | 3.20 | 3.31 | 4.16 |
| San Joaquin Valley, CA | PM2.5 (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 1.32 | 3.20 | 3.31 | 4.16 |
| San Luis Obispo (Eastern San Luis Obispo), CA | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| San Manuel, AZ | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| San Miguel County; Telluride, CO | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Sanders County (part); Thompson Falls and vicinity, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Santa Cruz County; Nogales planning area, AZ | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.01 | 0.02 | 0.02 | 0.02 |
| Seaford, DE | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Seattle-Tacoma Area, WA | CO (1971 8-hour) | Maintenance, Moderate > 12.7ppm | 100 | 0 | 0.36 | 0.86 | 1.12 | 1.28 |
| Seattle-Tacoma, WA | PM2.5 (2006 24-hour) | Maintenance, Moderate | 100 | 0 | 0.06 | 0.14 | 0.18 | 0.20 |
| Sheboygan County, WI | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |

Appendix A Air Quality Non-Attainment Area Results

Table A1-88

Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Cumulative Impacts

Formaldehyde 2050

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|---|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Sheridan County; City of Sheridan, WY | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.01 | 0.01 | 0.01 |
| Shoshone County (part); excluding Pinehurst, ID | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.01 | 0.01 | 0.02 | 0.02 |
| Shoshone County; City of Pinehurst, ID | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Silver Bow County; Butte, MT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.01 | 0.01 | 0.02 | 0.02 |
| Somerville Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.01 | 0.01 |
| Southwest Indiana, IN | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.01 | 0.01 |
| Spokane Area, WA | CO (1971 8-hour) | Maintenance, Serious | 100 | 0 | 0.04 | 0.09 | 0.12 | 0.13 |
| Spokane County; (part), WA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.04 | 0.09 | 0.12 | 0.14 |
| Springfield Area, MA | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.02 | 0.05 | 0.07 | 0.08 |
| St. Bernard Parish, LA | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.22 | 0.55 | 0.46 | 0.64 |
| St. Louis Area, MO | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.11 | 0.26 | 0.35 | 0.39 |
| St. Louis-St. Charles-Farmington, MO-IL | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Steubenville, OH-WV | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.01 | 0.02 | 0.03 | 0.03 |
| Steubenville-Weirton, OH-WV | PM2.5 (2006 24-hour) | Maintenance, -- | 100 | 0 | 0.02 | 0.04 | 0.05 | 0.06 |
| Stockton Area, CA | CO (1971 8-hour) | Maintenance, Moderate ≤ 12.7ppm | 100 | 0 | 0.05 | 0.11 | 0.15 | 0.17 |
| Sullivan County, TN | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.01 | 0.01 |
| Syracuse Area; Onondaga County, NY | CO (1971 8-hour) | Maintenance, Moderate ≤ 12.7ppm | 100 | 0 | 0.07 | 0.17 | 0.22 | 0.25 |
| Tazewell County; Groveland Twp, IL | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Terre Haute, IN | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.01 | 0.01 | 0.02 |

Table A1-88
Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Cumulative Impacts
Formaldehyde 2050

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|---|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Thurston County; Cities of Olympia, Tumwater, and Lacey, WA | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.01 | 0.03 | 0.04 | 0.05 |
| Toms River Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Tooele County (part), UT | SO ₂ (1971 24-hour/Annual) | Nonattainment, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Trenton Area, NJ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.01 | 0.03 | 0.04 | 0.04 |
| Trona, CA | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.01 | 0.02 | 0.02 | 0.02 |
| Tucson Area, AZ | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.11 | 0.26 | 0.35 | 0.39 |
| Tuscan Buttes, CA | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Union County; LaGrande, OR | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.01 | 0.01 | 0.02 | 0.02 |
| Upper Green River Basin Area, WY | Ozone (2008 8-hour) | Nonattainment, Marginal | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Utah County, UT | PM10 (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.05 | 0.12 | 0.16 | 0.19 |
| Vancouver Area: Clark County (part), WA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.04 | 0.08 | 0.11 | 0.13 |
| Ventura County, CA | Ozone (2008 8-hour) | Nonattainment, Serious | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Vermillion County; Part of Clinton Township, IN | PM10 (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Vigo County, IN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Walla Walla County; Wallula, WA | PM10 (1987 24-hour) | Maintenance, Serious | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Waltham Area, MA | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.01 | 0.02 | 0.02 | 0.03 |
| Warren County: Conewago Twp, PA | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Warren County: Warren Boro, Pleasant Twp, Glade Twp, PA | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Warren, PA | SO ₂ (2010 1-hour) | Nonattainment, -- | 100 | 0 | 0.00 | 0.01 | 0.01 | 0.01 |
| Washington Area, DC-MD-VA | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.09 | 0.20 | 0.27 | 0.31 |
| Washington, DC-MD-VA | Ozone (2008 8-hour) | Nonattainment, Marginal | 50 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Washoe County; Reno planning area, NV | PM10 (1987 24-hour) | Nonattainment, Serious | 70 | 0 | 0.04 | 0.10 | 0.13 | 0.15 |

Appendix A Air Quality Non-Attainment Area Results

Table A1-88

Changes in Emissions from U.S. HD Vehicles, by Nonattainment or Maintenance Area and Alternative, Cumulative Impacts

Formaldehyde 2050

| Nonattainment or Maintenance Area | NAAQS Pollutant (Standard) | Status, Severity Classification ^b | General Conformity Threshold ^c | Emissions Changes for Proposed Alternative (tons per year) ^a | | | | |
|---|---------------------------------------|--|---|---|--------|--------------------|--------|--------|
| | | | | Alt. 1 - No Action | Alt. 2 | Alt. 3 - Preferred | Alt. 4 | Alt. 5 |
| Wayne County: Boston, Center, Franklin, Wayne & Webster Townships, IN | SO ₂ (1971 24-hour/Annual) | Maintenance, -- | 100 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| Wayne County; (part), MI | PM ₁₀ (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 3.06 | 7.59 | 6.30 | 8.78 |
| West Central Pinal County, AZ | PM _{2.5} (2006 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.01 | 0.03 | 0.04 | 0.04 |
| West Silver Valley, ID | PM _{2.5} (2012 Annual) | Nonattainment, Moderate | 100 | 0 | 0.00 | 0.01 | 0.01 | 0.01 |
| Winston-Salem Area, NC | CO (1971 8-hour) | Maintenance, Moderate <= 12.7ppm | 100 | 0 | 0.05 | 0.11 | 0.15 | 0.17 |
| Worcester Area, MA | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.03 | 0.08 | 0.10 | 0.11 |
| Yakima Area, WA | CO (1971 8-hour) | Maintenance, -- | 100 | 0 | 0.01 | 0.01 | 0.02 | 0.02 |
| Yakima County; (part), WA | PM ₁₀ (1987 24-hour) | Maintenance, Moderate | 100 | 0 | 0.02 | 0.04 | 0.05 | 0.05 |
| Yuba City-Marysville, CA | PM _{2.5} (2006 24-hour) | Maintenance, Moderate | 100 | 0 | 0.03 | 0.06 | 0.08 | 0.09 |
| Yuma County; Yuma planning area, AZ | PM ₁₀ (1987 24-hour) | Nonattainment, Moderate | 100 | 0 | 0.02 | 0.05 | 0.07 | 0.08 |

^a Reductions are shown as positive values. Negative values are emissions increases. Values of less than 0.005 tons per year are rounded to zero.

^b Nonattainment or maintenance status as of 5/13/2016. Source: U.S. EPA, The Green Book Nonattainment Areas for Criteria Pollutants; <http://www.epa.gov/airquality/greenbook/>. "--" indicates that no severity classification has been established for the NAAQS pollutant.

^c Emissions thresholds in tons per year. Where the threshold differs by precursor pollutant, the smallest of the precursor thresholds is shown. These thresholds are provided for information only; a general conformity determination is not required for the Proposed Action. Source: 40 CFR 93.853.

Notes: CO = carbon monoxide; NAAQS =National Ambient Air Quality Standards; NO₂ = nitrogen dioxide; PM = particulate matter; SO₂ = sulfur dioxide

APPENDIX B

Sources Identified in Public Comments

Phase 2 Fuel Efficiency Standards for Medium- and Heavy-Duty Engines and Vehicles Final EIS

The list of sources in Table B-1 is provided for information only. NHTSA has reviewed all comments received by the agency during the scoping process and considered all appropriate sources cited in developing the Draft EIS.

Table B-1. Sources Identified in Scoping Comments

| Comment No. (EIS Docket Number) | Name of Commenter | Full Title and Citation of Source (with a link, if available) | Issue Addressed by Source | Peer-Reviewed ? (Yes/No) | Included in IPCC's Fifth Assessment Report? (Yes/No) |
|--|---------------------------------|---|--|-------------------------------------|---|
| NHTSA-2014-0074-0009 | Center for Biological Diversity | Intergovernmental Panel on Climate Change (IPCC). 2013. Climate 2013: The Physical Science Basis. Working Group I to the Fifth Assessment Report of the Intergovernmental Panel on Climate Change. <i>Available at:</i> http://www.climatechange2013.org/ . (Accessed: January 29, 2015). | Presents an integrated view of climate change as the final part of the IPCC's Fifth Assessment Report. | Yes | Yes |
| NHTSA-2014-0074-0009 | Center for Biological Diversity | Melillo, J.M., T.C. Richmond, and G.W. Yohe. 2014. Climate Change Impacts in the United States: The Third National Climate Assessment. U.S. Global Change Research Program (USGCRP), pp. 14 and 15. doi:10.7930/J0Z31WJ2. <i>Available at:</i> http://nca2014.globalchange.gov/downloads . (Accessed: January 29, 2015).. | Assesses climate change and its potential impacts across the U.S. in present day and through the end of the century, integrating findings from the USGCRP with the results of research and observations from across the U.S. | Yes | No |
| NHTSA-2014-0074-0009 | Center for Biological Diversity | National Research Council. 2013. <i>Abrupt Impacts of Climate Change: Anticipating Surprise</i> . The National Academies Press. <i>Available at:</i> http://www.nap.edu/catalog.php?record_id=18373 . (Accessed: January 29, 2015). | Presents projections of future climatic conditions, abrupt changes, and possible tipping points for the physical climate system, natural system, or human system. | Yes | No |

Appendix B Sources Identified in Public Comments

Table B-1. Sources Identified in Scoping Comments

| Comment No. (EIS Docket Number) | Name of Commenter | Full Title and Citation of Source (with a link, if available) | Issue Addressed by Source | Peer-Reviewed ? (Yes/No) | Included in IPCC's Fifth Assessment Report? (Yes/No) |
|--|---------------------------------|---|---|---------------------------------|---|
| NHTSA-2014-0074-0009 | Center for Biological Diversity | Fussell, H.M. 2009. An Updated Assessment of the Risks from Climate Change Based on Research Published since the IPCC's Fourth Assessment Report. <i>Climatic Change</i> 97(3):469–482. doi: 10.1007/s10584-009-9648-5. | Presents an updated assessment of the risks from anthropogenic climate change based on a comprehensive review of the pertinent scientific literature published since finalization of the IPCC's Fourth Assessment Report. | Yes | No |
| NHTSA-2014-0074-0009 | Center for Biological Diversity | Lenton, T. M., H. Held, E. Kriegler, J.W. Hall, W. Lucht, S. Rahmstorf, and H.J. Schellnhuber. 2007. Tipping Elements in the Earth's Climate System. <i>Proceedings of the National Academy of Sciences of the United States of America</i> 105(6):1786–1793. Available at: http://www.pnas.org/content/105/6/1786.full.pdf+html . (Accessed: January 29, 2015). | Evaluates potential policy-relevant tipping elements in the climate system under anthropogenic forcing, drawing on the pertinent literature and a recent international workshop to compile a short list. Assesses where their tipping points lie. Explains how early warning systems could be established to detect the proximity of some tipping points. | No | No |
| NHTSA-2014-0074-0009 | Center for Biological Diversity | United Nations Environment Programme (UNEP). 2009. <i>Climate Change Science Compendium</i> . Catherine P. McMullen and Jason Jabbour (eds.). Available at: http://www.unep.org/compendium2009/ . (Accessed: January 29, 2015). | Reviews more than 400 scientific studies and observations of the earth's systems and climate, released between 2006 and 2009. Covers the earth's systems, ice, oceans, ecosystems, and systems management. | Yes | No |

Table B-1. Sources Identified in Scoping Comments

| Comment No. (EIS Docket Number) | Name of Commenter | Full Title and Citation of Source (with a link, if available) | Issue Addressed by Source | Peer-Reviewed ? (Yes/No) | Included in IPCC's Fifth Assessment Report? (Yes/No) |
|---------------------------------|---------------------------------|---|--|--------------------------|--|
| NHTSA-2014-0074-0009 | Center for Biological Diversity | Richardson, K., W. Steffan, H.J. Schellnhuber, J. Alcamo, T. Barker, D.M. Kammen, R. Leemans, D. Liverman, M. Munasinghe, B. Osman-Elasha, N. Stern, O. Waever. 2009. Climate Change: Global Risks, Challenges, and Decisions: Synthesis Report. Available at: http://curis.ku.dk/ws/files/14774466/http_climatecongress.ku.pdf/ . (Accessed: January 29, 2015). | Discusses how at least one tipping point, the rapid disappearance of late-summer Arctic sea ice, might have already been crossed. | Yes | No |
| NHTSA-2014-0074-0009 | Center for Biological Diversity | The White House. 2014. Cost of Delaying Action to Stem Climate Change. Available at: http://www.whitehouse.gov/sites/default/files/docs/the_cost_of_delaying_action_to_stem_climate_change.pdf . (Accessed: January 29, 2015). | Reports on the signs of climate change, such as temperature increases and sea-level rise, from CO ₂ emissions and potential cost of damages associated with climate change impacts. | Yes | No |
| NHTSA-2014-0074-0009 | Center for Biological Diversity | Rignot, E., J. Mouginot, M. Mortighem, H. Seroussi, B. Scheuchl. 2014. Widespread, Rapid Grounding Line Retreat of Pine Island, Thwaites, Smith and Kohler Glaciers, West Antarctica, from 1992 to 2011. <i>Geophysical Research Letters</i> 41(10):3502–3509; doi:10.1002/2014GL060140. Available at: http://onlinelibrary.wiley.com/doi/10.1002/2014GL060140/full . (Accessed: June 28, 2016). | Measures the retreat of glaciers draining the Amundsen Sea sector of West Antarctica using Earth Remote Sensing satellite radar interferometry from 1992 to 2011. | Yes | No |

Appendix B Sources Identified in Public Comments

Table B-1. Sources Identified in Scoping Comments

| Comment No. (EIS Docket Number) | Name of Commenter | Full Title and Citation of Source (with a link, if available) | Issue Addressed by Source | Peer-Reviewed ? (Yes/No) | Included in IPCC's Fifth Assessment Report? (Yes/No) |
|--|---------------------------------|---|---|---------------------------------|---|
| NHTSA-2014-0074-0009 | Center for Biological Diversity | National Aeronautics and Space Administration (NASA). 2014. News Release: West Antarctic Glacier Loss Appears Unstoppable. May 12. Available at: http://climate.nasa.gov/news/1088/ . (Accessed: January 29, 2015). | Provides an overview of a new study by NASA and the University of California, Irvine, which has found evidence showing a rapidly melting section of the West Antarctic Ice Sheet which contributes to sea level rise. | No | No |
| NHTSA-2014-0074-0009 | Center for Biological Diversity | Rignot, E., J.L. Bamber, M.R. van den Broeke, C. Davis, Y. Li, J. van de Berg, E. van Meijgaard. 2008. Recent Antarctic Ice Mass Loss from Radar Interferometry and Regional Climate Modeling. <i>Nature Geoscience</i> (1):106–110. doi:10.1038/ngeo102. | Examines uncertainties surrounding Antarctic ice loss and current and future contributions to sea-level rise as well as snowfall accumulation and glacier discharges from warmer air and ocean temperatures. | Yes | No |
| NHTSA-2014-0074-0009 | Center for Biological Diversity | Mengel, M., and A. Levermann. 2014. Ice Plug Prevents Irreversible Discharge from East Antarctica. <i>Nature Climate Change</i> (4):451–455; doi:10.1038/nclimate2226 | Presents information on changes in ice discharge from Antarctica and the large uncertainties surrounding future sea-level rise projections. | Yes | No |
| NHTSA-2014-0074-0009 | Center for Biological Diversity | Barnosky, A.D., E.A. Hadley, J. Bascompte, E.L. Berlow, J.H. Brown, M. Fortelius, W.M. Getz, J. Harte, A. Hastings, P.A. Marquet, N.D. Martinez, A. Mooers, P. Roopnarine, G. Vermij, J.W. Williams, R. Gillespie, J. Kitzes, C. Marshall, N. Matzke, D.P. Mindell, E. Revilla, and A.D. Smith. 2012. Approaching a State Shift in Earth's Biosphere. <i>Nature</i> (486):52–58. doi:10.1038/nature11018. | Presents evidence that the global ecosystems can shift based on a planetary-scale critical transition from human influence, such as climate change. | Yes | No |

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| Comment No. (EIS Docket Number) | Name of Commenter | Full Title and Citation of Source (with a link, if available) | Issue Addressed by Source | Peer-Reviewed ? (Yes/No) | Included in IPCC's Fifth Assessment Report? (Yes/No) |
|---------------------------------|---------------------------------|--|--|--------------------------|--|
| NHTSA-2014-0074-0009 | Center for Biological Diversity | Joughin, I., B.E. Smith, and B. Medley. 2014. Marine Ice Sheet Collapse Potentially Under Way for the Thwaites Glacier Basin, West Antarctica. <i>Science</i> (344):734–738. doi: 10.1126/science.1249055. | Examines Thwaites Glacier sensitivity to ocean melt in West Antarctica and models different melt scenarios. | Yes | No |
| NHTSA-2014-0074-0009 | Center for Biological Diversity | UNEP. 2010. The Emissions Gap Report. Are the Copenhagen Accord Pledges Sufficient to Limit Global Warming to 2°C or 1.5°C? A Preliminary Assessment. <i>Available at:</i> http://www.unep.org/publications/ebooks/emissionsgapreport/ . (Accessed: January 29, 2015). | Assesses the following two questions: Are countries' pledges of action, if implemented, likely to achieve the 2°C and 1.5°C temperature goals? If not, how big is the gap between emission levels consistent with these temperature goals and the emissions expected as a result of the pledges? | No | No |
| NHTSA-2014-0074-0009 | Center for Biological Diversity | Hansen, J., P. Kharecha, M. Sato, V. Masson-Delmotte, F. Ackerman, D.J. Beerling, P.J. Hearty, O. Hoegh-Guldberg, S. Hsu, C. Parmesan, J. Rockstrom, E.J. Rohling, J. Sachs, P. Smith, K. Steffen, L. Van Susteren, K. von Schuckmann, and J.C. Zachos. 2013. Assessing "Dangerous Climate Change": Required Reduction of Carbon Emissions to Protect Young People, Future Generations and Nature. <i>PLOS One</i> 8(12):e81648. doi:10.1371/journal.pone.0081648. <i>Available at:</i> http://journals.plos.org/plosone/article?id=10.1371/journal.pone.0081648 . (Accessed: June 28, 2016). | Assesses climate impacts from global warming using observations, global carbon cycle representations, temperatures, and paleoclimate data. | Yes | No |

Appendix B Sources Identified in Public Comments

Table B-1. Sources Identified in Scoping Comments

| Comment No. (EIS Docket Number) | Name of Commenter | Full Title and Citation of Source (with a link, if available) | Issue Addressed by Source | Peer-Reviewed ? (Yes/No) | Included in IPCC's Fifth Assessment Report? (Yes/No) |
|------------------------------------|---------------------------------|--|--|-----------------------------|---|
| NHTSA-2014-0074-0009 | Center for Biological Diversity | Smith, J.B., S.H. Schneider, M. Oppenheimer, G.W. Yohe, W. Hare, M.D. Mastrandrea, A. Patwardhan, I. Burton, J. Corfee-Morlot, C.H.D. Magadza, H. Fussel, A.B. Pittcock, A. Rahman, A. Suarez, and J. van Ypersele. 2009. Assessing Dangerous Climate Change through an Update of the IPCC "Reasons for Concern." <i>Proceedings of the National Academy of Sciences of the United States of America</i> 106(11):4133–4137; doi: 10.1073/pnas.0812355106. Available at: http://www.pnas.org/content/106/11/4133.full . (Accessed: June 17, 2016). | Discusses revisions to the sensitivities of the IPCC's five "reasons for concern" to global mean temperature increases. | Yes | No |
| NHTSA-2014-0074-0009 | Center for Biological Diversity | Parry, M.L., O.F. Canziani, and J.P. Palutikof. 2007. Technical Summary. <i>Climate Change 2007: Impacts, Adaptation, and Vulnerability. Contribution of Working Group II to the Fourth Assessment Report of the Intergovernmental Panel on Climate Change</i> . M.L. Parry, O.F. Canziani, J.P. Palutikof, P.J. van der Linden, and C.E. Hanson (eds.). Cambridge University Press, Cambridge, UK, pages 23–78. Available at: http://www.ipcc.ch/pdf/assessment-report/ar4/wg2/ar4-wg2-ts.pdf . (Accessed: January 29, 2015). | Presents data on impacts of regional climate changes, including temperature increases, extreme weather events, and sea-level rise. | Yes | Yes (4th) |

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| Comment No. (EIS Docket Number) | Name of Commenter | Full Title and Citation of Source (with a link, if available) | Issue Addressed by Source | Peer-Reviewed ? (Yes/No) | Included in IPCC's Fifth Assessment Report? (Yes/No) |
|---------------------------------|---------------------------------|---|---|--------------------------|--|
| NHTSA-2014-0074-0009 | Center for Biological Diversity | U.S. Environmental Protection Agency (EPA). 2014. The Social Cost of Carbon. <i>Available at:</i> http://www.epa.gov/climatechange/EPAactivities/economics/scc.html . (Accessed: January 29, 2015). | Presents basic information on the definition of the social cost of carbon (SC-CO) and provides links to the most recent SC-CO estimates, joint rulemaking documents, and the IPCC Fourth Assessment Report. | No | No |
| NHTSA-2014-0074-0009 | Center for Biological Diversity | Interagency Working Group on the Social Cost of Carbon, United States Government. 2013. Technical Support Document: Technical Update on the Social Cost of Carbon for Regulatory Impact Analysis – Under Executive Order 12866. revised November 2013. <i>Available at:</i> http://www.whitehouse.gov/sites/default/files/omb/assets/inforeg/technical-update-social-cost-of-carbon-for-regulator-impact-analysis.pdf . (Accessed: January 29, 2015). | Provides updated SC-CO estimates from the 2010 interagency technical support document and new versions of the three integrated assessment models used by the U.S. government to estimate SC-CO. | No | No |
| NHTSA-2014-0074-0009 | Center for Biological Diversity | Howard, Peter. 2014. Omitted Damages: What's Missing from the Social Cost of Carbon. <i>Available at:</i> http://costofcarbon.org/files/Omitted_Damages_Whats_Missing_From_the_Social_Cost_of_Carbon.pdf . (Accessed: January 29, 2015). | Summarizes hot-spot damages and reviews the interagency report on SC-CO. Presents information on omissions from the Interagency modeling efforts and requests a better accounting system of catastrophic damages. | No | No |

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|------------------------------------|---------------------------------|---|--|-----------------------------|---|
| NHTSA-2014-0074-0009 | Center for Biological Diversity | Revesz, R.L., P. Howard, K. Arrow, L.H. Goulder, R.E. Lopp, M.A. Livermore, M. Oppenheimer, and T. Sterner. 2014. Global Warming: Improve Economic Models of Climate Change. <i>Nature</i> 508 (7495). doi:10.1038/508173a. Available at: http://www.nature.com/news/global-warming-improve-economic-models-of-climatechange-1.14991 . (Accessed: January 29, 2015). | Evaluates the interagency report on SC-CO estimates and how it is useful for policy making. Argues that the models used omit some major risks associated with climate change impacts, such as social unrest and disruptions to economic growth, and therefore, the models are understating future harms. | No | No |
| NHTSA-2014-0074-0009 | Center for Biological Diversity | Ackerman, F., and E. Stanton. 2010. <i>The Social Cost of Carbon: A Report for the Economics for Equity and the Environment Network</i> . Available at: http://e3network.org/wp-content/uploads/2015/04/SocialCostOfCarbon_SEI_20100401.pdf . (Accessed: January 29, 2015). | Discusses potential shortcomings of the Interagency Working Group report on SC-CO. Argues that the interagency report is underestimating SC-CO future costs and that all three models used are flawed (FUND, PAGE, and DICE). | No | No |
| NHTSA-2014-0074-0009 | Center for Biological Diversity | National Research Council. 2014. Reducing the Fuel Consumption and Greenhouse Gas Emissions of Medium- and Heavy-Duty Vehicles, Phase Two: First Report. Available at: http://sites.nationalacademies.org/DEPS/cs/groups/depssite/documents/webpage/deps_087582.pdf . (Accessed: January 29, 2015). | Provides information to National Highway Traffic Safety Administration (NHTSA) as it develops the Phase 2 fuel consumption standards for HD vehicles. The report's recommendations address the regulation of natural gas vehicles, trailers, tires, and vehicle certification using modeling and simulation. | No | No |

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|---------------------------------|---------------------------------|---|---|--------------------------|--|
| NHTSA-2014-0074-0009 | Center for Biological Diversity | Myhre, G., D. Shindell, F. Breon, W. Collins, J. Fuglestvedt, J. Huang, D. Koch, J. Lamarque, D. Lee, B. Mendoza, T. Nakajima, A. Robock, G. Stephens, T. Takemura, and H. Zhang. 2013. Anthropogenic and Natural Radiative Forcing. Climate Change 2013: The Physical Science Basis. Contribution of Working Group I to the Fifth Assessment Report of the IPCC. Cambridge University Press. D. Jacob, A.R. Ravishankara, K. Shine (eds.). Available at: http://www.climatechange2013.org/images/report/WG1AR5_Chapter08_FINAL.pdf . (Accessed: January 29, 2015). | Uses the radiative forcing concept and effective radiative forcing to evaluate and compare the strength of various conditions affecting the earth's radiation balance and contributing to climate change. | Yes | Yes |
| NHTSA-2014-0074-0009 | Center for Biological Diversity | Shires, T., and M. Lev-On. 2012. Characterizing Pivotal Sources of Methane Emissions from Natural Gas Production: Final Report. American Petroleum Institute. Available at: http://www.api.org/~media/Files/News/2012/12-October/API-ANGA-Survey-Report.pdf . (Accessed: January 29, 2015). | Provides data on natural gas production activities and equipment emissions sources for developing estimates of methane emissions from upstream natural gas production. | No | No |
| NHTSA-2014-0074-0009 | Center for Biological Diversity | EPA. 2013. EPA Needs to Improve Air Emissions Data for the Oil and Natural Gas Production Sector. Office of Inspector General. Report No. 13-P-0161. Available at: https://www.epa.gov/office-inspector-general/report-epa-needs-improve-air-emissions-data-oil-and-natural-gas-production . (Accessed: January 29, 2015). | Discusses air emissions data on oil and natural gas production for regulations, enforcement and permitting, and risk assessments. | No | No |

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|------------------------------------|---------------------------------|--|---|-----------------------------|---|
| NHTSA-2014-0074-0009 | Center for Biological Diversity | Miller, S., S.C. Wofsy, A.M. Michalak, E.A. Kort, A.E. Andrews, S.C. Braud, E.J. Dlugokencky, J. Eluskiewicz, M.L. Fischer, G. Janssens-Maenhout, B.R. Miller, J.B. Miller, S.A. Montzka, T. Nehrkorn, and C. Sweeney. 2013. Anthropogenic Emissions of Methane in the United States. <i>Proceedings of the National Academy of Sciences</i> (100) no.50:20018–20022; doi:10.1073/pnas.1314392110. Available at: http://www.pnas.org/content/110/50/20018.full . (Accessed: June 28, 2016). | Uses atmospheric methane observations to reduce the level of uncertainty surrounding current methane emissions sources. Asserts that greenhouse gas emissions from agriculture and fossil fuel extraction and processing are two times higher than cited in existing studies. | Yes | No |
| NHTSA-2014-0074-0009 | Center for Biological Diversity | Karion, A., C. Sweeney, G. Petron, G. Frost, R.M. Hardesty, J. Kofler, B.R. Miller, T. Newberger, S. Wolter, R. Banta, A. Brewer, E. Dlugokencky, P. Lang, S.A. Montzka, R. Schenll, P. Tans, M. Trainer, R. Zamora, and S. Conley. 2013. Methane Emissions Estimate from Airborne Measurements over a Western United States Natural Gas Field. <i>Geophysical Research Letters</i> 40(16):4393–4397. doi: 10.1002/grl.50811. Available at: http://onlinelibrary.wiley.com/doi/10.1002/grl.50811/full . (Accessed: June 28, 2016). | Presents the mass balance technique for estimating emissions from oil and gas production and proposes the need for additional atmospheric measurements to determine the representativeness of the single-day estimate and to assess inventories of methane emissions. | Yes | No |

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|---------------------------------|---------------------------------|---|---|--------------------------|--|
| NHTSA-2014-0074-0009 | Center for Biological Diversity | Kendall, A., and L. Price. 2012. Incorporating Time-Corrected Life Cycle Greenhouse Gas Emissions in Vehicle Regulations. <i>Environmental Science and Technology</i> 46(5):2557–2563. doi: 10.1021/es203098j. | Proposes methods for calculating the intensity of time-corrected life-cycle emissions for two life-cycle greenhouse gas assessments, including time correction factors for production and end-of-life emissions. Discusses vehicle technologies and designs based on regulating only tailpipe carbon dioxide emissions. | Yes | No |
| NHTSA-2014-0074-0009 | Center for Biological Diversity | Brandt, A.R., G.A., Heath, E.A. Kort, F. O'Sullivan, G. Petron, S.M. Jordaan, P. Tans, J. Wilcox, A.M. Gopstein, D. Arent, S. Wofsy, N.J. Brown, R. Bradley, G.D. Stucky, D. Eardley, and R. Harriss. 2014. Supplementary Materials for Methane Leaks from North American Natural Gas Systems. <i>Science</i> 343:733–735. doi: 10.1126/science.1247045. Available at: http://science.sciencemag.org/content/sci/suppl/2014/02/12/343.6172.733.DC1/1247045.Brandt.SM.revision2.pdf . (Accessed: June 28, 2016). | Reviews 20 years of technical literature on natural gas emissions in the U.S. and Canada to find estimates of methane within the natural gas and oil sectors. | Yes | No |

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|------------------------------------|---------------------------------|--|---|-----------------------------|---|
| NHTSA-2014-0074-0009 | Center for Biological Diversity | Pétron, G., A. Karton, C. Sweeney, B.R. Miller, S.A. Montzka, G.J. Frost, M. Trainer, P. Tans, A. Andrews, J. Kofter, D. Helmig, D. Guenther, E. Dlugokencky, P. Lang, T. Newberger, S. Wolter, B. Hall, P. Novelli, A. Brewer, S. Conley, M. Hardesty, R. Banta, A. White, D. Noone, D. Wolfe, and R. Schnell. 2014. A New Look at Methane and Non-Methane Hydrocarbon Emissions from Oil and Natural Gas Operations in the Colorado Denver-Julesburg Basin. <i>Journal of Geophysical Research</i> 119(11):6836–6852. doi: 10.1002/2013JD021272. Available at: http://onlinelibrary.wiley.com/doi/10.1002/2013JD021272/full . (Accessed: June 28, 2016). | Derives top-down emissions estimates for propane, n-butane, i-pentane, n-pentane, and benzene from total top-down methane emissions estimates and the relative hydrocarbon abundances in aircraft-based discrete air samples in the Julesburg Basin for oil and natural gas production. | Yes | No |
| NHTSA-2014-0074-0009 | Center for Biological Diversity | Pétron, G., G. Frost, B.R. Miller, A.I. Hirsch, S.A. Montzka, A. Karlton, M. Trainer, C. Sweeney, A.E. Andrews, L. Miller, J. Koefler, A. Bar-Ilan, E.J. Dlugokencky, L. Patrick, C.T. Moore Jr., T.B. Ryerson, C. Siso, W. Kolodzey, P.M. Lang, T. Conway, P. Novelli, K. Masarie, B. Hall, D. Guenther, D. Kitzis, J. Miller, D. Welsh, D. Wolfe, W. Neff, and P. Tans. 2012. Hydrocarbon Emissions Characterization in the Colorado Front Range: A Pilot Study. <i>Journal of Geophysical Research</i> 117(D4):D04304; doi:10.1029/2011JD016360. Available at: http://onlinelibrary.wiley.com/doi/10.1029/2011JD016360/full . (Accessed: June 17, 2016). | Presents the results of a pilot study involving automobile-based surveys completed during the summer of 2008. Derived a range of bottom-up speciated emissions for Weld County based on the WRAP Phase III Inventory of VOC emissions from oil and gas exploration, production, and processing. | Yes | No |

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|---------------------------------|---------------------------------|---|---|--------------------------|--|
| NHTSA-2014-0074-0009 | Center for Biological Diversity | Stern, T. 2010. Letter from Todd Stern, U.S. Special Envoy for Climate Change, to Mr. Yvo de Boer, Executive Secretary of the U.N. Framework Convention on Climate Change, Regarding Associating with the Copenhagen Accord, Office of the Special Envoy for Climate Change. <i>Available at:</i> http://unfccc.int/files/meetings/cop_15/copenhagen_accord/application/pdf/unitedstatescphaccord_app.1.pdf . (Accessed: January 29, 2015). | Letter from the U.S. Special Envoy for Climate Change to be associated with the Copenhagen Accord and the U.S. emissions reduction target. | No | No |
| NHTSA-2014-0074-0009 | Center for Biological Diversity | EPA. 2010. EPA and NHTSA to Propose Greenhouse Gas and Fuel Efficiency Standards for Heavy-Duty Trucks; Begin Process for Further Light-Duty Standards. EPA-420-F-10-038. Office of Transportation and Air Quality. <i>Available at:</i> http://www.epa.gov/otaq/climate/regulations/420f10038.pdf . (Accessed: January 29, 2015). | Presents an overview of EPA and NHTSA efforts to reduce greenhouse gas emissions and fuel use from cars and trucks based on the president's memo titled "Improving Energy Security, American Competitiveness and Job Creation, and Environmental Protection through a Transformation of Our Nation's Fleet of Cars and Trucks." | No | No |

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|--|---------------------------------|--|--|---------------------------------|---|
| NHTSA-2014-0074-0009 | Center for Biological Diversity | EPA. 2009. <i>Technical Support Document for Endangerment and Cause or Contribute Findings on Greenhouse Gases under Section 202(a) of the Clean Air Act</i> . Available at: http://www.epa.gov/climatechange/Downloads/endangerment/Endangerment_TS_D.pdf . (Accessed: January 29, 2015). | Provides technical support for the endangerment and cause or contribute analyses concerning greenhouse gas emissions under Section 202(a) of the Clean Air Act based on the assessment reports of the IPCC, the U.S. Climate Change Science Program, the U.S. Global Change Research Program, and the National Research Council. | No | No |
| NHTSA-2014-0074-0012 | Consumer Federation of America | Results of a national random-sample public opinion poll conducted by ORC for CFA, July 10–13, 2014. | Unable to locate source. | No | No |
| NHTSA-2014-0074-0012 | Consumer Federation of America | Cooper, M. 2014. <i>Paying the Freight: The Consumer Benefits of Increasing the Fuel Economy of Medium- and Heavy-Duty Trucks</i> . Consumer Federation of America. Available at: http://www.consumerfed.org/pdfs/Paying-the-Freight.pdf . (Accessed: January 29, 2015). | Examines the costs of energy used by HD vehicles, the potential for energy savings in this transportation sector, and the positive impact increased fuel efficiency could have on households. | No | No |
| NHTSA-2014-0074-0013 | Environmental Defense Fund | American Council for an Energy-Efficient Economy. 2014. <i>Fact Sheet: Big Fuel Savings Available in New Trucks</i> . Available at: http://www.aceee.org/files/pdf/fact-sheet/truck-savings-0614.pdf . (Accessed: January 29, 2015). | Provides data on HD vehicle fuel usage, carbon pollution reduction from Phase 1 and Phase 2 standards, payback period, and estimated fuel efficiency improvements from 2010 to 2025. | No | No |

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|---------------------------------|----------------------------|--|--|--------------------------|--|
| NHTSA-2014-0074-0013 | Environmental Defense Fund | M.J. Bradley and Associates LLC. 2014. EPA/NHTSA Phase 2 Fuel Efficiency and Greenhouse Gas Standards for Heavy-Duty Trucks: Projected Effect on Freight Costs. <i>Available at:</i> http://www.mjbradley.com/sites/default/files/EDF-Ceres-Report-Truck-Rule-Phase-2-Effect-on-Freight-Rates.pdf . (Accessed: January 29, 2015). | Analyzes the potential impacts on freight costs that could result from the anticipated Phase 2 rulemaking. Projects that freight costs would fall because of the increases in HD vehicle costs being offset by improved fuel efficiency rates. | No | No |
| NHTSA-2014-0074-0013 | Environmental Defense Fund | Peterbilt. 2014. Cummins-Peterbilt Super Truck Achieves 10.7 MPG in Latest Test. Peterbilt. February 18. <i>Available at:</i> http://www.peterbilt.com/about/media/2014/396/ . (Accessed: January 29, 2015). | Announces that the latest demonstration of the "super truck" tractor-trailer achieved 10.7 miles per gallon under real-world driving conditions. | No | No |
| NHTSA-2014-0074-0013 | Environmental Defense Fund | U.S. Department of Energy (DOE). 2014. Vehicle Technologies Office, Fuel Efficiency and Emissions. <i>Available at:</i> http://energy.gov/eere/vehicles/vehicle-technologies-office-fuel-efficiency-and-emissions . (Accessed: January 29, 2015). | Presents information on vehicle technologies and research fields such as combustion engines, emissions reduction, waste-heat recovery, fuel effects, lubricants, lightweighting, and aerodynamics and parasitic losses. | No | No |
| NHTSA-2014-0074-0013 | Environmental Defense Fund | EPA and NHTSA. 2011. Final Rulemaking to Establish Greenhouse Gas Emissions Standards and Fuel Economy Standards for Medium- and Heavy-Duty Engines and Vehicles. Regulatory Impact Analysis. EPA-420-R-11-901 <i>Available at:</i> http://www.epa.gov/otaq/climate/documents/420r11901.pdf . (Accessed: January 29, 2015). | Provides a regulatory impact analysis for the final rulemaking for HD vehicles, Phase 1 standards. | No | No |

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|--|----------------------------|---|--|---------------------------------|---|
| NHTSA-2014-0074-0013 | Environmental Defense Fund | EPA and NHTSA. 2012. Final Rulemaking for 2017–2025 Light-Duty Vehicle Greenhouse Gas Emission Standards and Corporate Average Fuel Economy Standards. Joint Technical Support Document. EPA-420-R-12-901. <i>Available at:</i> http://www.epa.gov/otaq/climate/documents/420r12901.pdf . (Accessed: January 29, 2015). | Provides a technical support document for the final rulemaking for the CAFE 2017–2025 light-duty vehicle standards. | No | No |
| NHTSA-2014-0074-0013 | Environmental Defense Fund | Sharpe, B., Dellgado, O., and Lutsey, N.. 2014. Integrating Trailers into HDV Regulation: Benefit/Cost Analysis. International Council on Clean Transportation (ICCT). <i>Available at:</i> http://www.theicct.org/integrating-trailers-hdv-regulation-benefit-cost-analysis . (Accessed: January 30, 2015). | Presents research on the integration of trailers into HD vehicles' fuel consumption and greenhouse emissions regulations in relation to the anticipated Phase 2 rule and potential opportunities to capture substantial and highly cost-effective efficiency gains from technology improvements. | No | No |
| NHTSA-2014-0074-0013 | Environmental Defense Fund | Delgado, O. and N. Lutsey. 2014. The US SuperTruck Program: Expediting the Development of Advanced Heavy-duty Vehicle Efficiency Technologies. ICCT. <i>Available at:</i> http://www.theicct.org/sites/default/files/publications/ICCT_SuperTruck-program_20140610.pdf . (Accessed: January 30, 2015). | Presents the four industry teams selected for the “super truck” program and describes the technical specifications, engineering results, and technology choices by team. | No | No |

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|---------------------------------|----------------------------|--|---|--------------------------|--|
| NHTSA-2014-0074-0013 | Environmental Defense Fund | Walkowicz, K. M. Lammert, and P. Curran. 2012. Coca-Cola Refreshments Diesel Electric Hybrid Tractor Evaluation: 13-month Final Report. NREL/TP-5400-53502. National Renewable Energy Laboratory (NREL). <i>Available at:</i> http://www.nrel.gov/docs/fy12osti/53502.pdf . (Accessed: January 30, 2015). | Presents information on a 13-month evaluation of parallel hybrid-electric diesel tractor-trailer propulsion system being operated by Coca-Cola Refreshments. | No | No |
| NHTSA-2014-0074-0013 | Environmental Defense Fund | National Research Council. 2010. Technologies and Approaches to Reducing the Fuel Consumption of Medium- and Heavy-duty Vehicles. The National Academies Press. <i>Available at:</i> http://www.nap.edu/catalog.php?record_id=12845 . (Accessed: January 30, 2015). | Evaluates various technologies and methods that could improve the fuel efficiency of HD vehicles. Recommends approaches that federal agencies could use to regulate these vehicles' fuel consumption. | No | No |
| NHTSA-2014-0074-0013 | Environmental Defense Fund | North American Council for Freight Efficiency. 2014. Trucking Efficiency: Confidence Findings on the Potential of 6x2 Axles. Executive Summary. <i>Available at:</i> http://www.carbonwarroom.com/sites/default/files/reports/Trucking-Efficiency-6x2-Axle-Confidence-Report.pdf . (Accessed: January 30, 2015). | Examines the axle technologies and potential fuel efficiency increases compared to economic rationale for implementation. | No | No |
| NHTSA-2014-0074-0013 | Environmental Defense Fund | Rotz, D. 2013. Progress and Overview of DTNA SuperTruck Project. SAE International Government/Industry Meeting Presentation. Washington D.C. <i>Available at:</i> http://www.sae.org/events/gim/presentations/2013/rotz_derek.pdf . (Accessed: January 30, 2015). | Presents the "super truck" program's goals and current progress. | No | No |

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|------------------------------------|----------------------------|---|--|-----------------------------|---|
| NHTSA-2014-0074-0013 | Environmental Defense Fund | Cambridge Systematics. 2009. Assessment of Fuel Economy Technologies for Medium- and Heavy-Duty Vehicles: Commissioned Paper on Indirect Costs and Alternative Approaches. Report to the National Academy of Sciences. Cambridge, MA. | Discusses potential indirect costs and benefits of commercial vehicle fuel economy regulations and the potential for alternatives to fuel economy regulations for improving fuel efficiency. | No | No |
| NHTSA-2014-0074-0013 | Environmental Defense Fund | The White House. 2013. FACT SHEET: President Obama's Blueprint for a Clean and Secure Energy Future. March 15. <i>Available at:</i> http://www.whitehouse.gov/the-press-office/2013/03/15/fact-sheet-president-obama-s-blueprint-clean-and-secure-energy-future . (Accessed: January 30, 2015). | Outlines the president's objectives and goals for a clean and secure energy future, including establishing an Energy Security Trust to invest in technology research; producing more energy in the U.S.; investing in energy security measures; cutting energy use in vehicles, homes, buildings, and factories; and being leaders in the international community. | No | No |
| NHTSA-2014-0074-0013 | Environmental Defense Fund | U. S. Energy Information Agency (EIA). 2013. <i>Annual Energy Outlook 2013: Early Release</i> . Table 68. Freight Transportation Energy Use. December 2012. <i>Available at:</i> http://www.eia.gov/todayinenergy/index.cfm?tg=AEO2013%20(Annual%20Energy%20Outlook%202013 . (Accessed: January 30, 2015). | Provides data on energy usage in the U.S. and abroad, including coal, oil, natural gas, and renewable energy sources. | No | No |

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|---------------------------------|----------------------------|--|---|--------------------------|--|
| NHTSA-2014-0074-0013 | Environmental Defense Fund | Boccanfuso, A., and P. Verma. 2012. Advancing Technology for America's Transportation Future. National Petroleum Council Study Presentation. August. Available at: http://www.hydrogen.energy.gov/pdfs/htac_nov12_11_boccanfuso.pdf . (Accessed: January 30, 2015). | Examines opportunities to accelerate future prospects through 2050 for transportation fuels. | No | No |
| NHTSA-2014-0074-0013 | Environmental Defense Fund | ACT Research. 2012. The Future of Natural Gas Engines in Heavy Duty Trucks: The Diesel of Tomorrow? Available at: http://www.actresearch.net/wp-content/uploads/2013/04/ACT_NGP.pdf . (Accessed: January 30, 2015). | Explains the factors that could determine whether natural gas displaces diesel as the fuel of choice in the commercial vehicle market. Factors include a sufficient supply, continued development of natural gas engines and related technology, recognition that a refueling infrastructure is needed, cost, safety issues, and environmental and health considerations. | No | No |
| NHTSA-2014-0074-0013 | Environmental Defense Fund | Alvarez, R.A., S.W., Pacala, J.J. Winebrake, W.L. Chameides, and S.P. Hamburg. 2012. Greater Focus Needed on Methane Leakage from Natural Gas Infrastructure. <i>Proceedings of the National Academy of Sciences</i> 109(17):6435–6440; doi: 10.1073/pnas.1202407109. Available at: http://www.pnas.org/content/109/17/6435.full.pdf . (Accessed: June 28, 2016). | Demonstrates that the use of technology warming potentials are a transparent way to compare the cumulative radiative forcing created by alternative technologies fueled by natural gas and oil or coal by using the best available estimates of greenhouse gas emissions from each fuel cycle (i.e., production, transportation, and use). | Yes | No |

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|--|----------------------------|--|---|---------------------------------|---|
| NHTSA-2014-0074-0013 | Environmental Defense Fund | D.T. Shindell, G. Faluvegi, D.M. Koch, G.A. Schmidt, N. Unger, S.E. Bauer. 2009. Improved Attribution of Climate Forcing to Emissions. <i>Science</i> 326(5953):716–718. doi: 10.1126/science.1174760. | Calculates atmospheric composition changes, historical radiative forcing, and forcing per unit of emissions due to aerosol and tropospheric ozone precursor emissions in a coupled composition-climate model. | Yes | No |
| NHTSA-2014-0074-0013 | Environmental Defense Fund | Marten, A.L., and S.C. Newbold. 2011. Estimating the Social Cost of Non-CO ₂ GHG Emissions: Methane and Nitrous Oxide. <i>National Center for Environmental Economics</i> . Working Paper #11-01. Available at: https://www.epa.gov/sites/production/files/2014-12/documents/estimating_the_social_cost_of_non-co2_ghg_emissions_0.pdf . (Accessed: January 30, 2015). | Presents a simplified integrated assessment model that combines MAGICC and (elements of) DICE to estimate the social costs of the three most important greenhouse gases—CO ₂ , CH ₄ , and N ₂ O—for the years 2010 through 2050. | No | No |
| NHTSA-2014-0074-0013 | Environmental Defense Fund | The White House. 2013. Remarks by the President on Climate Change. Georgetown University. June 25. Available at: http://www.whitehouse.gov/the-press-office/2013/06/25/remarks-president-climate-change . (Accessed: January 30, 2015). | Provides a transcript of the president's remarks to the Georgetown University student body on the importance of climate change regulations and emissions reductions. | No | No |
| NHTSA-2014-0074-0013 | Environmental Defense Fund | The White House. 2013. The President's Climate Action Plan. Available at: http://www.whitehouse.gov/sites/default/files/image/president27sclimateactionplan.pdf . (Accessed: January 30, 2015). | Presents the president's plan to cut carbon pollution that causes climate change and affects public health. | No | No |

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|---------------------------------|----------------------------|--|---|--------------------------|--|
| NHTSA-2014-0074-0013 | Environmental Defense Fund | EPA. 2014. <i>Inventory of U.S. Greenhouse Gases and Sinks: 1990–2012</i> . EPA 430-R-14-003. Available at: http://www.epa.gov/climatechange/Downloads/ghgemissions/US-GHG-Inventory-2014-Main-Text.pdf . (Accessed: January 30, 2015). | Provides an emissions inventory that identifies and quantifies a country's primary anthropogenic sources and sinks of greenhouse gases from 1990 to 2012. | No | No |
| NHTSA-2014-0074-0016 | Edison Electric Institute | Electric Power Research Institute and Natural Resources Defense Council. 2007. <i>Environmental Assessment of Plug-in Hybrid Vehicles. Volume 2: United States Air Quality Analysis</i> . Available at: http://www.epri.com/abstracts/Pages/ProductAbstract.aspx?productId=00000000001015326 . (Accessed: January 30, 2015). | Provides an environmental assessment focused on plug-in hybrid electric vehicles and projected changes in power generation technology from 2010 through 2050. | No | No |
| NHTSA-2014-0074-0016 | Edison Electric Institute | EPA. 2011. National Emission Standards for Hazardous Air Pollutants from Coal- and Oil-fired Electric Utility Steam Generating Units and Standards of Performance for Fossil-Fuel-Fired Electric Utility, Industrial-Commercial-Institutional, and Small Industrial-Commercial-Institutional Steam Generating Units. <i>76 Federal Register 24976</i> . May 3. Available at: http://www.gao.gov/products/GAO-12-489R . (Accessed: January 30, 2015). | Finalizes the EPA-proposed rule for both national emissions standards for hazardous air pollutants from coal- and oil-fired electric utility steam generating units and standards of performance for fossil-fuel-fired electric utility, industrial commercial-institutional, and small industrial commercial-institutional steam generating units. | No | No |

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|--|---------------------------|--|--|---------------------------------|---|
| NHTSA-2014-0074-0016 | Edison Electric Institute | R. Wiser. 2010. State of the States: Update on RPS Policies and Progress. Renewable Energy Markets. <i>Available at:</i> http://www.resource-solutions.org/images/events/rem/presentations/2010/Wed_State%20of%20the%20Markets_Ryan%20Wiser.pdf . (Accessed: January 30, 2015). | Provides an overview of the State RPS policy designs and variations as well as identified emerging issues and challenges. | No | No |
| NHTSA-2014-0074-0016 | Edison Electric Institute | Regional Greenhouse Gas Initiative. 2013. <i>Model Rule: CO₂ Budget Trading Program</i> . <i>Available at:</i> http://www.rggi.org/docs/ProgramReview/_FinalProgramReviewMaterials/Model_Rule_FINAL.pdf . (Accessed: January 30, 2015). | Describes the CO ₂ trading program designed to stabilize and then reduce anthropogenic emissions from CO ₂ budget sources in an economically efficient manner. | No | No |
| NHTSA-2014-0074-0016 | Edison Electric Institute | EIA. 2011. <i>Electric Power Annual 2009</i> . <i>Available at:</i> http://www.eia.gov/cneaf/electricity/epa/epa.pdf . (Accessed: January 30, 2015). | Provides 2009 statistics on annual electricity usage. | No | No |
| NHTSA-2014-0074-0016 | Edison Electric Institute | ERCOT. 2011. ERCOT Region Electricity Use Up 3.5% in 2010; Wind Energy Almost 8% of Total. Press Release. January 10. <i>Available at:</i> http://www.ercot.com/news/press_releases/show/356 . (Accessed: January 30, 2015). | Reports on the Electric Reliability Council of Texas region's electricity use increased 3.5% in 2010. | No | No |

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| Comment No. (EIS Docket Number) | Name of Commenter | Full Title and Citation of Source (with a link, if available) | Issue Addressed by Source | Peer-Reviewed ? (Yes/No) | Included in IPCC's Fifth Assessment Report? (Yes/No) |
|---------------------------------|---------------------------|---|---|--------------------------|--|
| NHTSA-2014-0074-0016 | Edison Electric Institute | EPA. 2010. Prevention of Significant Deterioration and Title V Greenhouse Gas Tailoring Rule. <i>75 Federal Register 31513</i> . June 3. Available at: http://www.gpo.gov/fdsys/granule/FR-2010-06-03/2010-11974 . (Accessed: January 30, 2015). | Establishes an approach to addressing greenhouse gas emissions from stationary sources under the Clean Air Act permitting programs by setting thresholds for greenhouse gas emissions that define when permits under the New Source Review Prevention of Significant Deterioration and Title V Operating Permit programs are required for new and existing industrial facilities. | No | No |
| NHTSA-2014-0074-0016 | Edison Electric Institute | Battery Council International. 2014. National Recycling Rate Study. Available at: http://c.ymcdn.com/sites/batterycouncil.org/resource/resmgr/BCI_Recycling_Rate_Study_200.pdf . (Accessed: January 30, 2015). | Calculates the recycling rate of lead available from lead-acid batteries in the United States. | No | No |
| NHTSA-2014-0074-0016 | Edison Electric Institute | EPA. 2014. Carbon Pollution Emission Guidelines for Existing Stationary Sources: Electric Utility Generating Units. <i>79 Federal Register 34830</i> . June 18. Available at: https://www.federalregister.gov/articles/2014/06/18/2014-13726/carbon-pollution-emission-guidelines-for-existing-stationary-sources-electric-utility-generating . (Accessed: January 30, 2015). | Proposes emissions guidelines for states to follow in developing plans to address greenhouse gas emissions from existing fossil-fuel-fired electric generating units. | No | No |

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| Comment No. (EIS Docket Number) | Name of Commenter | Full Title and Citation of Source (with a link, if available) | Issue Addressed by Source | Peer-Reviewed ? (Yes/No) | Included in IPCC's Fifth Assessment Report? (Yes/No) |
|--|---------------------------|--|---|---------------------------------|---|
| NHTSA-2014-0074-0016 | Edison Electric Institute | EPA. 2014. Standards of Performance for Greenhouse Gas Emissions from New Stationary Sources: Electric Utility Generating Units. <i>79 Federal Register 1430</i> . January 8, 2014. Available at: http://yosemite.epa.gov/oepi/rulegate.nsf/byRIN/2060-AQ91 . (Accessed: January 30, 2015). | Establishes the first new source performance standards for greenhouse gas emissions from certain new fossil-fuel-fired electric generating units. | No | No |
| NHTSA-2014-0074-0016 | Edison Electric Institute | EIA. 2011. Annual Energy Outlook 2011 <i>with Projections to 2035</i> . DOE/EIA-0383. U.S. Department of Energy: Washington, DC. Available at: http://www.eia.gov/forecasts/archive/aeo11/index.cfm . (Accessed: January 30, 2015). | Provides data on various energy resources in the U.S. and abroad, such as coal, natural gas, oil, and renewable energy. | No | No |
| NHTSA-2014-0074-0017 | Daimler Trucks of America | McCallum, K. 2013. Santa Rosa May Go Back to Diesel Buses. <i>The Press Democrat</i> . Available at: http://www.pressdemocrat.com/csp/mediapool/sites/PressDemocrat/News/story.csp?cid=2218585&sid=555&fid=181 . (Accessed: January 30, 2015). | Reports on Santa Rosa's proposal to go back to purchasing diesel buses because of the higher costs of hybrid buses. | No | No |
| NHTSA-2014-0074-0017 | Daimler Trucks of America | CBC News. 2012. City Could Pay to Turn Hybrid Buses into Diesel Buses. <i>CBC News</i> . Available at: http://www.cbc.ca/news/canada/ottawa/city-could-pay-to-turn-hybrid-buses-into-diesel-buses-1.1154110 . (Accessed: January 30, 2015). | Reports on Ottawa's decision to no longer purchase hybrid buses because of the higher costs. | No | No |

Table B-1. Sources Identified in Scoping Comments

| Comment No. (EIS Docket Number) | Name of Commenter | Full Title and Citation of Source (with a link, if available) | Issue Addressed by Source | Peer-Reviewed ? (Yes/No) | Included in IPCC's Fifth Assessment Report? (Yes/No) |
|---------------------------------|---|---|--|--------------------------|--|
| NHTSA-2014-0074-0017 | Daimler Trucks of America | Young, A. 2013. New York City Scrapping Nearly a Fourth of Its Hybrid Bus Engines for 100% Diesel Bus Engines. <i>International Business Times</i> . Available at: http://www.ibtimes.com/new-york-city-scrapping-nearly-fourth-its-hybrid-bus-engines-100-diesel-bus-engines-1329977 . (Accessed: January 30, 2015). | Reports on New York City's decision to no longer purchase hybrid buses because of the higher costs. | No | No |
| NHTSA-2014-0074-0018 | Siddiq Khan, American Council for Energy Efficient Economy | Foster, B. and T. Langer. 2013. Energy Efficiency Potential of the U.S. Freight System: A Scoping Exercise. Available at: http://aceee.org/research-report/t132 . (Accessed: April 23, 2015). | Compares the findings of five studies on the U.S. transportation sector and global supply chain to identify freight energy savings opportunities. | Yes | No |
| NHTSA-2014-0074-0018 | Siddiq Khan, American Council for Energy Efficient Economy | Khan, S. and T. Langer. 2014. Structural Options for Phase 2 Heavy-Duty Fuel Efficiency and Greenhouse Gas Standards. Available at: http://aceee.org/white-paper/heavy-duty-rule-options . (Accessed: April 23, 2015). | Compares two structural options for the Phase 2 Rulemaking stating that it could regulate engines and vehicles, similar to Phase 1, or move to a full-vehicle standard. | Yes | No |
| NHTSA-2014-0074-0021 | Environmental Defense Fund, Natural Resource Defense Council, Union of Concerned Scientists | Interagency Working Group on the Social Cost of Carbon. 2010. Technical Support Document: Social Cost of Carbon for Regulatory Impact Analysis under Executive Order 12866. Available at: http://www.whitehouse.gov/sites/default/files/omb/inforeg/for-agencies/Social-Cost-of-Carbon-for-RIA.pdf . (Accessed: January 30, 2015). | Provides SCC estimates to allow agencies to incorporate the social benefits of reducing carbon dioxide emissions into cost-benefit analyses of regulatory actions that have small or minimal impacts on cumulative global emissions. | No | No |

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|--|---|--|--|---------------------------------|---|
| NHTSA-2014-0074-0021 | Environmental Defense Fund, Natural Resource Defense Council, Union of Concerned Scientists | Peterson, T.C., M.P. Hoerling, P.A. Stott, and S. Herring (eds.). 2012. Explaining Extreme Events of 2012 from a Climate Perspective. <i>Bulletin of the American Meteorological Society</i> 94(9):1–74. doi: http://dx.doi.org/10.1175/BAMS-D-13-00085.1 . Available at: http://www.ametsoc.org/2012extremeeventscclimate.pdf . (Accessed: January 30, 2015). | Analyzes 12 extreme weather events in 2012 and investigates their causes. | No | No |
| NHTSA-2014-0074-0021 | Environmental Defense Fund, Natural Resource Defense Council, Union of Concerned Scientists | America's Natural Gas Alliance, the American Chemistry Council, the American Petroleum Institute, the National Association of Home Builders, the National Association of Manufacturers, the Portland Cement Association, and the U.S. Chamber of Commerce. 2013. Petition for Correction, Technical Support Document: Social Cost of Carbon for Regulatory Impact Analysis under Executive Order 12866 (February 2010) and Technical Support Document: Technical Update of the Social Cost of Carbon for Regulatory Impact Analysis under Executive Order 12866September 4.. Available at: http://www.energyxxi.org/petition-correction-technical-support-document-social-cost-carbon-regulatory-impact-analysis-under . (Accessed: January 30, 2015). | Argues that technical support documents and SC-CO estimates should be withdrawn and not used in rulemaking and policymaking because the estimates fail to be transparent in the process, and the model inputs were not subject to peer review. | No | No |

Table B-1. Sources Identified in Scoping Comments

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|---------------------------------|---|--|---|--------------------------|--|
| NHTSA-2014-0074-0021 | Environmental Defense Fund, Natural Resource Defense Council, Union of Concerned Scientists | U.S. Chamber of Commerce. 2013. Joint Comments on Energy Conservation Program: Energy Conservation Standards for Walk-In Coolers and Freezers; Notice of proposed rulemaking (NPR) and public meeting. November 12. <i>Available at:</i> http://www.regulations.gov/#!documentDetail;D=EERE-2008-BT-STD-0015-0095 . (Accessed: January 30, 2015). | Provides comments on the Notice of Proposed Rulemaking for Walk-In Coolers and Freezers and believes that the SC-CO should be withdrawn and that the SC-CO calculation should not be used in any rulemaking and/or policymaking until it undergoes a more rigorous notice, review, and comment process. | No | No |
| NHTSA-2014-0074-0021 | Environmental Defense Fund, Natural Resource Defense Council, Union of Concerned Scientists | Letter from Sen. David Vitter et al. to Howard A. Shelanski, OIRA Admin. (January 14, 2014), and letter from Sen. David Vitter et al. to Gina McCarthy, EPA Admin. (September 17, 2013) (offering similar criticisms of the SC-CO and the IWG process). | Unable to locate source. | | |
| NHTSA-2014-0074-0021 | Environmental Defense Fund, Natural Resource Defense Council, Union of Concerned Scientists | Shapiro, S. 2011. The Evolution of Cost-Benefit Analysis in U.S. Regulatory Decisionmaking. <i>Handbook on the Politics of Regulation</i> , pp. 385–392. David Levi-Faur (ed.). doi: 10.4337/9780857936110. | Examines how the academic debate over the use of cost-benefits analysis has evolved and, at the same time, its place in the regulatory process. | No | No |
| NHTSA-2014-0074-0021 | Environmental Defense Fund, Natural Resource Defense Council, Union of Concerned Scientists | Hardin, G. 1968. The Tragedy of the Commons. <i>Science</i> 162(3859):1243–1248. doi: 10.1126/science.162.3859.1243-1248. <i>Available at:</i> http://science.sciencemag.org/content/162/3859/1243.full . (Accessed: June 29, 2016). | Discusses the world's population problem and introduces the "tragedy of the commons" paradigm. | No | No |

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|--|---|--|---|---------------------------------|---|
| NHTSA-2014-0074-0021 | Environmental Defense Fund, Natural Resource Defense Council, Union of Concerned Scientists | Axelrod, R. 1984. <i>The Evolution of Cooperation</i> . New York: Basic Books, Inc. | Evaluates how cooperation has changed over time. | No | No |
| NHTSA-2014-0074-0021 | Environmental Defense Fund, Natural Resource Defense Council, Union of Concerned Scientists | Trimble, P.R. 1989. The President's Foreign Affairs Power. <i>American Journal of International Law</i> 83:750–755. doi: 10.2307/2203363. | Evaluates the president's foreign affairs powers in terms of past events, such as Vietnam and Watergate. | No | No |
| NHTSA-2014-0074-0021 | Environmental Defense Fund, Natural Resource Defense Council, Union of Concerned Scientists | Remnick, D. 2014. The Obama Tapes. <i>New Yorker</i> . January 22. Available at: http://www.newyorker.com/online/blogs/newsdesk/2014/01/the-obama-tapes.html . (Accessed: January 30, 2015). | Provides a compilation of interviews with President Obama, discussing issues such as Hurricane Sandy and Afghanistan. | No | No |
| NHTSA-2014-0074-0021 | Environmental Defense Fund, Natural Resource Defense Council, Union of Concerned Scientists | The White House. 2011. United States-Canada Regulatory Cooperation Council: Joint Action Plan. Available at: http://www.whitehouse.gov/sites/default/files/omb/oira/irc/us-canada_rcc_joint_action_plan.pdf . (Accessed: January 30, 2015). | Announces the creation of a United States–Canada Regulatory Cooperation Council, composed of senior regulatory, trade, and foreign affairs officials from both governments. | No | No |

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| Comment No. (EIS Docket Number) | Name of Commenter | Full Title and Citation of Source (with a link, if available) | Issue Addressed by Source | Peer-Reviewed ? (Yes/No) | Included in IPCC's Fifth Assessment Report? (Yes/No) |
|---------------------------------|---|--|--|--------------------------|--|
| NHTSA-2014-0074-0021 | Environmental Defense Fund, Natural Resource Defense Council, Union of Concerned Scientists | The White House. 2012. United States-Mexico High-Level Regulatory Cooperation Council: Work Plan. <i>Available at:</i> http://www.whitehouse.gov/sites/default/files/omb/oira/irc/united-states-mexico-high-level-regulatory-cooperation-council-work-plan.pdf . (Accessed: January 30, 2015). | Announces the strategic bilateral partnership between the United States and Mexico and underscores each country's commitment to significantly enhancing the economic competitiveness and the economic well-being of both the United States and Mexico through improved regulatory cooperation. | No | No |
| NHTSA-2014-0074-0021 | Environmental Defense Fund, Natural Resource Defense Council, Union of Concerned Scientists | International Council on Clean Transportation (ICCT). 2013. Mexico Light-duty Vehicle CO ₂ and Fuel Economy Standards. <i>Available at:</i> http://www.theicct.org/sites/default/files/publications/ICCTupdate_Mexico_LDVstandards_july2013.pdf . (Accessed: January 30, 2015). | Provides Mexico's final standards for regulating CO ₂ emissions and the fuel economy equivalent for new passenger vehicles, including cars, pickup trucks, and SUVs. | No | No |
| NHTSA-2014-0074-0021 | Environmental Defense Fund, Natural Resource Defense Council, Union of Concerned Scientists | Government of Canada. 2013. Heavy-Duty Vehicle and Engine Greenhouse Gas Emission Regulations. SOR/2013-24, 147(6) <i>Canada Gazette</i> . <i>Available at:</i> http://canadagazette.gc.ca/rp-pr/p2/2013/2013-03-13/html/sor-dors24-eng.html . (Accessed: January 30, 2015). | Reports on the Canadian heavy-duty vehicle and engine greenhouse gas emissions regulations. | No | No |
| NHTSA-2014-0074-0021 | Environmental Defense Fund, Natural Resource Defense Council, Union of Concerned Scientists | Government of Canada. 2012. Reduction of Carbon Dioxide Emissions from Coal-Fired Generation of Electricity Regulations. SOR/2012-167(19) <i>Canada Gazette</i> . <i>Available at:</i> http://www.gazette.gc.ca/rp-pr/p2/2012/2012-09-12/html/sor-dors167-eng.html . (Accessed: January 30, 2015). | Reports on the Canadian reduction of CO ₂ emissions from coal-fired power plants regulations. | No | No |

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|--|---|---|---|---------------------------------|---|
| NHTSA-2014-0074-0021 | Environmental Defense Fund, Natural Resource Defense Council, Union of Concerned Scientists | European Commission. 2013. Transatlantic Trade and Investment Partnership: <i>The Regulatory Part</i> . Available at: http://trade.ec.europa.eu/doclib/docs/2013/july/tradoc_151605.pdf . (Accessed: January 30, 2015). | Outlines the transatlantic trade and investment partnership between the European Union and U.S. to make regulations more compatible. | No | No |
| NHTSA-2014-0074-0021 | Environmental Defense Fund, Natural Resource Defense Council, Union of Concerned Scientists | Sierra Club. 2013. The Transatlantic Free Trade Agreement: What's at Stake for Communities and the Environment. Available at: https://content.sierraclub.org/creative-archive/sites/content.sierraclub.org/creative-archive/files/pdfs/100_407%20TTIP%20Trade%20Report%2009_x1a_wbleed_nocrop_low_0.pdf . (Accessed: January 30, 2015). | Raises concerns about the transatlantic trade and investment partnership and its potential impact on environmental protection, food safety, and industrial chemical regulations. | No | No |
| NHTSA-2014-0074-0021 | Environmental Defense Fund, Natural Resource Defense Council, Union of Concerned Scientists | European Commission. 2014. International action on climate change. Available at: http://ec.europa.eu/clima/policies/international/index_en.htm . (Accessed: January 30, 2015). | Discusses how the European Union is working to promote ambitious global action to limit climate change through the UN Framework Convention on Climate Change, other international forums, and bilateral relations with third countries. | No | No |
| NHTSA-2014-0074-0021 | Environmental Defense Fund, Natural Resource Defense Council, Union of Concerned Scientists | Bowen, A. 2007. The Social Cost of Carbon and the Shadow Price of Carbon: What They Are and How to Use Them in Economic Appraisal in the U.K. Available at: https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/243824/alex-bowen.pdf . (Accessed: January 30, 2015). | Discusses how to use a shadow price of carbon in economic appraisal. | No | No |

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|---------------------------------|---|--|---|--------------------------|--|
| NHTSA-2014-0074-0021 | Environmental Defense Fund, Natural Resource Defense Council, Union of Concerned Scientists | Volden, G. 2013. <i>Use of Carbon Prices in Cost-Benefit Analysis</i> . Concept report no. 37. Available at: http://www.ntnu.no/documents/1261860271/1262010703/Engelsk_rapport_A4_web_nr37_ENDELIG.pdf . (Accessed: January 30, 2015). | Suggests that basing the cost-benefit analysis of public measures on uniform assumptions regarding the future prices of greenhouse gas emissions will contribute to projects being dealt with in a consistent and comparable manner. | No | No |
| NHTSA-2014-0074-0021 | Environmental Defense Fund, Natural Resource Defense Council, Union of Concerned Scientists | Égert, B. 2011. France's Environmental Policies: Internalizing Global and Local Externalities. <i>OECD Economics Department Working Papers No. 859</i> . doi: 10.1787/5kgdpn0n9d8v-en. Available at: http://www.oecd-ilibrary.org/economics/france-s-environmental-policies-internalising-global-and-local-externalities_5kgdpn0n9d8v-en . (Accessed: January 30, 2015). | Evaluates France's policies in terms of cost effectiveness, with an emphasis on how to impose a unique carbon price in the aftermath of the rejection of the carbon tax by the Constitutional Council, the challenges related to renewable and nuclear electricity generation, the ways to reduce carbon intensity in the residential and transport sectors, how to improve waste management, and whether external costs related to the use of fertilizers and pesticides are properly accounted for in water management. | No | No |
| NHTSA-2014-0074-0021 | Environmental Defense Fund, Natural Resource Defense Council, Union of Concerned Scientists | Office of Management and Budget. 2013. Testimony of Howard Shelanski et.al. . Available at: http://oversight.house.gov/wp-content/uploads/2013/07/Shelanski-OIRA-Testimony-SCC-7-18.pdf . (Accessed: January 30, 2015). | Discusses the current estimates of SC-CO and how they will be used for economic analysis of rulemaking. | No | No |

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|--|---|--|---|---------------------------------|---|
| NHTSA-2014-0074-0021 | Environmental Defense Fund, Natural Resource Defense Council, Union of Concerned Scientists | Hammar, H., T. Sterner, and S. Åkerfeldt. 2013. Sweden's CO ₂ Tax and Taxation Reform Experiences. <i>Reducing Inequalities: A Sustainable Development Challenge</i> . Genevey, R. et al. (eds.). | Describes the Swedish experience of carbon taxation and notes that high levels of taxation have been politically feasible thanks to being part of general fiscal reform, with reduced rates of taxes on many items. | Yes | No |
| NHTSA-2014-0074-0021 | Environmental Defense Fund, Natural Resource Defense Council, Union of Concerned Scientists | National Treasury Republic of South Africa. 2010. Reducing Greenhouse Gas Emissions: The Carbon Tax Option. <i>Available at:</i> http://www.treasury.gov.za/public%20comments/Discussion%20Paper%20Carbon%20Taxes%2081210.pdf . (Accessed: January 30, 2015). | Outlines South Africa's view that it needs to reduce its greenhouse gas emissions while working to ensure economic growth, increased employment, and reduced poverty and inequality. | No | No |
| NHTSA-2014-0074-0021 | Environmental Defense Fund, Natural Resource Defense Council, Union of Concerned Scientists | Clements, B., et al. 2013. Energy Subsidy Reforms: Lessons and Implications. International Monetary Fund. <i>Available at:</i> http://www.imf.org/external/np/pp/eng/2013/012813.pdf . (Accessed: January 30, 2015). | Discusses the economic consequences of energy subsidies through aggravating fiscal imbalances, implementing crowd-out priority public spending, and depressing private investment. | No | No |
| NHTSA-2014-0074-0021 | Environmental Defense Fund, Natural Resource Defense Council, Union of Concerned Scientists | Saito, N.T. 2010. Decolonization, Development, and Denial. Florida A&M University Law Review. 6(1). <i>Available at:</i> http://commons.law.famu.edu/cgi/viewcontent.cgi?article=1034&context=famulawreview . (Accessed: June 29, 2016). | Provides a history of colonization and international financial institutions. | No | No |

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|---------------------------------|---|---|--|--------------------------|--|
| NHTSA-2014-0074-0021 | Environmental Defense Fund, Natural Resource Defense Council, Union of Concerned Scientists | Sands, P. 2003. Principles of International Environmental Law. Second edition. <i>Cambridge University Press</i> , New York. | Provides overview of international environmental laws and policies. | No | No |
| NHTSA-2014-0074-0021 | Environmental Defense Fund, Natural Resource Defense Council, Union of Concerned Scientists | Baer, P. and A. Sager. 2009. Ch. 25: Ethics, Rights, and Responsibilities. <i>In: Climate Changes Science and Policy</i> . [Schneider, S., A. Rosencranz, M.D. Mastrandrea, and K. Kuntz-Duriseti (eds.)]. Island Press: Washington, DC. 544 pp. | Discusses global responsibilities to mitigate impacts caused by climate change. | No | No |
| NHTSA-2014-0074-0021 | Environmental Defense Fund, Natural Resource Defense Council, Union of Concerned Scientists | United Nations. 1992. United Nations Framework Convention on Climate Change. <i>Available at:</i> http://unfccc.int/resource/docs/convkp/convening.pdf . (Accessed: January 30, 2015). | Provides the text of the <i>United Nations Framework Convention on Climate Change</i> , intended to achieve stabilization of greenhouse gas concentrations in the atmosphere at a level that would prevent dangerous anthropogenic interference with the climate system. | No | No |

Appendix B Sources Identified in Public Comments

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| Comment No. (EIS Docket Number) | Name of Commenter | Full Title and Citation of Source (with a link, if available) | Issue Addressed by Source | Peer-Reviewed ? (Yes/No) | Included in IPCC's Fifth Assessment Report? (Yes/No) |
|--|---|---|--|---------------------------------|---|
| NHTSA-2014-0074-0021 | Environmental Defense Fund, Natural Resource Defense Council, Union of Concerned Scientists | Government of Canada, Government of the United Mexican States, and the United States of America. 1993. North American Agreement on Environmental Cooperation. <i>Available at:</i> http://www.ustr.gov/sites/default/files/naaec.pdf . (Accessed: January 30, 2015). | Provides the text of the <i>North American Agreement on Environmental Cooperation</i> , intended to protect and improve the environment, promote sustainable development, increase cooperation, support environmental goals of NAFTA, and enhance compliance with environmental laws and regulations. | No | No |
| NHTSA-2014-0074-0021 | Environmental Defense Fund, Natural Resource Defense Council, Union of Concerned Scientists | Council on Environmental Quality (CEQ). 1997. Guidance on NEPA Analysis for Transboundary Impacts. <i>Available at:</i> http://www.gc.noaa.gov/documents/transguide.pdf . (Accessed: January 30, 2015). | Provides guidance on conducting transboundary analysis under NEPA, including a discussion of the applicability of NEPA to proposed federal actions in the United States, its territories and possessions, that may have effects extending across the border and affecting another country's environment. | No | No |
| NHTSA-2014-0074-0021 | Environmental Defense Fund, Natural Resource Defense Council, Union of Concerned Scientists | CEQ. 2010. Draft NEPA Guidance on Consideration of the Effects of Climate Change and Greenhouse Gas Emissions. <i>Available at:</i> http://www.whitehouse.gov/sites/default/files/microsites/ceq/20100218-nepa-consideration-effects-ghg-draft-guidance.pdf . (Accessed: January 30, 2015). | Provides draft guidance for public consideration and comment on the ways in which federal agencies can improve their consideration of the effects of greenhouse gas emissions and climate change in their evaluation of proposals for federal actions under NEPA. | No | No |

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|---------------------------------|---|--|--|--------------------------|--|
| NHTSA-2014-0074-0021 | Environmental Defense Fund, Natural Resource Defense Council, Union of Concerned Scientists | EPA. 2011. Regulatory Impact Analysis for the Final Mercury and Air Toxics Standards. EPA-452/R-11-011. Available at: https://www3.epa.gov/ttnecas1/regdata/RIAs/matsriafinal.pdf . (Accessed: January 30, 2015). | Presents the health and welfare benefits, costs, and other impacts of the final Mercury and Air Toxics Standards. | No | No |
| NHTSA-2014-0074-0021 | Environmental Defense Fund, Natural Resource Defense Council, Union of Concerned Scientists | EPA. 2010. Regulatory Impact Analysis: Federal Implementation Plans to Reduce Interstate Transport of Fine Particulate Matter and Ozone. <i>Federal Register</i> : 75(147)45210-45465 Available at: https://federalregister.gov/a/2010-17007 . (Accessed: January 30, 2015). | Presents the health and welfare benefits, costs, and other impacts of the Transport Rule. | No | No |
| NHTSA-2014-0074-0021 | Environmental Defense Fund, Natural Resource Defense Council, Union of Concerned Scientists | Schwarz, S.L. 2008. Systemic Risk. . <i>Georgetown Law Journal</i> 97(193-249). Available at: https://www.iiiglobal.org/sites/default/files/systemicrisk.pdf . (Accessed: June 29, 2016). | Offers a conceptual framework for examining what risks are truly “systemic,” what causes those risks, and how, if at all, those risks should be regulated. | No | No |
| NHTSA-2014-0074-0021 | Environmental Defense Fund, Natural Resource Defense Council, Union of Concerned Scientists | Broder, J.M. 2009. Climate Change Seen as Threat to U.S. Security. <i>New York Times</i> . August 8. Available at: http://www.nytimes.com/2009/08/09/science/earth/09climate.html?pagewanted=all&_r=0 . (Accessed: January 30, 2015). | Reports on how climate induced crises could lead to U.S. military intervention. | No | No |

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|--|---|---|---|---------------------------------|---|
| NHTSA-2014-0074-0021 | Environmental Defense Fund, Natural Resource Defense Council, Union of Concerned Scientists | U.S. Senate. 2009. Climate Change and Global Security: Challenges, Threats, and Global Opportunities. Hearing before the Senate Committee on Foreign Relations. Statement of Vice Admiral Dennis McGinn. <i>Available at:</i> http://www.foreign.senate.gov/publications/download/testimony-of-vice-admiral-dennis-mcginn-usn-ret-from-climate-change-and-global-security-challenges-threats-and-diplomatic-opportunities . (Accessed: January 30, 2015). | Discusses how climate change impacts affect world governments and change the world's balance of power and money, causing a new type of military threat. | No | No |
| NHTSA-2014-0074-0021 | Environmental Defense Fund, Natural Resource Defense Council, Union of Concerned Scientists | U.S. Government Accountability Office. 2006. Key Challenges Remain for Developing and Deploying Advanced Energy Technologies to Meet Future Needs. <i>Available at:</i> http://www.gao.gov/new.items/d07106.pdf . (Accessed: January 30, 2015). | Discusses DOE's research and development efforts for advanced renewable, fossil, and nuclear energy technologies. | No | No |
| NHTSA-2014-0074-0021 | Environmental Defense Fund, Natural Resource Defense Council, Union of Concerned Scientists | Center for Naval Analyses (CNA). 2009. Powering America's Defense: Energy and the Risks to National Security. <i>Available at:</i> https://www.cna.org/cna_files/pdf/MAB_2-FINAL.pdf . (Accessed: January 30, 2015). | Presents information about the impact of America's energy choices on national security policies to inform U.S. policymakers and the public better. | No | No |
| NHTSA-2014-0074-0021 | Environmental Defense Fund, Natural Resource Defense Council, Union of Concerned Scientists | Schwartz, P., and D. Randall. 2003. An Abrupt Climate Change Scenario and Its Implications for United States National Security. <i>Available at:</i> http://www.iatp.org/files/An_Abrupt_Climate_Change_Scenario_and_Its_Impl.pdf . (Accessed: January 30, 2015). | Presents an alternative to the scenarios of gradual climatic warming by outlining an abrupt climate change scenario patterned after the 100-year event that occurred about 8,200 years ago. | No | No |

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|---------------------------------|---|---|---|--------------------------|--|
| NHTSA-2014-0074-0021 | Environmental Defense Fund, Natural Resource Defense Council, Union of Concerned Scientists | Arrow, K., L. Goulder, R. E. Kopp, M. Livermore, M. Oppenheimer, R. Revesz, and T. Sterner. n.d. <i>Counting the Costs of Climate Change</i> (manuscript), on Gernot Wagner and Martin L. Weitzman, <i>Climate Shock</i> (forthcoming with Princeton University Press). | Unable to locate source. | | |
| NHTSA-2014-0074-0021 | Environmental Defense Fund, Natural Resource Defense Council, Union of Concerned Scientists | Burtraw, D., and T. Sterner. 2009. Climate Change Abatement: Not "Stern" Enough? <i>Resources For the Future Available at:</i> http://www.rff.org/Publications/WPC/Pages/09_04_06_Climate_Change_Abatement.aspx . (Accessed: January 30, 2015). | Reviews the Stern Review of the Economics of Climate Change, which recommended that 1% of global gross domestic product be invested each year to avoid the economic consequences and the unprecedented risks from climate change. | No | No |
| NHTSA-2014-0074-0021 | Environmental Defense Fund, Natural Resource Defense Council, Union of Concerned Scientists | Litterman, R.B. 2013. What Is the Right Price for Carbon Emissions? <i>Energy & Environment</i> , pp. 38–43. <i>Available at:</i> http://www.cato.org/sites/cato.org/files/serials/files/regulation/2013/6/regulation-v36n2-1-1.pdf . (Accessed: January 30, 2015). | Investigates the question of how much governments should pay to protect future generations against the unknown risks from climate change. | Yes | No |
| NHTSA-2014-0074-0021 | Environmental Defense Fund, Natural Resource Defense Council, Union of Concerned Scientists | Arrow, K., M. Cropper, C. Gollier, B. Groom, G. Heal, R. Newell, W. Nordhaus, R. Pindyck, W. Pizer, P. Portney, T. Sterner, R.S.J. Tol, and M.L. Weitzman. 2012. How Should Benefits and Costs Be Discounted in an Intergenerational Context? <i>RFF DEP 12-53</i> . Resources for the Future. <i>Available at:</i> http://www.rff.org/rff/documents/rff-dp-12-53.pdf . (Accessed: January 30, 2015). | Summarizes the views of the panel on three topics: the use of the Ramsey formula as an organizing principle for determining discount rates over long horizons, whether the discount rate should decline over time, and how intra- and intergenerational discounting practices can be made compatible. | Yes | No |

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|--|---|---|--|---------------------------------|---|
| NHTSA-2014-0074-0021 | Environmental Defense Fund, Natural Resource Defense Council, Union of Concerned Scientists | Arrow, K., M. Cropper, C. Gollier, B. Groom, G. Heal, R. Newell, W. Nordhaus, R. Pindyck, W. Pizer, P. Portney, T. Sterner, R.S.J. Tol, and M.L. Weitzman. 2013. Determining Benefits and Costs for Future Generations. <i>Science</i> 341(6144):349-350; doi: 10.1126/science.1235665. | Evaluates benefits of climate policies, which can last for centuries and outweigh the costs, which are especially sensitive to the rate at which future benefits are discounted. | Yes | No |
| NHTSA-2014-0074-0021 | Environmental Defense Fund, Natural Resource Defense Council, Union of Concerned Scientists | Newell, R.G., and W.A. Pizer. 2001. Discounting the Distant Future: How Much Do Uncertain Rates Increase Valuations? <i>Available at: http://www.rff.org/Documents/RFF-DP-00-45.pdf</i> . (Accessed: January 30, 2015). | Argues that when the future path of this conventional rate is uncertain and persistent, the distant future should be discounted at lower rates than suggested by the current rate. | No | No |
| NHTSA-2014-0074-0021 | Environmental Defense Fund, Natural Resource Defense Council, Union of Concerned Scientists | Cropper, M.L., M.C. Freeman, B. Groom, and W.A. Pizer. 2014. Declining Discount Rates. <i>American Economic Review</i> , 104(5):538-43. doi: 10.1257/aer.104.5.538. | Discusses whether the U.S. government should replace its current discounting practices with a declining discount rate schedule, as the UK and France have done, or continue to discount the future at a constant exponential rate. | No | No |
| NHTSA-2014-0074-0021 | Environmental Defense Fund, Natural Resource Defense Council, Union of Concerned Scientists | Weitzman, M.L. 2001. Gamma Discounting. <i>American Economic Review</i> 91(1) :260-271. doi: 10.1257/aer.91.1.260 . | Proposes a new theoretical approach to resolving the perennial dilemma of being uncertain about what discount rate to use in cost-benefit analysis. | No | No |

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| Comment No. (EIS Docket Number) | Name of Commenter | Full Title and Citation of Source (with a link, if available) | Issue Addressed by Source | Peer-Reviewed ? (Yes/No) | Included in IPCC's Fifth Assessment Report? (Yes/No) |
|---------------------------------|---|--|---|--------------------------|--|
| NHTSA-2014-0074-0021 | Environmental Defense Fund, Natural Resource Defense Council, Union of Concerned Scientists | Lowe, J. 2008. Intergenerational wealth transfers and social discounting: Supplementary Green Book guidance. HM Treasury. Available at: http://www.hm-treasury.gov.uk/d/4(5).pdf . (Accessed: January 30, 2015). | Provides updated green book discount rate guidance. | No | No |
| NHTSA-2014-0074-0021 | Environmental Defense Fund, Natural Resource Defense Council, Union of Concerned Scientists | Johnson, L.T., and C. Hope. 2012. The Social Cost of Carbon in U.S. Regulatory Impact Analyses: An Introduction and Critique. <i>Journal of Environmental Studies and Science</i> . doi: 10.1007/s13412-012-0087-7. Available at: http://www.ourenergypolicy.org/wp-content/uploads/2012/09/fulltext.pdf . (Accessed: June 29, 2016). | Reestimates the SC-CO models used in regularity impact analyses. | Yes | No |
| NHTSA-2014-0074-0021 | Environmental Defense Fund, Natural Resource Defense Council, Union of Concerned Scientists | Zeckhauser, R.J. 2006. Investing in the Unknown and Unknowable. <i>Capitalism & Society</i> 1(2). | Explains some of the central principles that investors employ when investing in the unknown and unknowable. | No | No |
| NHTSA-2014-0074-0021 | Environmental Defense Fund, Natural Resource Defense Council, Union of Concerned Scientists | Ackerman, F., and E.A. Stanton. 2011. Climate Economics: The State of the Art, pp. 45–56. Stockholm Environment Institute. Available at: http://sei-us.org/Publications_PDF/SEI-ClimateEconomics-state-of-art-2011.pdf . (Accessed: June 29, 2016). | Provides recommendations for aligning climate economics with climate science. | No | No |

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|--|---|--|---|---------------------------------|---|
| NHTSA-2014-0074-0021 | Environmental Defense Fund, Natural Resource Defense Council, Union of Concerned Scientists | Schlenker, W., W. Michael-Hanemann, and A.C. Fisher. 2005. Will U.S. Agriculture Really Benefit From Global Warming? Accounting for Irrigation in the Hedonic Approach. <i>The American Economic Review</i> 95:395–406. | Proposes a new approach to using the variation in temperature and precipitation across U.S. counties to estimate a reduced-form hedonic equation, with the value of farmland as the dependent variable. | Yes | No |
| NHTSA-2014-0074-0021 | Environmental Defense Fund, Natural Resource Defense Council, Union of Concerned Scientists | Nordhaus, W.D., and J. Boyer. 2000. Warming the World: Economic Models of Global Warming. <i>The MIT Press</i> . | Discusses the various economic models used to assess potential economic impacts of climate change, such as DICE and RICE. | No | No |
| NHTSA-2014-0074-0021 | Environmental Defense Fund, Natural Resource Defense Council, Union of Concerned Scientists | Hope, C. 2006. The Marginal Impact of CO ₂ from PAGE2002: An Integrated Assessment Model Incorporating the IPCC's Five Reasons for Concern. <i>Integrated Assessment Journal</i> 6(1):19–56. Available at: http://costofcarbon.org/research/entry/the-marginal-impact-of-co2-from-page2002-an-integrated-assessment-model-inc. (Accessed: June 29, 2016). | Introduces a new version of the PAGE model, PAGE2002, which includes all five of the IPCC's reasons for concern about climate change. | Yes | No |

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| Comment No. (EIS Docket Number) | Name of Commenter | Full Title and Citation of Source (with a link, if available) | Issue Addressed by Source | Peer-Reviewed ? (Yes/No) | Included in IPCC's Fifth Assessment Report? (Yes/No) |
|---------------------------------|---|--|---|--------------------------|--|
| NHTSA-2014-0074-0021 | Environmental Defense Fund, Natural Resource Defense Council, Union of Concerned Scientists | Ebi, K.L., S. Hallegatte, T. Kram, N.W. Arnell, T.R. Carter, J. Edmonds, E. Kriegler, R. Mathur, B.C. O'Neill, K. Riahi, H. Winkler, D.P. Van Vuuren, and T. Zwicker. 2014. A New Scenario Framework for Climate Change Research: Background, Process, and Future Directions. <i>Climatic Change</i> 122:363–372; doi: 10.1007/s10584-013-0912-3. Available at: http://link.springer.com/article/10.1007/s10584-013-0912-3 . (Accessed: June 29, 2016). | Provides the background to and process of developing the conceptual framework for the global, regional, and sectoral scenarios to facilitate interdisciplinary research and assessment to explore the range of possible future climate changes that could pose risks to humans and natural systems. | Yes | No |
| NHTSA-2014-0074-0021 | Environmental Defense Fund, Natural Resource Defense Council, Union of Concerned Scientists | Pindyck, R.S. 2012. Uncertain Outcomes and Climate Change Policy. <i>Journal of Environmental Economics and Management</i> 63(3):289–303. | Incorporates distributions for temperature change and its economic impact in an analysis of climate change policy. | Yes | No |
| NHTSA-2014-0074-0021 | Environmental Defense Fund, Natural Resource Defense Council, Union of Concerned Scientists | Weitzman, M.L. 2012. Greenhouse Gas Targets as Insurance Against Catastrophic Climate Damages. <i>Journal of Public Economic Theory</i> 14(2):221–244. doi: 10.1111/j.1467-9779.2011.01539.x. | Asks how much the public might be misled by an economic assessment of climate change when employing a conventional quadratic damages function and/or a thin-tailed probability distribution for extreme temperatures. | No | No |
| NHTSA-2014-0074-0021 | Environmental Defense Fund, Natural Resource Defense Council, Union of Concerned Scientists | Pindyck, R.S. 2013. The Climate Policy Dilemma. <i>Review of Environmental Economics and Policy</i> . NBER Working Paper No. 18205.. doi: 10.3386/w18205. Available at: http://www.nber.org/papers/w18205.pdf . (Accessed: June 29, 2016). | Discusses how stringent abatement cannot be based on the kinds of modeling exercises that have permeated the literature but instead must be based on the possibility of a catastrophic outcome. | Yes | No |

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|--|---|---|--|---------------------------------|---|
| NHTSA-2014-0074-0021 | Environmental Defense Fund, Natural Resource Defense Council, Union of Concerned Scientists | Wagner, G., and R.J. Zeckhauser. 2014. Expecting a Black Swan and Getting a Dragon: Confronting Deep Uncertainty in Climate Change. ASSA Conference Presentation. January 3. | Introduces peakedness of the climate sensitivity distribution as a way to interpret the IPCC's latest move to remove 3°C (5.4°F) as the "most likely" value for the climate sensitivity parameter. | No | No |
| NHTSA-2014-0074-0022 | Owner Operator Independent Drivers Association | U.S. Department of Transportation. 2011. <i>Eco-Driving Can Improve Truck Fuel Economy by up to 22%</i> . Available at: http://www.itsbenefits.its.dot.gov/ITS/benecost.nsf/SummID/B2013-00875?OpenDocument&Query=Home . (Accessed: January 30, 2015). | Evaluates 695 Class 8 tractor-trailers, heavy-duty trucks, and drivers across the country to determine fuel use and the effect of eco-driving training combined with in-vehicle, real-time driver feedback on fuel economy | No | No |
| NHTSA-2014-0074-0022 | Owner Operator Independent Drivers Association | Federal Motor Carrier Safety Administration (FMCSA). 2013. Delay and Environmental Costs of Truck Crashes. U.S. Department of Transportation. Available at: http://ntl.bts.gov/lib/48000/48200/48200/Crash-Costs-Final-Report.pdf . (Accessed: January 30, 2015). | Presents estimates of certain categories of costs of truck- and bus-involved crashes. Crash-related costs estimated as part of this study include vehicle delay costs, emissions costs, and fuel consumption costs. | No | No |
| NHTSA-2014-0074-0022 | Owner Operator Independent Drivers Association | OOIDA Foundation. 2013. OOIDA New HOS Regulations Survey. Available at: http://www.ooida.com/OOIDA%20Foundation/RecentResearch/docs/HOSSurveyFINAL.pdf . (Accessed: January 30, 2015). | Presents survey results and comments on the proposed changes to the 2003 hours of service regulation from FMCSA. | No | No |

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|---------------------------------|-------------------------------------|--|---|--------------------------|--|
| NHTSA-2014-0074-0024 | Oregon Department of Transportation | State of Oregon. 2012. Oregon's 10-Year Energy Action Plan. <i>Available at:</i> http://www.oregon.gov/energy/pages/ten_year/ten_year_energy_plan.aspx . (Accessed: January 30, 2015). | Outlines a 10-year energy strategy to protect Oregon consumers and ensure energy investments made today will strengthen the economy. | No | No |
| NHTSA-2014-0074-0024 | Oregon Department of Transportation | State of Oregon. 2013. Oregon's Statewide Transportation Strategy: A 2050 Vision for Greenhouse Gas Emission Reduction. <i>Available at:</i> http://www.oregon.gov/ODOT/TD/OSTI/pages/sts.aspx . (Accessed: January 30, 2015). | Discusses Oregon's state-level planning effort that examines all aspects of the transportation system, including the movement of people and goods, and identifies a combination of strategies to reduce greenhouse gas emissions. | No | No |
| NHTSA-2014-0074-0027 | Commonwealth of Puerto Rico | Commonwealth of Puerto Rico. 2013. Puerto Rico's State of the Climate: Assessing Puerto Rico's Social-Ecological Vulnerabilities in a Changing Climate. <i>Available at:</i> http://pr-ccc.org/download/PR%20State%20of%20the%20Climate-FINAL_ENE2015.pdf . (Accessed: January 30, 2015). | Assesses Puerto Rico's vulnerabilities and recommends strategies to respond to the impacts of climate change. | No | No |

Phase 2 Fuel Efficiency Standards for Medium- and Heavy-Duty Engines and Vehicles Final EIS

The list of sources in Table B-2 is provided for information only. NHTSA has reviewed all comments received by the agency during the DEIS comment period and considered all appropriate sources cited in developing this Final EIS.

Table B-2. Sources Identified in DEIS Comments

| Comment No. (EIS Docket Number) | Name of Commenter | Full Title and Citation of Source (with a link, if available) | Issue Addressed by Source | Peer-Reviewed ? (Yes/No) | Included in IPCC's Fifth Assessment Report? (Yes/No) |
|--|--|--|--|-------------------------------------|---|
| NHTSA-2014-0074-0039 | State of California Air Resources Board, Richard Corey | California Air Resources Board (CARB). 2015. Idle Reduction Technologies for Sleeper Berth Trucks. <i>Available at:</i> http://www.arb.ca.gov/msprog/cabcomfort/cabcomfort.htm . (Accessed: January 30, 2015). | Provides information regarding various idle reduction technologies for sleeper berth trucks that are currently available. | No | No |
| NHTSA-2014-0074-0039 | State of California Air Resources Board, Richard Corey | CARB. 2015. Airborne Toxic Control Measures. <i>Available at:</i> http://www.arb.ca.gov/toxics/atcm/atcm.htm . (Accessed: January 30, 2015). | Provides a list of the Mobile and Stationary Source Airborne Toxic Control Measures (ATCMs) promulgated by the California Air Resources Board. | No | No |
| NHTSA-2014-0074-0039 | State of California Air Resources Board, Richard Corey | CARB. 2014. Staff Report: Initial Statement of Reasons for Proposed Rulemaking - Proposed Amendments to the Truck and Bus Regulation, pg. 33. <i>Available at:</i> http://www.arb.ca.gov/regact/2014/truckbus14/tb14isor.pdf . (Accessed: January 30, 2015). | Calculates reductions in Statewide NOx and PM Emissions from CARB's Proposed Amendments to the Truck and Bus Regulations. | No | No |
| NHTSA-2014-0074-0042 | Michelin North America, John Emerson | Michelin. 2013. Summary Chart, Quantis 2013 Michelin Truck Tires Life Cycle Analysis Project. | Provides extra information to use for a HUD vehicle LCA study on tire life cycle. | No | No |
| NHTSA-2014-0074-0048 | National Biodiesel Board, Larry Schafer | White House. 2015. <i>President Obama's Climate Action Plan</i> . <i>Available at:</i> https://www.whitehouse.gov/sites/default/files/docs/cap_progress_report_final_w_cover.pdf . (Accessed: January 30, 2015). | Discusses President Obama's efforts to address the threat of climate change. | No | No |

Table B-2. Sources Identified in DEIS Comments

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|---------------------------------|---|---|---|--------------------------|--|
| NHTSA-2014-0074-0048 | National Biodiesel Board, Larry Schafer | EPA. 2015. Cutting Carbon Pollution, Improving Fuel Efficiency, Saving Money, and Supporting Innovation for Trucks., EPA-420-F-15-900. <i>Available at:</i> www.epa.gov/otaq/climate/documents/420f15900.pdf . (Accessed: January 30, 2015). | Announces EPA and NHTSA's joint proposal for the Phase 2 HD Program. | No | No |
| NHTSA-2014-0074-0048 | National Biodiesel Board, Larry Schafer | Organization of the Petroleum Exporting Countries (OPEC). 2014. World Oil Outlook, at 217, 218 (2014). <i>Available at:</i> http://www.opec.org/opec_web/static_files_project/media/downloads/publications/WOO_2014.pdf . (Accessed: January 30, 2015). | Forecasts oil supply and demand trends until 2040. | No | No |
| NHTSA-2014-0074-0048 | National Biodiesel Board, Larry Schafer | ExxonMobil. 2015. The Outlook for Energy: A View to 2040, U.S. Edition, at 12. <i>Available at:</i> http://www.cailaw.org/media/files/IEL/ConferenceMaterial/2015/shale/njones-energy-paper.pdf . (Accessed: June 29, 2016). | Forecasts global energy supply and demand until 2040. | No | No |
| NHTSA-2014-0074-0048 | National Biodiesel Board, Larry Schafer | Energy Information Administration (EIA) . 2015. Annual Energy Outlook 2015 with Projections to 2040, at 19. DOE/EIA-0383(2015). <i>Available at:</i> http://www.eia.gov/forecasts/aeo/pdf/0383(2015).pdf . (Accessed: January 30, 2015). | Provides current energy statistics and forecasts until 2040. | No | No |
| NHTSA-2014-0074-0048 | National Biodiesel Board, Larry Schafer | Karl Simon. 2014. Moving to a More Efficient Future, HTUF Meeting, September 23slide 20. <i>Available at:</i> http://www.calstart.org/Libraries/HTUF_2014_National_Meeting_Documents/KSimon_Keynote_9_23_14.sflb.ashx . (Accessed: January 30, 2015). | Discusses GHG emissions and emission reductions across the US due to the HD sector. | No | No |

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Table B-2. Sources Identified in DEIS Comments

| Comment No. (EIS Docket Number) | Name of Commenter | Full Title and Citation of Source (with a link, if available) | Issue Addressed by Source | Peer-Reviewed ? (Yes/No) | Included in IPCC's Fifth Assessment Report? (Yes/No) |
|--|---|---|--|-------------------------------------|---|
| NHTSA-2014-0074-0048 | National Biodiesel Board, Larry Schafer | EIA. 2016. Carbon Dioxide Emissions Coefficients. . <i>Available at:</i> http://www.eia.gov/environment/emissions/co2_vol_mass.cfm . (Accessed: January 30, 2015). | Provides carbon dioxide emissions by fuel source. | No | No |
| NHTSA-2014-0074-0048 | National Biodiesel Board, Larry Schafer | EIA. 2015. Carbon Dioxide Emissions from Energy Consumption: Transportation Sector. Table 12.5. <i>Available at:</i> http://www.eia.gov/totalenergy/data/monthly/pdf/sec12_8.pdf . (Accessed: January 30, 2015). | Provides data on carbon emissions for the transportation sector. | No | No |
| NHTSA-2014-0074-0048 | National Biodiesel Board, Larry Schafer | DOE. 2015. Alternative Fuels Data Center - Biodiesel Vehicle Emissions. <i>Available at:</i> http://www.afdc.energy.gov/vehicles/diesels_emissions.html . (Accessed: January 30, 2015). | Provides information on emissions from biodiesel vehicles. | No | No |
| NHTSA-2014-0074-0048 | National Biodiesel Board, Larry Schafer | Rocky Mountain Farmers Union v. Corey, 730 F.3d 1070, 1084-85 (9th Cir. 2013), reh'g denied en banc, 740 F.3d 507 (9th Cir.), cert. denied, 134 S. Ct. 2875 (2014). | Court case demonstrating that EPA recognizes that cropland serves as a sink for carbon emissions in the U.S. | No | No |
| NHTSA-2014-0074-0048 | National Biodiesel Board, Larry Schafer | NHTSA. 2015. Review and Analysis of Potential Safety Impacts of and Regulatory Barriers to Fuel Efficiency Technologies and Alternative Fuels in Medium- and Heavy- Duty Vehicles. <i>DOT HS 812159</i> , at 34. <i>Available at:</i> http://www.nhtsa.gov/staticfiles/rulemaking/pdf/cafe/812159-RevSafetyImpactsRegulatoryFuelEfficiencyTechMDHD.pdf . (Accessed: January 30, 2015). | Summarizes research and analysis findings on potential safety issues associated with various HD fuels and technologies, as well as potential regulatory barriers to their use. | No | No |

Table B-2. Sources Identified in DEIS Comments

| Comment No. (EIS Docket Number) | Name of Commenter | Full Title and Citation of Source (with a link, if available) | Issue Addressed by Source | Peer-Reviewed ? (Yes/No) | Included in IPCC's Fifth Assessment Report? (Yes/No) |
|---------------------------------|---|--|---|--------------------------|--|
| NHTSA-2014-0074-0048 | National Biodiesel Board, Larry Schafer | Mineta National Transit Research Consortium. 2014. Combustion Chemistry of Biodiesel for Use in Urban Transport Buses: Experiment and Modeling Report 12-17. <i>Available at:</i> http://transweb.sjsu.edu/PDFs/research/1146-biodiesel-bus-fuel-combustion-chemistry.pdf . (Accessed: January 30, 2015). | Discusses the use of biodiesel in bus fleets, finding that the use of B20 reduces PM emissions from buses by 17 percent compared to ULSD. | No | No |
| NHTSA-2014-0074-0048 | National Biodiesel Board, Larry Schafer | Biodiesel. 2016. Biodiesel Industry Overview & Technical Update, Slide 34 (Sept. 2015). <i>Available at:</i> http://biodiesel.org/docs/default-source/ffs-basics/biodiesel-industry-and-technical-overview.pdf?sfvrsn=8 . (Accessed: June 29, 2016). | Provides evidence of support for biodiesel blends from U.S. original equipment manufacturers (OEMS). | No | No |
| NHTSA-2014-0074-0048 | National Biodiesel Board, Larry Schafer | Biodiesel. 2015. <i>OEM Support</i> (March 2016). <i>Available at:</i> http://biodiesel.org/docs/default-source/ffs-engine_manufacturers/oem-support-summary.pdf?sfvrsn=16 . (Accessed: June 29, 2016). | Provides evidence of support for biodiesel blends from U.S. original equipment manufacturers (OEMS). | No | No |
| NHTSA-2014-0074-0048 | National Biodiesel Board, Larry Schafer | EPA. 2011. Response to Clean Air Taskforce, World Wildlife Fund, National Wildlife Federation, and Friends of the Earth's Petitions for Reconsideration of the Renewable Fuel Standards (RFS2). <i>Available at:</i> http://www2.epa.gov/sites/production/files/2015-08/documents/rfs-response-to-petitions-02-17-11.pdf . (Accessed: January 30, 2015). | Provides EPA's response to a petition to reconsider the renewable fuel standard (RFS2). | No | No |

Appendix B Sources Identified in Public Comments

Table B-2. Sources Identified in DEIS Comments

| Comment No. (EIS Docket Number) | Name of Commenter | Full Title and Citation of Source (with a link, if available) | Issue Addressed by Source | Peer-Reviewed ? (Yes/No) | Included in IPCC's Fifth Assessment Report? (Yes/No) |
|--|---|--|---|-------------------------------------|---|
| NHTSA-2014-0074-0048 | National Biodiesel Board, Larry Schafer | Caterpillar. 2004. Caterpillar Commercial Diesel Engine Fluids Recommendations. <i>Available at:</i> http://www.officialbiodiesel.com/fuel_policys/Caterpillar.pdf . (Accessed: January 30, 2015). | Provides a manual for managing fluids in Caterpillar Commercial Diesel Engines. | No | No |
| NHTSA-2014-0074-0051 | IdleAir, Yale Klat | Third party study that discusses the effects that an idling engine has on sleep quality. | Unable to locate source. | | No |

APPENDIX C

Life-Cycle Assessment Studies

Phase 2 Fuel Efficiency Standards for Medium- and Heavy-Duty Engines and Vehicles Final EIS

Table C-1. Studies Analyzed in Chapter 6, Life-cycle Assessment of Vehicle Energy, Materials, and Technologies

| Study Analyzed | Technologies/Materials Covered ^a | Life-cycle Boundaries ^b | Environmental Impacts Estimated ^c |
|--|--|------------------------------------|---|
| Alonso, E., T.M. Lee, C. Bjelkengren, R. Roth, and R.E. Kirchain. 2012. Evaluating the Potential for Secondary Mass Savings in Vehicle Lightweighting. <i>Environmental Science & Technology</i> 46(5):2893–2901. doi: 10.1021/es202938m. | Mass decomposing; lightweighting | Material production | Mass savings (energy use in abstract terms) |
| Atabani, A. E., I.A. Badruddin, S. Mekhilef, and A.S. Silitonga. 2011. A review on global fuel economy standards, labels, and technologies in the transportation sector. <i>Renewable and Sustainable Energy Review</i> 15(9):4586–4610. doi: 10.1016/j.rser.2011.07.092 | Automatic stop-start systems | Vehicle use | Energy requirements; fuel use |
| Stemco. 2016. Aero U. Available at: http://www.stemco.com/aero-u/ . (Accessed: June 28, 2016). | Aerodynamic devices | Vehicle use | Energy requirements |
| Bachman, L.J., A. Erb, and C.L. Bynum. 2005. Effect of Single Wide Tires and Trailer Aerodynamics on Fuel Economy and NO _x Emissions of Class 8 Line-Haul Tractor-Trailers. SAE International. Available at: https://www3.epa.gov/smartway/forpartners/documents/sae-reports/effects-on-fuel-economy.pdf . (Accessed: June 28, 2016). | Tires | Vehicle use | Energy requirements (hydrocarbons); air emissions including CO ₂ , CO, and NO _x |
| Bandivadekar, A., K. Bodek, L. Cheah, C. Evans, T. Groode, J. Heywood, E. Kasseris, M. Kromer, and M. Weiss. 2008. On the Road in 2035: Reducing Transportation’s Petroleum Consumption and GHG Emissions. Massachusetts Institute of Technology. Available at: http://web.mit.edu/sloan-auto-lab/research/beforeh2/otr2035/ . (Accessed: June 28, 2016). | Lightweighting; vehicle design; engine downsizing; BEVs, fuel-cell vehicles; HSS; aluminum | Cradle to grave | Energy requirements; GHG emissions |
| Baratto, F. and U.M. Diwekar. 2005. Life Cycle Assessment of Fuel Cell-based APUs. <i>Journal of Power Sources</i> 139(1-2):188–196. doi: 10.1016/j.jpowsour.2004.07.025. | Fuel-cell APUs; SOFCs | Cradle to grave | Fuel use; GHG emissions; criteria pollutants |
| Barbir, F. 2006. PEM Fuel Cells. <i>Fuel Cell Technology: Reaching Towards Commercialization</i> . Springer London. doi: 10.1007/1-84628-207-1_2. | SOFCs; PEM fuel-cells | Not applicable | Not applicable |

Table C-1. Studies Analyzed in Chapter 6, Life-cycle Assessment of Vehicle Energy, Materials, and Technologies

| Study Analyzed | Technologies/Materials Covered ^a | Life-cycle Boundaries ^b | Environmental Impacts Estimated ^c |
|---|--|------------------------------------|--|
| Baumers, M., C. Tuck, R. Wildman, L. Ashcroft, and R. Hague. 2011. Energy Inputs to Additive Manufacturing: Does Capacity Utilization Matter? Additive Manufacturing Research Group, Wolfson School of Mechanical and Manufacturing Engineering, Loughborough University. | Additive manufacturing; selective laser melting; direct metal laser sintering; electron beam melting; laser sintering; fused deposition modeling of polymers | Materials production | Energy requirements |
| Bertram, M., K. Buxmann, and P. Furrer. 2009. Analysis of Greenhouse Gas Emissions Related to Aluminum Transport Applications. <i>International Journal of Life Cycle Assessment</i> 14(1):62–69. doi: 10.1007/s11367-008-0058-0. | Aluminum; steel; cast iron | Cradle to grave | GHG emissions |
| Birat, J.P., L. Rocchia, V. Guerin, and M. Tuchman. 2003. Ecodesign of the Automobile, Based on Steel Sustainability. SAE International. doi: 10.4271/2003-01-2850. | Aluminum; steel; recycling | Cradle to grave | CO ₂ emissions |
| Boland, C., R. DeKleine, A. Moorthy, G. Keoleian, C.K Hyung, E. Lee, T.J. Wallington. 2014. A Life Cycle Assessment of Natural Fiber Reinforced Composites in Automotive Applications. SAE International. doi: 10.4271/2014-01-1959. | Glass-fiber-reinforced polymer; cellulose-fiber-reinforced polymer; polymer composites; lightweighting | Cradle to grave | Fuel use; GHG emissions |
| Brodrick, C., T.E. Lipman,, M. Farshchi, N.P. Lutsey, H.A. Dwyer, D. Sperling, S.W. Gouse III, D.B. Harris, and F.G. King. 2002. Evaluation of Fuel Cell Auxiliary Power Units for Heavy-Duty Diesel Trucks. <i>Transportation Research Part D: Transport and Environment</i> 7(4):303–315. doi: 10.1016/S1361-9209(01)00026-8. | SOFCs; PEM fuel cells; APU | Vehicle use | GHG emissions, criteria pollutants |
| Cáceres, C.H. 2009. Transient Environmental Effects of Light Alloy Substitutions in Transport Vehicles. <i>Materials & Design</i> 30(8):2813–2822. doi: 10.1016/j.matdes.2009.01.027. | Magnesium; aluminum | Alloy production | Recycled materials |
| Caterpillar. 2013. Cat Commercial Diesel Engine Fluids Recommendations. Available at: https://www.barloworld-equipment.com/media/1203826/cat_commercial_diesel_engine_fluids.pdf . (Accessed: June 28, 2016). | Diesel engines | Not applicable | Not applicable |

Table C-1. Studies Analyzed in Chapter 6, Life-cycle Assessment of Vehicle Energy, Materials, and Technologies

| Study Analyzed | Technologies/Materials Covered ^a | Life-cycle Boundaries ^b | Environmental Impacts Estimated ^c |
|---|--|------------------------------------|--|
| CEM (Council of Energy Ministers). 2009. On the Road to a Fuel-Efficient Truck, 2009. Available at: http://fleetsmart.nrcan.gc.ca/documents/PDF/trucking.pdf . (Accessed: June 28, 2016). | Aerodynamic devices | Vehicle use | Energy requirements; GHG emissions |
| Cheah, L. 2010. Cars on a Diet: The Material and Energy Impacts of Passenger Vehicle Weight Reduction in the U.S. Massachusetts Institute of Technology. Available at: http://web.mit.edu/sloan-auto-lab/research/beforeh2/files/LCheah_PhD_thesis_2010.pdf . (Accessed: June 28, 2016). | Magnesium, aluminum; HSS; polymer composites | Cradle to grave | Energy requirements; GHG emissions |
| Cheah, L., and J. Heywood. 2011. Meeting U.S. passenger vehicle fuel economy standards in 2016 and Beyond. <i>Energy Policy</i> 39(1):454–466. doi: 10.1016/j.enpol.2010.10.027. | Lightweighting; HEVs; PHEVs; advanced diesel | Not applicable | None |
| Cheah, L., J. Heywood, and R. Kirchain. 2009. Aluminum Stock and Flows in U.S. Passenger Vehicles and Implications for Energy Use. <i>Journal of Industrial Ecology</i> 13(5):718–734. doi: 10.1111/j.1530-9290.2009.00176.x. | Aluminum | Not applicable | Energy requirements |
| Chen, W.Q., and T.E. Graedel. 2012a. Anthropogenic Cycles of the Elements: A Critical Review. <i>Environmental Science & Technology</i> 46(16):8574–8586. doi: 10.1021/es3010333. | Aluminum; steel | Not applicable | None |
| Chen, W.Q., and T.E. Graedel. 2012b. Dynamic Analysis of Aluminum Stocks and Flows in the United States: 1900–2009. <i>Ecological Economics</i> 81:92–102. doi: 10.1016/j.ecolecon.2012.06.008. | Aluminum | Not applicable | None |
| Colett, J. 2013. Impacts of Geographic Variation on Aluminum Lightweighted Plug-in Hybrid Electric Vehicle Greenhouse Gas Emissions. University of Michigan. | Lightweighting; aluminum; PHEV | Cradle to gate | Energy requirements; GHG emissions |
| Das, S. 2011. Life Cycle Assessment of Carbon Fiber-Reinforced Polymer Composites. <i>International Journal of Life Cycle Assessment</i> . 16(3):268–282. doi: 10.1007/s11367-011-0264-z. | Steel; carbon-fiber-reinforced polymer | Cradle to grave | Energy requirements; GHG emissions |

Table C-1. Studies Analyzed in Chapter 6, Life-cycle Assessment of Vehicle Energy, Materials, and Technologies

| Study Analyzed | Technologies/Materials Covered ^a | Life-cycle Boundaries ^b | Environmental Impacts Estimated ^c |
|---|---|---------------------------------------|---|
| Das, S. 2014. Life Cycle Energy and Environmental Assessment of Aluminum-Intensive Vehicle Design. <i>SAE International Journal of Material Manufacturing</i> 7(3):588-595. doi: 10.4271/2014-01-1004. | Lightweighting; aluminum; HSS; steel | Cradle to grave (including recycling) | Energy requirements; GHG emissions |
| Dubreuil, A., L. Bushi, S. Das, A. Tharumarajah, and G. Xianzheng. 2010. A Comparative Life Cycle Assessment of Magnesium Front End Autoparts. SAE International. doi: 10.4271/2010-01-0275. | Magnesium; aluminum; steel | Cradle to grave | Energy requirements; GHG emissions; criteria pollutants |
| Ehrenberger, S. 2013. Life Cycle Assessment of Magnesium Components in Vehicle Construction. German Aerospace Centre e.V. Institute of Vehicle Concepts. Available at: http://www.intlmag.org/pdfs/reports/111913_lca_report_public.pdf . (Accessed: June 28, 2016). | Magnesium | Cradle to grave | Energy requirements; GHG emissions; acidification; eutrophication; depletion of abiotic resources |
| Environmental Protection Agency. 2015. Natural Gas Vehicles: Section 13.1. Detailed Life-Cycle Analysis, GHG Emission and Fuel Efficiency Standards for 2018 MY + Heavy-Duty Engines and Vehicles. Draft NPRM. Available at: https://www3.epa.gov/otaq/climate/documents/420d15900.pdf . (Accessed: June 28, 2016). | Natural gas fuel | Well to wheels | GHG emissions |
| Facanha, C., and A. Horvath. 2007. Evaluation of Life-Cycle Air Emission Factors of Freight Transportation. <i>Environmental Science & Technology</i> 41(20):7138–7144. doi: 10.1021/es070989q. | Road freight transportation vehicles, infrastructure, and fuels | Cradle to grave | Energy requirements; GHG emissions; criteria air pollutants |
| FleetOwner. 2016. Volvo Unveils Factory-Installed Cab Cooling System. Available at: http://fleetowner.com/equipment/volvo-unveils-factory-installed-cab-cooling-system . (Accessed: June 28, 2016). | Battery-powered automatic cooling systems | Vehicle use | Energy requirements; fuel use |
| Frey, H. C., and P. Kuo. 2009. Real-World Energy Use and Emission Rates for Idling Long-Haul Trucks and Selected Idle Reduction Technologies. <i>Journal of the Air and Waste Management Association</i> 59(7):857-864. doi: 10.3155/1047-3289.59.7.857. | Diesel generator APU | Vehicle use | Fuel use; GHG emissions; criteria pollutants |

Table C-1. Studies Analyzed in Chapter 6, Life-cycle Assessment of Vehicle Energy, Materials, and Technologies

| Study Analyzed | Technologies/Materials Covered ^a | Life-cycle Boundaries ^b | Environmental Impacts Estimated ^c |
|--|--|------------------------------------|--|
| Freund, D., and S. Brady. 2009. Commercial Vehicle Safety Technologies: Applications for Tire Pressure Monitoring and Management. The 21st Enhanced Safety Vehicles (ESV) Conference. | Automatic tire inflation systems; TPMS | Vehicle use | Energy requirements; fuel use |
| Gaines, L., and C. Brodrick Hartman. 2009. Energy Use and Emissions Comparison of Idling Reduction Options for Heavy-Duty Diesel Trucks. Argonne National Laboratory. Ninetieth Annual Meeting of the Transportation Research Board. | Diesel APU; direct-fired heater; electrified parking space | Vehicle use | GHG emissions, criteria pollutants |
| Gaines, L., J. Sullivan, A. Burnham, and I. Belharouak. 2011. Life-Cycle Analysis for Lithium-Ion Battery Production and Recycling. Argonne National Laboratory. doi: 10.3141/2252-08. | Batteries (Li-ion) | Cradle to gate | Energy requirements; GHG emissions |
| Galipeau-Belair, P., M. El-Gindy, S. Ghantae, D. Critchley, and S.A. Ramachandra. 2013. A Review of Side Underride Statistics and Protection Device Literature and Designs. <i>International Journal of Heavy Vehicle Systems</i> 20(4):361-374. doi: 10.1504/IJHVS.2013.056813. | Aerodynamic devices | Vehicle use | Energy requirements; GHG emissions |
| Galitsky, C., and E. Worrell. 2008. Energy Efficiency Improvement and Cost Saving Opportunities for the Vehicle Assembly Industry: An ENERGY STAR Guide for Energy and Plant Managers. Lawrence Berkeley National Laboratory. Available at: https://www.energystar.gov/ia/business/industry/LBNL-50939.pdf . (Accessed: June 28, 2016). | Energy efficiency during vehicle assembly; hydroforming | Material production | Energy requirements |
| Geyer, R. 2007. Life Cycle Greenhouse Gas Emission Assessments of Automotive Materials: The Example of Mild Steel, Advanced High Strength Steel and Aluminum in Body in White Applications, Methodology Report. University of California–Santa Barbara. Available at: http://www.worldautosteel.org/projects/vehicle-lca-study/assessments-of-automotive-material/ . (Accessed: June 28, 2016). | Aluminum, AHSS, and steel | Cradle to gate | GHG emissions |

Table C-1. Studies Analyzed in Chapter 6, Life-cycle Assessment of Vehicle Energy, Materials, and Technologies

| Study Analyzed | Technologies/Materials Covered ^a | Life-cycle Boundaries ^b | Environmental Impacts Estimated ^c |
|---|---|---|--|
| Geyer, R. 2008. Parametric Assessment of Climate Change Impacts of Automotive Material Substitution. <i>Environmental Science Technology</i> 42(18):6973–6979. doi: 10.1021/es800314w. | Lightweighting; aluminum; HSS; steel | Material production and vehicle use stages only | GHG emissions |
| Gibson, T. 2000. Life Cycle Assessment of Advanced Materials for Automotive Applications. <i>Society of Automotive Engineers, Inc.</i> doi: 10.4271/2000-01-1486. | Nine advanced and conventional materials including graphite, titanium, steel, aluminum, and carbon composites | Cradle to grave | Energy use; GHG emissions; air emissions including SO _x and NO _x ; water emissions; solid waste; HF. |
| Hakamada, M., T. Furuta, Y. Chino, Y. Chen, H. Kusuda, and M. Mabuchi. 2007. Life Cycle Inventory Study on Magnesium Alloy Substitution in Vehicles. <i>Energy</i> 32(8):1352–1360. doi: 10.1016/j.energy.2006.10.020. | Magnesium; steel; aluminum | Cradle to grave | Energy requirements; CO ₂ emissions |
| Heath, G.A., P. O’Donoghue, D.J. Arent, and M. Bazilian. 2014. Harmonization of Initial Estimates of Shale Gas Life Cycle Greenhouse Gas Emissions for Electric Power Generation. <i>Proceedings of the National Academy of Sciences of the United States</i> 111(31):E3167-E3176. doi: 10.1073/pnas.1309334111. Available at: http://www.pnas.org/content/111/31/E3167.full . (Accessed: June 28, 2016). | Shale gas; conventionally-produced natural gas; coal; electricity. | Cradle to grave | GHG emissions |
| Jain, S., Chen, H., and J. Schwank. 2006. Techno-Economic Analysis of Fuel Cell Auxiliary Power Units as Alternatives to Idling. <i>Journal of Power Sources</i> 160:474–484. doi: 10.1016/j.jpowsour.2006.01.083. | APUs | Not applicable | Not applicable |
| Jain, S., H. Chen, and J. Schwank. 2006. Techno-Economic Analysis of Fuel Cell Auxiliary Power Units as Alternatives to Idling. <i>Journal of Power Sources</i> 160(1):474–484. doi: 10.1016/j.jpowsour.2006.01.083. | SOFCs; PEM fuel cells; APUs | Vehicle use | Fuel use |
| Johnston, P. Undated. New Technologies—Tires. Michelin North America, Greenville, SC. Available at: http://slideplayer.com/slide/4082648/ . (Accessed: June 28, 2016). | Tires | Vehicle use | Energy requirements; GHG emissions |

Table C-1. Studies Analyzed in Chapter 6, Life-cycle Assessment of Vehicle Energy, Materials, and Technologies

| Study Analyzed | Technologies/Materials Covered ^a | Life-cycle Boundaries ^b | Environmental Impacts Estimated ^c |
|---|--|------------------------------------|---|
| Kaierle, S., M. Dahmen, and O. Gudukkurt. 2011. Eco - Efficiency of Laser Welding Applications. SPIE Eco-Photonics 8065. doi: 10.1117/12.888794. | Laser welding | Cradle to grave | Energy requirements; material use |
| Kassel, R. and J. Annotti. 2015. EPA and NHTSA's Medium- and Heavy-Duty Phase 2 Rule: Recommendations to Enhance the Use of Natural Gas in Trucks and Buses. Neandross and Associates: 1-17. | Natural gas as vehicle fuel | Vehicle use | GHG emissions; air emissions |
| Keoleian, G.A., and K. Kar. 1999. Life Cycle Design of Air Intake Manifolds: Phase I: 2.0 L Ford Contour Air Intake Manifold. EPA/600/R-99/023. University of Michigan Center for Sustainable Systems. Available at: https://cfpub.epa.gov/si/si_public_record_Report.cfm?dirEn tryID=99180 . (Accessed: June 28, 2016). | Aluminum; nylon composite | Cradle to grave | Energy requirements; GHG emissions; solid waste; air emissions; water effluents |
| Khanna, V., and B.R. Bakshi. 2009. Carbon Nanofiber Polymer Composites: Evaluation of Life Cycle Energy Use. <i>Environmental Science Technology</i> 43(6):2078–2084. doi: 10.1021/es802101x. | Polymer nanocomposite; CNF and CNF-GF hybrid polymer; carbon nanofiber-reinforced polymer nanocomposite; carbon nanofiber glass-fiber hybrid PNCs; steel | Cradle to gate and use stage | Energy requirements |
| Kim, H.J., C. McMillan, G.A. Keoleian, and S.J. Skerlos. 2010a. Greenhouse Gas Emissions Payback for Lightweighted Vehicles Using Aluminum and High-Strength Steel. <i>Journal of Industrial Ecology</i> 14(6):929–946. doi: 10.1111/j.1530-9290.2010.00283.x. | Lightweighting; aluminum; HSS | Cradle to grave | GHG emissions |
| Kim, H.J., G.A. Keoleian, and S.J. Skerlos. 2010b. Economic Assessment of Greenhouse Gas Emissions Reduction by Vehicle Lightweighting Using Aluminum and High Strength Steel. <i>Journal of Industrial Ecology</i> 15(1):64–80. doi: 10.1111/j.1530-9290.2010.00288.x. | Lightweighting; aluminum; HSS; steel; glass-fiber reinforced plastic | Cradle to grave | Energy requirements; GHG emissions |
| Kim, H.C., and T.J. Wallington. 2013a. Life Cycle Assessment of Vehicle Lightweighting: A Physics-Based Model of Mass-Induced Fuel Consumption. <i>Environmental Science & Technology</i> 47(24):14358–14366. doi: 10.1021/es402954w. | Lightweighting; aluminum; HSS; steel; glass-fiber reinforced plastic | Vehicle use | Energy requirements; GHG emissions |

Table C-1. Studies Analyzed in Chapter 6, Life-cycle Assessment of Vehicle Energy, Materials, and Technologies

| Study Analyzed | Technologies/Materials Covered ^a | Life-cycle Boundaries ^b | Environmental Impacts Estimated ^c |
|---|--|-------------------------------------|--|
| Kim, H.C., and T.J. Wallington. 2013b. Life-Cycle Energy and Greenhouse Gas Emission Benefits of Lightweighting in Automobiles: Review and Harmonization. <i>Environmental Science & Technology</i> 47(12):6089–6097. doi: 10.1021/es3042115. | Lightweighting; aluminum; HSS; steel; glass-fiber reinforced plastic | Cradle to grave | Energy requirements; GHG emissions |
| Kocańda, A., and H. Sadłowska. 2008. Automotive Component Development by Means of Hydroforming. <i>Archives of Civil and Mechanical Engineering</i> 8(3):55–72. doi: 10.1016/S1644-9665(12)60163-0. | Hydroforming | Not applicable | Not applicable |
| Koffler, C., and J. Provo. 2012. Comparative Life Cycle Assessment of Aluminum and Steel Truck Wheels. Prepared by PE International, Inc. and Five Winds Strategic Consulting for Alcoa, Inc. <i>Available at:</i> http://www.alcoawheels.com/alcoawheels/north_america/en/pdf/Alcoa_Comparative_LCA_of_Truck_Wheels_with_CR_statement.pdf . (Accessed: June 28, 2016). | Truck wheels; aluminum; steel | Cradle to grave | Primary energy demand; acidification potential; eutrophication potential; GHG emissions; ozone depletion potential; smog formation potential; human toxicity; eco-toxicity |
| LaClair, T.J., and R. Truemner. 2005. Modeling of Fuel Consumption for Heavy-Duty Trucks and the Impact of Tire Rolling Resistance. SAE International. doi: 10.4271/2005-01-3550. | Tires | Vehicle use | Energy requirements |
| Lattanzio, R.K. 2014. Canadian Oil Sands: Life-Cycle Assessments of Greenhouse Gas Emissions. Congressional Research Service. <i>Available at:</i> https://www.fas.org/sgp/crs/misc/R42537.pdf . (Accessed: June 28, 2016). | Oil sands crudes; global reference crudes; gasoline | Cradle to grave plus well to wheels | GHG emissions |

Table C-1. Studies Analyzed in Chapter 6, Life-cycle Assessment of Vehicle Energy, Materials, and Technologies

| Study Analyzed | Technologies/Materials Covered ^a | Life-cycle Boundaries ^b | Environmental Impacts Estimated ^c |
|---|---|--|---|
| <p>Lechtenböhmer, S., M. Altmann, S. Capito, Z. Matra, W. Weindorf, W. Zittel. 2011. Impacts of Shale Gas and Shale Oil Extraction on the Environment and on Human Health. European Parliament Directorate General for Internal Policies. Available at: http://www.europarl.europa.eu/document/activities/cont/201107/20110715ATT24183/20110715ATT24183EN.pdf. (Accessed: June 28, 2016).</p> | <p>Hydraulic fracturing; shale gas</p> | <p>Cradle to grave</p> | <p>Land use; air pollutants; soil contamination; surface and ground water pollution; earthquakes; human health impacts; GHG emissions</p> |
| <p>Lee, D-Y, V.M. Thomas, and M.A. Brown. 2013. Electric Urban Delivery Trucks: Energy Use, Greenhouse Gas Emissions, and Cost-Effectiveness. <i>Environmental Science & Technology</i> 47(14):8022–8030. doi: 10.1021/es400179w.</p> | <p>Diesel fuel; electric powered HD vehicles; HEVs; PHEVs; vehicle manufacturing; batteries; EV recycling</p> | <p>Cradle to grave plus well to wheels</p> | <p>Energy requirements; GHG emissions</p> |
| <p>Lewis, A.M., G. Keoleian, and J. Kelly. 2014. The Potential of Lightweight Materials and Advanced Combustion Engines to Reduce Life Cycle Energy and Greenhouse Gas Emissions. SAE International. doi: 10.4271/2014-01-1963.</p> | <p>Lightweighting; aluminum; HSS; HEVs; PHEVs; ethanol engines</p> | <p>Cradle to gate plus vehicle use</p> | <p>Energy requirements; GHG emissions</p> |
| <p>Lim, H. 2002. Study of Exhaust Emissions from Idling Heavy-Duty Diesel Trucks and Commercially Available Idle-Reducing Devices. U.S. Environmental Protection Agency. EPA420-R-02-025. Available at: http://nepis.epa.gov/Adobe/PDF/P10033E3.PDF. (Accessed: June 28, 2016).</p> | <p>Diesel APUs; diesel direct fired heater</p> | <p>Vehicle use</p> | <p>Fuel use; criteria pollutants</p> |
| <p>Lin, J., Smith, D.F., Babbit, C.W., and T.A. Trabold. 2011. Assessment of Bio-Fuel Options for Solid Oxide Fuel Cell-Based Auxiliary Power Units. 2011 IEEE International Symposium on Sustainable Systems and Technology. Chicago IL. doi: 10.1109/ISSST.2011.5936840.</p> | <p>SOFC APUs; bio-based fuels</p> | <p>Gate to gate including vehicle use</p> | <p>Criteria pollutants</p> |

Table C-1. Studies Analyzed in Chapter 6, Life-cycle Assessment of Vehicle Energy, Materials, and Technologies

| Study Analyzed | Technologies/Materials Covered ^a | Life-cycle Boundaries ^b | Environmental Impacts Estimated ^c |
|---|---|------------------------------------|--|
| Lloyd, S.M., and L.B. Lave. 2003. Life Cycle Economic and Environmental Implications of Using Nanocomposites in Automobiles. <i>Environmental Science Technology</i> 37(15):3458–3466. doi: 10.1021/es026023q. | Steel; aluminum; clay-polypropylene nanocomposite | Cradle to gate | Energy requirements; GHG emissions; criteria air pollutants; fuel/ electricity use; resource depletion; water use; hazardous waste generation; toxic releases |
| Majeau-Bettez, G., T. R. Hawkins, and A.H. Strømman. 2011. Life Cycle Environmental Assessment of Lithium-Ion and Nickel Metal Hydride Batteries for Plug-In Hybrid and Battery Electric Vehicles. <i>Environmental Science and Technology</i> 45(10):4548–4554. doi: 10.1021/es103607c. | Batteries (NiMH and Li-ion) | Cradle to gate | Global warming potential; fuel use; resource depletion; freshwater and marine ecotoxicity; freshwater and marine eutrophication; ozone depletion; metal depletion; particulate matter emissions; terrestrial acidification; human toxicity |
| Mammetti, M., D. Gallegos, A. Freixas, and J. Munoz. 2013. The Influence of Rolling Resistance on Fuel Consumption in Heavy-Duty Vehicles. SAE International. doi: 10.4271/2013-01-1343. | Tires | Vehicle use | Energy requirements; GHG emissions |
| Mayyas, A.T., A. Qattawi, A.R. Mayyas, and M.A. Omar. 2012. Life Cycle Assessment-Based Selection for Sustainable Lightweight Body-in-White Design. <i>Energy</i> 39(1):412–425. doi: 10.1016/j.energy.2011.12.033. | Lightweighting; HSS; aluminum; magnesium; carbon fiber/epoxy composite; glass fiber composite | Cradle to grave | Energy requirements; GHG emissions |
| Moawad, A., and A. Rousseau. 2012. Impact of Transmission Technologies on Fuel Efficiency—Final Report. NHTSA. Available at: http://www.nhtsa.gov/staticfiles/rulemaking/pdf/cafe/Effect_of_Transmission_Technologies-8116667.pdf . (Accessed: June 28, 2016). | Transmission systems | Vehicle use | Energy requirements; fuel use |

Table C-1. Studies Analyzed in Chapter 6, Life-cycle Assessment of Vehicle Energy, Materials, and Technologies

| Study Analyzed | Technologies/Materials Covered ^a | Life-cycle Boundaries ^b | Environmental Impacts Estimated ^c |
|---|---|------------------------------------|---|
| Mohapatra, S., and S. Das. 2014. Introduction of High Strength Steel for Commercial Vehicles—Light Weighting of Vehicles. SAE International. doi: 10.4271/2014-28-0002. | Lightweighting; HSS | Not applicable | Energy requirements; GHG emissions |
| NACFE (North American Council for Freight Efficiency). 2010. Executive Report—Wide Base Tires. Available at: http://nacfe.org/wp-content/uploads/2010/12/NACFE-ER-1002-Wide-Base-Tires-Dec-2010.pdf . (Accessed: June 28, 2016). | Tires | Vehicle use | Energy requirements |
| NAP (National Academies Press). 2015. Review of the 21st Century Truck Partnership: Third Report. | Transmission systems; eCoast | Vehicle use | Energy requirements; fuel use |
| NAS (National Academy of Sciences). 2010. National Research Council, Transportation Research Board – Technologies and Approaches to Reducing the Fuel Consumption of Medium- and Heavy-Duty Vehicles. | Aerodynamic devices | Vehicle use | Energy requirements |
| NAS (National Academy of Sciences). 2006. National Research Council, Transportation Research Board, Special Report 286 – Tires and Passenger Vehicle Fuel Economy – Informing Consumers, Improving Performance. | Tires | Vehicle use | Energy requirements |
| NHTSA (National Highway Traffic Safety Administration). 2009. NHTSA Tire Fuel Efficiency Consumer Information Program Development: Phase 2—Effects of Tire Rolling Resistance Levels on Traction, Treadwear, and Vehicle Fuel Economy. DOT HS 811 154. Available at: http://www.nhtsa.gov/DOT/NHTSA/NVS/Vehicle%20Research%20&%20Test%20Center%20(VRTC)/ca/Tires/811154.pdf . (Accessed: June 28, 2016). | Tires | Vehicle use | Energy requirements |
| Notter, D.A., M. Gauch, R. Widmer, P. Wager, A. Stamp, R. Zah, and H.J. Althaus. 2010. Contribution of Li-Ion Batteries to the Environmental Impact of Electric Vehicles. <i>Environmental Science Technology</i> 44(17):6550–6556. doi: 10.1021/es903729a. | Batteries (Li-ion) | Cradle to grave | Energy requirements; GHG emissions/global warming potential; criteria air pollutants; resource depletion; Ecoindicator 99 |

Table C-1. Studies Analyzed in Chapter 6, Life-cycle Assessment of Vehicle Energy, Materials, and Technologies

| Study Analyzed | Technologies/Materials Covered ^a | Life-cycle Boundaries ^b | Environmental Impacts Estimated ^c |
|---|---|------------------------------------|--|
| <p>Ogunwemimo, A. A. 2011. Economic Analysis of Continuous Monitoring of Commercial Truck Tire Pressure Using TPMS and RFID Technologies. University of Nebraska-Lincoln. Available at: http://digitalcommons.unl.edu/cgi/viewcontent.cgi?article=1027&context=imsediss. (Accessed: June 28, 2016).</p> | TPMS | Vehicle use | Energy requirements; material demands |
| <p>Overly, J.G., R. Dhingra, G.A. Davis, and S. Das. 2002. Environmental Evaluation of Lightweight Exterior Body Panels in New Generation Vehicles. SAE International. doi: 10.4271/2002-01-1965.</p> | Aluminum; carbon-fiber-reinforced polymer; glass-fiber-reinforced polymer | Cradle to grave | CO ₂ emissions; particulate matter emissions; eutrophication; photochemical smog; solid and hazardous waste generation; water quality |
| <p>Patterson, J., M. Alexander, and A. Gurr. 2011. Preparing for a Life Cycle CO₂ Measure. Ricardo Low Carbon Vehicle Partnership. Available at: http://www.lowcvp.org.uk/assets/reports/RD11_124801_4%20-%20LowCVP%20-%20Life%20Cycle%20CO2%20Measure%20-%20Final%20Report.pdf. (Accessed: June 28, 2016).</p> | Gasoline vehicles, diesel vehicles; PHEVs; EREVs; electric vehicles; fuel-cell vehicles | Not applicable | GHG emissions |
| <p>Richardson, M., and B. Haylock. 2012. Design/Maker: The Rise of Additive Manufacturing, Domestic-Scale Production and the Possible Implications for the Automotive Industry. <i>Computer-Aided Design & Application PACE</i> 2:33-48. doi: 10.3722/cadaps.2012.PACE.33-48.</p> | Additive manufacturing; 3D Printing | Not applicable | Not applicable |
| <p>Rooks, B. 2001. Tailor-Welded Blanks Bring Multiple Benefits to Car Design. <i>Assembly Automation</i>. 21(4):323–329.</p> | Tailor-welded blanks | Not applicable | Not applicable |
| <p>Routhier, B. 2007. New Generation Wide Base Single Tires. American Trucking Associations. Presented at the International Workshop on the Use of Wide-Base Tires, October 25 and 26. Federal Highway Administration.</p> | Tires | Vehicle use | Energy requirements |

Table C-1. Studies Analyzed in Chapter 6, Life-cycle Assessment of Vehicle Energy, Materials, and Technologies

| Study Analyzed | Technologies/Materials Covered ^a | Life-cycle Boundaries ^b | Environmental Impacts Estimated ^c |
|---|---|------------------------------------|--|
| Samaras, C., and K. Meisterling. 2008. Life Cycle Assessment of Greenhouse Gas Emissions from Plug-in Hybrid Vehicles: Implications for Policy. <i>Environmental Science Technology</i> 42(9):3170- 3176. doi: 10.1021/es702178s. | Batteries (NiMH and Li-ion) | Cradle to gate | Energy requirements; GHG emissions |
| Searchinger, T., R. Heimlich, R.A. Houghton, F. Dong, A. Elobied, J. Fabiosa, S. Tokgoz, D. Hayes, and T.-H. Yu. 2008. Use of U.S. Croplands for Biofuels Increases Greenhouse Gases Through Emissions from Land-Use Change. <i>Science</i> 319(5867):1238-1240. doi: 10.1126/science.1151861. | Biofuels | Cradle to grave | GHG emissions |
| Shan, Z., S. Qin, Q. Liu, and F. Liu. 2012. Key Manufacturing Technology & Equipment for Energy Saving and Emissions Reduction in Mechanical Equipment Industry. <i>International Journal of Precision Engineering and Manufacturing</i> 13(7):1095-1100. doi: 10.1007/s12541-012-0143-y. | Digital technology; new material, near-net shape forming technology; clean production; short production process technology; waste-free manufacturing technology; automatic control technology; remanufacturing and reusing technology | Cradle to grave | Energy requirements; GHG emissions |
| Sharpe, B., and M. Roeth. 2014. Costs and Adoption Rates of Fuel-Saving Technologies for Trailers in the North American On-Road Freight Sector. The International Council on Clean Transportation. Available at: http://www.theicct.org/costs-and-adoption-rates-fuel-saving-trailer-technologies . (Accessed: June 29, 2016). | Trailers; aerodynamic devices; tires | Vehicle use | Energy requirements |
| Shurepower. 2007. Electric-Powered Trailer Refrigeration Unit Demonstration. Prepared for the New York State Energy Research and Development Authority (NYSERDA) and the U.S. EPA SmartWay Transport Partnership by Shurepower, LLC. Available at: http://www.shorepower.com/adeq-nyserda-final-report.pdf . (Accessed: June 29, 2016). | Trailers; trailer refrigeration units; hybrid diesel-electric trailer refrigeration unit | Vehicle use | Energy requirements; CO emissions; particulate matter emissions; NOx emissions |

Table C-1. Studies Analyzed in Chapter 6, Life-cycle Assessment of Vehicle Energy, Materials, and Technologies

| Study Analyzed | Technologies/Materials Covered ^a | Life-cycle Boundaries ^b | Environmental Impacts Estimated ^c |
|--|--|------------------------------------|--|
| Sivinski, R. 2012. Evaluation of the Effectiveness of TPMS in Proper Tire Pressure Maintenance. NHTSA. Available at: https://crashstats.nhtsa.dot.gov/Api/Public/ViewPublication/811681 . (Accessed: June 29, 2016). | TPMS | Vehicle use | Energy requirements |
| Song, Y.S., J.R. Youn, and T.G. Gutowski. 2009. Life Cycle Energy Analysis of Fiber-Reinforced Composites. <i>Composites Part A: Applied Science and Manufacturing</i> 40(8):1257–1265. doi: 10.1016/j.compositesa.2009.05.020. | Fiber-reinforced composites | Cradle to grave | Energy requirements |
| Stodolsky, F., L. Gaines, and A. Vyas. 2000. Analysis of Technology Options to Reduce the Fuel Consumption of Idling Trucks. No. ANL/ESD-43. Argonne National Laboratory. Available at: https://crashstats.nhtsa.dot.gov/Api/Public/ViewPublication/811681 . (Accessed: June 29, 2016). | Direct-fire heaters | Vehicle use | Energy requirements; fuel use |
| Stodolsky, F., A. Vyas, R. Cuenca, and L. Gaines. 1995. Life-cycle Energy Savings Potential from Aluminum-Intensive Vehicles. Argonne National Laboratory. doi: 10.4271/951837. | Lightweighting; aluminum; recycling technology | Cradle to grave | Energy requirements; fuel use |
| Surcel, M.D., and J. Michaelsen. 2010. Evaluation of Tractor-Trailer Rolling Resistance Reducing Measures. SAE International. doi: 10.4271/2010-01-1917. | Trailers; tires | Vehicle use | Energy requirements; GHG emissions |
| Tavast, J. 2007. Solar Control Glazing for Trucks. University of Uppsala. | Solar control glazings | Vehicle use | Energy requirements; fuel use |
| Tempelman, E. 2011. Multi-Parametric Study of the Effect of Materials Substitution on Life Cycle Energy Use and Waste Generation of Passenger Car Structures. <i>Transportation Research Part D: Transport and Environment</i> 16(7):479–485. doi: 10.1016/j.trd.2011.05.007. | Lightweighting; HSS; fiber-reinforced plastics; aluminum | Cradle to grave | Energy requirements; waste generation |
| TIAX. 2009. Assessment of Fuel Economy Technologies for Medium- and Heavy- Duty Vehicles. Final Report to National Academy of Sciences. doi: 10.17226/12924. | Tires | Vehicle use | Energy requirements |

Table C-1. Studies Analyzed in Chapter 6, Life-cycle Assessment of Vehicle Energy, Materials, and Technologies

| Study Analyzed | Technologies/Materials Covered ^a | Life-cycle Boundaries ^b | Environmental Impacts Estimated ^c |
|---|---|------------------------------------|--|
| Ungurean, C.A., S. Das, and I.S. Jawahir. 2007. Development of a Sustainability Scoring Method for Manufactured Automotive Products: A Case Study of Auto Body Panels. ASME International Mechanical Engineering Congress and Exposition. doi: 10.1115/IMECE2007-43818. | Aluminum; steel alloy | Not applicable | CO ₂ emissions |
| U.S. Department of Energy. 2013c. Workshop Report: Trucks and Heavy-Duty Vehicles Technical Requirements and Gaps for Lightweight and Propulsion Materials. U.S. Department of Energy, Energy Efficiency and Renewable Energy, Vehicle Technologies Office. DOE/EE-0867. | Aerodynamic devices | Vehicle use | Energy requirements |
| U.S. House of Representatives Committee on Energy and Commerce. 2011. Chemicals Used in Hydraulic Fracturing. <i>Available at:</i> http://www.conservation.ca.gov/dog/general_information/Documents/Hydraulic%20Fracturing%20Report%204%2018%2011.pdf . (Accessed: June 29, 2016). | Hydraulic fracturing; natural gas; | Natural gas production | Human health impacts; ground water contamination; air pollution |
| U.S. State Department. 2014. Final Supplemental Environmental Impact Statement for the Keystone XL Project. U.S. Department of State Bureau of Oceans and International Environmental and Scientific Affairs. <i>Available at:</i> https://keystonepipeline-xl.state.gov/documents/organization/221135.pdf . (Accessed: June 29, 2016). | Oil sands crudes; global reference crudes; gasoline | Well to wheels production | GHG emissions; land use; water pollution; air pollution; energy requirements; human health impacts |
| Volz, C.D., K. Ferrar, D. Michanowicz, C. Christen, S. Kearney, M. Kelso, and S. Malone. 2011. Contaminant Characterization of Effluent from Pennsylvania Brine Treatment Inc., Josephine Facility Being Released into Blacklick Creek, Indiana County, Pennsylvania. <i>Available at:</i> https://www.epa.gov/sites/production/files/documents/contaminantcharacterizationofeffluent.pdf . (Accessed: June 29, 2016). | Shale gas; hydraulic fracturing | Shale gas extraction | Water pollution; human health impacts |

Table C-1. Studies Analyzed in Chapter 6, Life-cycle Assessment of Vehicle Energy, Materials, and Technologies

| Study Analyzed | Technologies/Materials Covered ^a | Life-cycle Boundaries ^b | Environmental Impacts Estimated ^c |
|--|--|---|---|
| Vujičić, A., N. Zrnić, and B. Jerman. 2013. Ports Sustainability: A Life Cycle Assessment of Zero Emission Cargo Handling Equipment. <i>Strojniški vestnik—Journal of Mechanical Engineering</i> 59(9):547–555. doi: 10.5545/sv-jme.2012.933. | Diesel fuel; electric power; port-based HD vehicles | Cradle to gate and cradle to grave plus end of life | Global warming potential; ocean acidification; eutrophication potential; ozone depletion; radioactive waste |
| Wang, M., M. Wu, and H. Huo. 2007. Life-Cycle Energy and Greenhouse Gas Emission Impacts of Different Corn Ethanol Plant Types. <i>Environmental Research Letters</i> . doi: 10.1088/1748-9326/2/2/024001. | Corn ethanol | Ethanol production | GHG emissions; energy requirements |
| Weiss, M.A., J.B. Heywood, E.M. Drake, A. Schafer, and F.F. AuYeung. 2000. On the Road in 2020: A Life-Cycle Analysis of New Automobile Technologies. Massachusetts Institute of Technology. Available at: http://mitei.mit.edu/publications/reports-studies/road-2020-life-cycle-analysis-new-automobile-technologies . (Accessed: June 29, 2016). | Lightweighting; HEVs; BEVs; fuel cells; HSS; aluminum; plastics; alternative fuels | Cradle to grave | Energy requirements; GHG emissions |
| Werrell, C., and F. Femia. 2012. The 3D Printing Revolution, Climate Change and National Security: An Opportunity for U.S. Leadership. The Center for Climate and Security. Available at: https://climateandsecurity.org/2012/12/05/the-3d-printing-revolution-climate-change-and-national-security-an-opportunity-for-u-s-leadership/ . (Accessed: June 29, 2016). | 3D Printing | Not applicable | Not applicable |
| Witik, R.A., J. Payet, V. Michaud, C. Ludwig, and J.E. Manson. 2011. Assessing the Life Cycle Costs and Environmental Performance of Lightweight Materials in Automotive Applications. <i>Composites: Part A</i> 2(11):1694-1709. doi: 10.1016/j.compositesa.2011.07.024. | Sheet molding compound, GlassMat Thermoplastic, Glass Fiber, Magnesium, Carbon Fiber | Cradle to Grave | GHG emissions, resource depletion, human health, ecosystem quality |

Table C-1. Studies Analyzed in Chapter 6, Life-cycle Assessment of Vehicle Energy, Materials, and Technologies

| Study Analyzed | Technologies/Materials Covered ^a | Life-cycle Boundaries ^b | Environmental Impacts Estimated ^c |
|--|--|------------------------------------|--|
| Yeh, S., S.M. Jordaan, A.R. Brandt, M.R. Turetsky, S. Spatari, and D.W. Keith. 2010. Land Use Greenhouse Gas Emissions from Conventional Oil Production and Oil Sands. <i>Environmental Science & Technology</i> 44:55-63. doi: 10.1021/es1013278. | Biofuels; fossil fuels; conventional oil; oil sands surface mining; oil sands in situ production | Fuel production | Land use; energy requirements; GHG emissions |
| Zhao, H., A. Burke, M. Miller. 2013. Analysis of Class 8 Truck Technologies for Their Fuel Savings and Economics. <i>Transportation Research Part D</i> 23(22):8766-72. doi: 10.1016/j.trd.2013.04.004. | Diesel fuel; HEV; FCEV; LNG; Electricity and Hydrogen | Vehicle use | Energy requirements; operational costs |

Notes:

- ^a AHSS = advanced high strength steel; APU = auxiliary power units; BEV = battery electric vehicle; CNF = carbon nanofiber; CNF-GF = carbon nanofiber-glass fiber; EREV = extended range electric vehicle; EV = electric vehicle; FCEV = fuel cell electric vehicle; HEV = hybrid electric vehicle; HSS = high strength steel; Li-ion = lithium-ion; LNG = liquefied natural gas; NiMH = nickel-metal hydride; PEM = proton exchange membrane; PHEV = plug-in hybrid electric vehicle; PNC = polymer nanocomposites; SOFC = solid oxide fuel cells; TPMS = tire pressure management system.
- ^b Cradle to gate = assessment of a partial product life cycle that includes the raw material extraction and manufacturing stages, and transportation between these stages; cradle to grave = life-cycle assessment that includes all five stages of a product's life cycle (i.e., raw material extraction, manufacturing, vehicle use, end-of-life management, and transportation between the various stages); gate to gate = assessment of a partial product life-cycle that includes only the manufacturing stage.
- ^c CO = carbon monoxide; CO₂ = carbon dioxide; GHG = greenhouse gas; HF = hydrogen fluoride; NO_x = nitrogen oxides; SO_x = oxides of sulfur.

APPENDIX D

Air Quality Modeling and Health Impacts Assessment

Contents

| | |
|---|--------------|
| List of Tables | D-ii |
| List of Figures..... | D-iv |
| List of Acronyms and Abbreviations..... | D-vi |
| D.1 Introduction..... | D.1-1 |
| D.1.1 Objective | D.1-1 |
| D.1.2 Overview of the Methodology..... | D.1-1 |
| D.1.3 Model Applications..... | D.1-4 |
| D.2 Emission Inventory Preparation..... | D.2-1 |
| D.2.1 Emissions Data and Methods | D.2-1 |
| D.2.2 Emissions Processing Procedures | D.2-2 |
| D.2.2.1 Preparation of On-road Mobile Emission Inputs | D.2-2 |
| D.2.2.2 Preparation of Upstream Emission Inputs..... | D.2-4 |
| D.2.2.3 Emission Processing and Quality Assurance Procedures..... | D.2-5 |
| D.2.3 Emission Summaries | D.2-6 |
| D.3 Air Quality Modeling | D.3-1 |
| D.3.1 Overview of the CMAQ Modeling System | D.3-1 |
| D.3.2 CMAQ Application Procedures for the NHTSA Modeling Analysis | D.3-2 |
| D.3.2.1 Modeling Domain and Simulation Period..... | D.3-2 |
| D.3.2.2 Meteorological and Other Input Files..... | D.3-2 |
| D.3.2.3 Model Performance Evaluation | D.3-3 |
| D.3.2.4 Post-processing and Quality Assurance Procedures..... | D.3-14 |
| D.3.3 CMAQ Modeling Results | D.3-14 |
| D.3.3.1 Direct and Indirect Impacts | D.3-14 |
| D.3.3.2 Cumulative Impacts | D.3-19 |
| D.3.3.3 Discussion of Attributes, Limitations and Uncertainties..... | D.3-22 |
| D.4 Health Effects and Benefits Modeling | D.4-1 |
| D.4.1 Overview of the BenMAP-CE Modeling System | D.4-1 |
| D.4.2 BenMAP-CE Application Procedures for the NHTSA Modeling Analysis..... | D.4-2 |
| D.4.2.1 Health Impact Functions..... | D.4-3 |
| D.4.2.2 Valuation Metrics..... | D.4-6 |
| D.4.2.3 Post-processing and Quality Assurance Procedures..... | D.4-9 |
| D.4.3 BenMAP-CE Results | D.4-9 |
| D.4.3.1 Direct and Indirect Impacts | D.4-9 |
| D.4.3.2 Cumulative Impacts | D.4-16 |
| D.4.3.3 Summary of BenMAP-CE Results..... | D.4-23 |
| D.4.3.4 Discussion of Attributes and Limitations | D.4-27 |
| D.5 References and Preparers..... | D.5-1 |
| D.5.1 References | D.5-1 |
| D.5.2 Preparers | D.5-3 |

Tables

| | Page |
|---|-------------|
| Table D.2.2.1-1. Vehicle Types in EPA’s SMOKE Input Files for On-road Mobile Sources | D.2-2 |
| Table D.2.2.1-2. Roadway Types in EPA’s SMOKE Input Files for On-road Mobile Sources | D.2-3 |
| Table D.2.3-1. National (48-state) Emission Totals (thousands tons/year) by Sector for the NHTSA Future-Year Modeling Analyses and Alternatives | D.2-7 |
| Table D.2.3-2. National (48-state) Emission Totals (thousands tons/year) for All Sectors Combined for the NHTSA Future-Year Modeling Analyses and Alternatives | D.2-8 |
| Table D.3.2.3-4a. Model Performance Statistics for Daily 24-Hour Average PM2.5 Concentration for the U.S. Portion of the NHTSA CMAQ Modeling Domain (January through June) | D.3-12 |
| Table D.3.2.3-4b. Model Performance Statistics for Daily 24-Hour Average PM2.5 Concentration for the U.S. Portion of the NHTSA CMAQ Modeling Domain (July through December and Annual) | D.3-12 |
| Table D.4.2.1-1. Health Impact Functions Used to Estimate Ozone-related Health Effects | D.4-4 |
| Table D.4.2.1-2. Health Impact Functions Used to Estimate PM2.5-related Health Effects | D.4-5 |
| Table D.4.2.2-1. Valuation Functions Used to Estimate Ozone-related Monetized Health-related Benefits | D.4-7 |
| Table D.4.2.2-2. Valuation Functions Used to Estimate PM2.5-related Monetized Health-Related Benefits | D.4-8 |
| Table D.4.3.1-1. BenMAP-CE Aggregated/Pooled Incidence Results for Ozone-related Mortality: Estimated Nationwide Reduction in Premature Mortality, Direct and Indirect Impacts | D.4-10 |
| Table D.4.3.1-2. BenMAP-CE Aggregated/Pooled Incidence Results for Ozone-related Morbidity: Estimated Nationwide Reduction in Various Morbidity Endpoints, Direct and Indirect Impacts | D.4-10 |
| Table D.4.3.1-3. BenMAP-derived Nationwide Monetized Health-related Benefits for Ozone-related Mortality: Estimated Monetized Benefits (millions 2010 U.S. dollars/year) Related to Premature Mortality, Direct and Indirect Impacts | D.4-11 |
| Table D.4.3.1-4. BenMAP-derived Nationwide Monetized Health-related Benefits for Ozone-related Morbidity: Estimated Monetized Benefits (millions 2010 U.S. dollars/year) Related to Various Morbidity Endpoints, Direct and Indirect Impacts | D.4-11 |
| Table D.4.3.1-5. BenMAP-CE Aggregated/Pooled Incidence Results for PM2.5-related Mortality: Estimated Nationwide Reduction in Premature Mortality, Direct and Indirect Impacts | D.4-12 |
| Table D.4.3.1-6. BenMAP-CE Aggregated/Pooled Incidence Results for PM2.5-related Morbidity: Estimated Nationwide Reduction in Various Morbidity Endpoints, Direct and Indirect Impacts | D.4-13 |
| Table D.4.3.1-7. BenMAP-CE Monetized Health-related Benefits for PM2.5-related Mortality with a 3 Percent Discount Rate: Estimated Monetized Benefits (millions 2010 U.S. dollars/year) Related to Premature Mortality, Direct and Indirect Impacts | D.4-14 |
| Table D.4.3.1-8. BenMAP-CE Monetized Health-related Benefits for PM2.5-related Mortality with a 7 Percent Discount Rate: Estimated Monetized Benefits (millions 2010 U.S. dollars/year) Related to Premature Mortality, Direct and Indirect Impacts | D.4-15 |
| Table D.4.3.1-9. BenMAP-derived Nationwide Monetized Health-related Benefits for PM2.5-related Morbidity: Estimated Monetized Benefits (millions 2010 U.S. dollars/year) Related to Various Morbidity Endpoints, Direct and Indirect Impacts | D.4-16 |

| | | |
|------------------|--|--------|
| Table D.4.3.2-1. | BenMAP-CE Aggregated/Pooled Incidence Results for Ozone-related Mortality: Estimated Nationwide Reduction in Premature Mortality, Cumulative Impacts D.4-17 | D.4-17 |
| Table D.4.3.2-2. | BenMAP-CE Aggregated/Pooled Incidence Results for Ozone-related Morbidity: Estimated Nationwide Reduction in Various Morbidity Endpoints, Cumulative Impacts D.4-17 | D.4-17 |
| Table D.4.3.2-3. | BenMAP-derived Nationwide Monetized Health-related Benefits for Ozone-related Mortality: Estimated Monetized Benefits (millions 2010 U.S. dollars/year) Related to Premature Mortality, Cumulative Impacts D.4-18 | D.4-18 |
| Table D.4.3.2-4. | BenMAP-derived Nationwide Monetized Health-related Benefits for Ozone-related Morbidity: Estimated Monetized Benefits (millions 2010 U.S. dollars/year) Related to Various Morbidity Endpoints, Cumulative Impacts D.4-18 | D.4-18 |
| Table D.4.3.2-5. | BenMAP-CE Aggregated/Pooled Incidence Results for PM2.5-related Mortality: Estimated Nationwide Reduction in Premature Mortality, Cumulative Impacts D.4-19 | D.4-19 |
| Table D.4.3.1-6. | BenMAP-CE Aggregated/Pooled Incidence Results for PM2.5-related Morbidity: Estimated Nationwide Reduction in Various Morbidity Endpoints, Cumulative Impacts D.4-20 | D.4-20 |
| Table D.4.3.1-7. | BenMAP-CE Monetized Health-related Benefits for PM2.5-related Mortality with a 3 Percent Discount Rate: Estimated Monetized Benefits (millions 2010 U.S. dollars/year) Related to Premature Mortality, Cumulative Impacts D.4-21 | D.4-21 |
| Table D.4.3.1-8. | BenMAP-CE Monetized Health-related Benefits for PM2.5-related Mortality with a 7 Percent Discount Rate: Estimated Monetized Benefits (millions 2010 U.S. dollars/year) Related to Premature Mortality, Cumulative Impacts D.4-22 | D.4-22 |
| Table D.4.3.1-9. | BenMAP-derived Nationwide Monetized Health-related Benefits for PM2.5-related Morbidity: Estimated Monetized Benefits (millions 2010 U.S. dollars/year) Related to Various Morbidity Endpoints, Cumulative Impacts D.4-23 | D.4-23 |

Figures

| | Page |
|---|-------------|
| Figure D.1.2-1. CMAQ Modeling Domain for the NHTSA Phase 2 MDHD Air Quality Modeling Analysis (Horizontal Grid Spacing is 36 kilometers [22.4 miles])..... | D.1-3 |
| Figure D.1.2-2. Schematic Diagram of the NHTSA MDHD Standards Air Quality Modeling and Health-related Benefits Analysis | D.1-4 |
| Figure D.2.3-1a. Daily VOC Emissions for July 15: Direct and Indirect Impacts No Action Alternative (Alternative 1B)..... | D.2-8 |
| Figure D.2.3-1b. Daily NOX Emissions for July 15: Direct and Indirect Impacts No Action Alternative (Alternative 1B)..... | D.2-9 |
| Figure D.2.3-1c. Daily SO2 Emissions for July 15: Direct and Indirect Impacts No Action Alternative (Alternative 1B)..... | D.2-9 |
| Figure D.2.3-1d. Daily PM2.5 Emissions for July 15: Direct and Indirect Impacts No Action Alternative (Alternative 1B)..... | D.2-10 |
| Figure D.2.3-2a. Difference in Daily VOC Emissions for July 15 for Alternative 3 Compared to the Direct and Indirect Impacts No Action Alternative (Alternative 1B) | D.2-11 |
| Figure D.2.3-2b. Difference in Daily NOX Emissions for July 15 for Alternative 3 Compared to the Direct and Indirect Impacts No Action Alternative (Alternative 1B) | D.2-11 |
| Figure D.2.3-2c. Difference in Daily SO2 Emissions for July 15 for Alternative 3 Compared to the Direct and Indirect Impacts No Action Alternative (Alternative 1B) | D.2-12 |
| Figure D.2.3-2d. Difference in Daily PM2.5 Emissions for July 15 for Alternative 3 Compared to the Direct and Indirect Impacts No Action Alternative (Alternative 1B) | D.2-12 |
| Figure D.2.3-3a. National Emission Totals for VOC for the NHTSA MDHD Alternatives | D.2-13 |
| Figure D.2.3-3b. National Emission Totals for NOX for the NHTSA MDHD Alternatives..... | D.2-13 |
| Figure D.2.3-3c. National Emission Totals for SO2 for the NHTSA MDHD Alternatives..... | D.2-14 |
| Figure D.2.3-3d. National Emission Totals for PM2.5 for the NHTSA MDHD Alternatives..... | D.2-14 |
| Table D.3.2.3-1. Definition and Description of Measures/Metrics for CMAQ Model Performance Evaluation for the NHTSA MDHD Air Quality Modeling Analysis | D.3-3 |
| Figure D.3.2.3-1. Comparison of Simulated and Observed Daily Maximum 8-Hour Average Ozone Concentration (ppb) by Month (April through October) for the U.S. Portion of the NHTSA CMAQ Modeling Domain..... | D.3-4 |
| Table D.3.2.3-2. Summary Model Performance Statistics for Daily Maximum 8-Hour Average Ozone Concentration for the U.S. Portion of the NHTSA CMAQ Modeling Domain: 40 ppb Lower Bound | D.3-6 |
| Table D.3.2.3-3. Summary Model Performance Statistics for Daily Maximum 8-Hour Average Ozone Concentration for the U.S. Portion of the NHTSA CMAQ Modeling Domain: 60 ppb Lower Bound | D.3-7 |
| Figure D.3.2.3-2. Site-Specific Normalized Bias (%; Top) and Normalized Mean Error (%; Bottom) Based on Daily Maximum 8-Hour Average Simulated and Observed Ozone Concentrations (April through October Combined) | D.3-8 |
| Figure D.3.2.3-3. Comparison of Simulated and Observed 24-Hour Average PM2.5 Concentration (µg/m3) by Month for the U.S. Portion of the NHTSA CMAQ Modeling Domain..... | D.3-9 |
| Figure D.3.2.3-4. Site-Specific Fractional Bias (%; Top) and Fractional Error (%; Bottom) Based on Daily 24-Hour Average Simulated and Observed PM2.5 Concentrations (Annual)..... | D.3-13 |

| | | |
|-------------------|---|--------|
| Figure D.3.3.1-1. | Simulated Daily Maximum 8-hour Ozone Concentration (ppb) for July 15, 2035: No Action Alternative (Alternative 1B), Direct and Indirect Impacts | D.3-15 |
| Figure D.3.3.1-2. | Difference in Simulated Daily Maximum 8-hour Ozone Concentration (ppb) for July 15, 2035: Direct and Indirect Impacts under Alternatives 2, 3, 4 and 5 Compared to the No Action Alternative | D.3-16 |
| Figure D.3.3.1-3. | Simulated Annual Average PM2.5 Concentration ($\mu\text{g}/\text{m}^3$) for 2035: No Action Alternative (Alternative 1B), Direct and Indirect Impacts | D.3-17 |
| Figure D.3.3.1-4. | Difference in Simulated Annual Average PM2.5 Concentration ($\mu\text{g}/\text{m}^3$) for 2035: Direct and Indirect Impacts under Alternatives 2, 3, 4 and 5 Compared to the No Action Alternative | D.3-18 |
| Figure D.3.3.2-1. | Simulated Daily Maximum 8-hour Ozone Concentration (ppb) for July 15, 2035: No Action Alternative (Alternative 1A), Cumulative Impacts | D.3-19 |
| Figure D.3.3.2-2. | Difference in Simulated Daily Maximum 8-hour Ozone Concentration (ppb) for July 15, 2035: Cumulative Impacts under Alternatives 2, 3, 4 and 5 Compared to the No Action Alternative | D.3-20 |
| Figure D.3.3.2-3. | Simulated Annual Average PM2.5 Concentration ($\mu\text{g}/\text{m}^3$) for 2035: No Action Alternative (Alternative 1A), Cumulative Impacts | D.3-21 |
| Figure D.3.3.2-4. | Difference in Simulated Annual Average PM2.5 Concentration ($\mu\text{g}/\text{m}^3$) for 2035: Cumulative Impacts under Alternatives 2, 3, 4 and 5 Compared to the No Action Alternative | D.3-22 |
| Figure D.4.2-1. | Schematic Diagram of the NHTSA Phase 2 MDHD BenMAP-CE Health Effects and Benefits Analysis | D.4-3 |
| Figure D.4.3.3-1. | BenMAP-derived Changes in Selected Health Outcomes for the Direct and Indirect Impacts and Cumulative Impacts Analyses: Ozone (Reduction in the Number of Cases) | D.4-24 |
| Figure D.4.3.3-2. | BenMAP-derived Changes in Selected Health Outcomes for the Direct and Indirect Impacts and Cumulative Impacts Analyses: PM2.5 (Reduction in the Number of Cases) | D.4-24 |
| Figure D.4.3.3-3. | BenMAP-derived Monetized Health-related Benefits for the Direct and Indirect Impacts and Cumulative Impacts Analyses: Ozone (Reduction in Millions of 2010 U.S. Dollars/Year)..... | D.4-25 |
| Figure D.4.3.3-4. | BenMAP-derived Monetized Health-related Benefits for the Direct and Indirect Impacts and Cumulative Impacts Analyses: PM2.5 (Reduction in Millions of 2010 U.S. Dollars/Year)..... | D.4-26 |
| Figure D.4.3.4-1. | BenMAP-derived Monetized Health-related Benefits for the Direct and Indirect Impacts and Cumulative Impact Analyses, with 5th- and 95th-percentile Ranges (Reduction in Millions of 2010 U.S. Dollars/Year) | D.4-28 |
| Figure D.4.3.4-2. | BenMAP-derived Monetized Health-related Benefits for the Direct and Indirect Impacts and Cumulative Impact Analyses, with One Standard Deviation (Reduction in Millions of 2010 U.S. Dollars/Year) | D.4-29 |

ACRONYMS AND ABBREVIATIONS

| | |
|--------------------------|--|
| AMET | Atmospheric Model Evaluation Tool |
| AQS | Air Quality System |
| BenMAP-CE | Environmental Benefits Mapping and Analysis Program – Community Edition |
| CAFE | Corporate Average Fuel Economy |
| CMAQ | Community Multiscale Air Quality |
| CI | Cumulative Impacts |
| CMAQ | Community Multiscale Air Quality |
| CO | carbon monoxide |
| COI | cost of illness |
| DII | Direct and Indirect Impacts |
| EGU | electric generating unit |
| EIS | Environmental Impact Statement |
| EPA | U.S. Environmental Protection Agency |
| REET | Greenhouse Gas, Regulated Emissions and Energy Used in Transportation |
| IPM | Integrated Planning Model |
| LD | Light-duty |
| $\mu\text{g}/\text{m}^3$ | micrograms per cubic meter |
| MCIP | Meteorology-Chemistry Interface Processor |
| MDHD | Medium- and Heavy-Duty |
| MOVES | Motor Vehicle Emission Simulator |
| NAAQS | National Ambient Air Quality Standards |
| NH ₃ | ammonia |
| NHTSA | National Highway Traffic Safety Administration |
| NO _x | oxides of nitrogen |
| PAVE | Package for Analysis and Visualization of Environmental |
| PM10 | Coarse particulates (particulate matter with an aerodynamic diameter equal to or less than 10 microns) |
| PM2.5 | Fine particulates (particulate matter with an aerodynamic diameter equal to or less than 2.5 microns) |
| ppb | parts per billion |
| SMOKE | Sparse-Matrix Operator Kernel Emissions |
| SO ₂ | sulfur dioxide |
| VMT | vehicle miles traveled |
| VOC | volatile organic compounds |
| VSL | value of statistical life |
| WRF | Weather Research and Forecasting Model |
| WTP | willingness to pay |

D.1 INTRODUCTION

This appendix summarizes the application of air quality modeling tools to assess the impacts to air quality and the related health effects of the National Highway Traffic Safety Administration's (NHTSA) proposed Phase 2 Fuel Efficiency Standards for Medium- and Heavy-Duty (MDHD) Engines and Vehicles. The air quality modeling and health effects analysis focused on ozone and fine particulate matter (PM_{2.5}).

D.1.1 Objective

The objective of this study was to use air quality modeling and health-related benefits analysis tools to examine the air quality-related consequences of the Proposed Action and, specifically, to quantify the expected future air quality and health-related benefits associated with the alternative fuel efficiency standards NHTSA considered in its Draft Environmental Impact Statement (EIS)¹ (NHTSA 2015). To support this objective, NHTSA calculated estimates of air quality changes and health-related benefits for the national scale, based on a detailed analysis of air quality and health effects throughout the contiguous 48 states.

Different regions of the country could experience either a net increase or a net decrease in emissions due to the Proposed Action, depending on the relative magnitudes of the changes in emissions due to increased fuel economy, increased vehicle use, and reduced fuel production and distribution. The EIS air quality analysis accounts for regional differences through the use of grid-based air quality modeling and analysis techniques, which account for local and regional differences in emissions and many of the other factors (such as meteorology and atmospheric processes) that affect air quality and the resulting health effects at any given location.

This air quality modeling analysis is intended as a screening application of both the Community Multiscale Air Quality (CMAQ) model and the Environmental Benefits Mapping and Analysis Program (BenMAP) tool for the purposes of quantifying and comparing the air quality and health-related benefits of the NHTSA MDHD alternatives. The results cannot be directly compared with the U.S. Environmental Protection Agency (EPA) analysis of the final MDHD program due to inherent differences in emissions data, modeling grid resolution, use of a different analysis year, and other factors.

D.1.2 Overview of the Methodology

To examine and quantify the air quality and health-related benefits associated with implementing the Phase 2 Fuel Efficiency Standards for MDHD Engines and Vehicles alternatives, NHTSA performed a national-scale photochemical air quality modeling and health risk assessment, the key components of which were:

- Preparing emission inventories
- Modeling air quality
- Assessing health impacts

¹ To accommodate the substantial time required to complete the air quality modeling analysis, NHTSA initiated air quality modeling before the inputs and emissions forecasts for the Final EIS were finalized. Therefore, NHTSA used the Draft EIS alternatives, inputs and emissions forecasts for the analysis in this report.

The primary tools used for this assessment were:

- Sparse-Matrix Operator Kernel Emissions (SMOKE) processing tool (version 3.6) to prepare model-ready emissions
- Community Multiscale Air Quality (CMAQ) model (version 5.0.2) to quantify air quality changes for the different fuel economy alternatives
- Environmental Benefits Mapping and Analysis Program – Community Edition (BenMAP-CE) tool (version 1.1) to assess the health-related impacts of the simulated changes in air quality

These tools are widely used in air quality and health effects analyses.

The national-scale modeling analysis employed the standard CMAQ continental modeling domain, shown in Figure D.1.2-1. The horizontal resolution of the grid for this modeling domain is 36 kilometers (22.4 miles). Air quality and health-related impacts were calculated for each grid cell within the entire contiguous United States (48 states). Although the modeling domain does not include all 50 states, nearly all of the affected emissions and population are included in the domain; therefore, the results are expected to represent those for a national-scale analysis.

NHTSA applied the CMAQ model for an annual simulation period using meteorological inputs for a base year of 2011. The EPA provided the meteorological inputs used for this study, and is currently using these inputs for a number of other air quality modeling studies.

Modeling was performed for 2035 (although the emission inputs represented a variety of different projection years including 2030, 2035, and 2040 based on best available data) and the results were used to examine the Preferred Alternative and action alternatives considered in the Draft EIS. As in the Draft EIS, NHTSA chose 2035 for analysis of the various fuel economy alternatives because a large proportion of vehicles in operation are expected to meet the level of the standards set forth by 2035. EPA provided up-to-date, projected, national-scale emissions data for use in this analysis and these emissions were for 2040 for motor vehicles and for 2030 for all other sources. The emissions were processed for the 36-kilometer (22.4-mile) resolution modeling domain using SMOKE. The resulting model-ready inventories contain emissions for all criteria pollutants (as required for photochemical modeling) for multiple source category sectors, including on-road mobile sources, non-road mobile sources (e.g., construction equipment, locomotives, ships, and aircraft), electric generating unit (EGU) point sources, non-EGU point sources, area sources, and biogenic sources.

Figure D.1.2-1. CMAQ Modeling Domain for the NHTSA Phase 2 MDHD Air Quality Modeling Analysis (Horizontal Grid Spacing is 36 kilometers [22.4 miles])



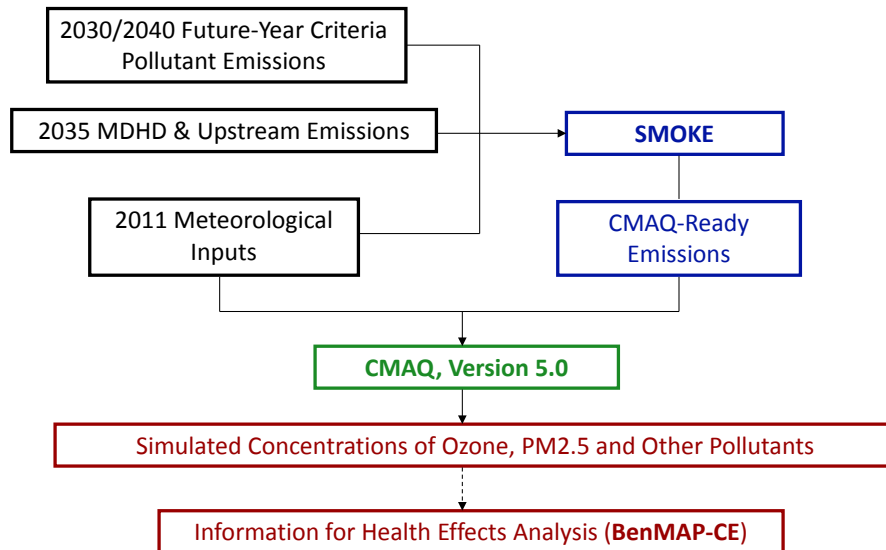
Following preparation of baseline emissions inventories, the baseline emissions for the MDHD vehicles and engines portion of the on-road mobile emissions and the relevant upstream categories were replaced with data reflecting the alternatives analyzed in the Draft EIS. NHTSA calculated national estimates of on-road emissions for these vehicle classes for 2035. Downstream emissions from tractor-trailers and vocational vehicles were estimated using the most recent version of EPA's Motor Vehicle Emissions Simulator (MOVES2014) model. Downstream emissions from Classes 2b and 3 vehicles were estimated using the most recent version of NHTSA's Corporate Average Fuel Economy (CAFE) Compliance and Effects Modeling System (the Volpe HD model). To estimate Classes 2b and 3 upstream emissions changes resulting from the decreased downstream fuel consumption, the analysis used the Volpe HD model, which incorporates emission factors from the Greenhouse Gases, Regulated Emissions, and Energy Use in Transportation (GREET) model (2013 version developed by the U.S. Department of Energy Argonne National Laboratory). The Volpe HD model uses the decreased volumes of the fuels along with the emissions factors from GREET for the various fuel production and transport processes to estimate the net changes in upstream emissions as a result of fuel consumption changes. To estimate Classes 4 through 8 upstream emissions, the analysis used a spreadsheet model developed by EPA that uses an identical methodology based on GREET emissions factors.

NHTSA then applied CMAQ for each alternative, using the emissions specific to each alternative. The simulated difference in air quality between the No Action Alternative and each action alternative represents the change in air quality associated with that alternative. Following the application of CMAQ, NHTSA processed the CMAQ outputs for input to the BenMAP-CE health effects analysis tool, and used BenMAP-CE to estimate the health impacts and monetized health-related benefits associated with the changes in air quality simulated by CMAQ for each of the action alternatives. The BenMAP-CE tool includes health impact functions, which relate a change in the concentration of a pollutant with a change in the incidence of a health endpoint. BenMAP-CE also calculates the economic value of health impacts. For this study, the health effects analysis considered the effects of ozone and fine particulate matter (PM_{2.5}). Health impacts directly associated with changes in sulfur dioxide (SO₂), carbon

monoxide (CO) and other emissions were not estimated using BenMAP-CE. Health effects were calculated for the national scale.

Figure D.1.2-2 shows the components of the NHTSA air quality modeling and health-related benefits analysis. Note that both the emissions and meteorological inputs are used by SMOKE.

Figure D.1.2-2. Schematic Diagram of the NHTSA MDHD Standards Air Quality Modeling and Health-related Benefits Analysis



D.1.3 Model Applications

NHTSA designed the modeling analysis to examine the air quality impacts and related health benefits associated with selected alternatives to support the development of the Final EIS for the Phase 2 fuel efficiency standards for MDHD trucks for beyond model year 2018. The modeling analysis examines direct and indirect impacts and cumulative impacts, as discussed in detail in the Draft EIS (NHTSA 2015) for five alternatives (including the No Action Alternative [Alternative 1] and the Preferred Alternative [Alternative 3]).

For this modeling analysis, the No Action Alternative was modeled for two different impact categories—direct and indirect impacts (designated as Alternative 1B) and cumulative impacts (designated as Alternative 1A).

Direct and Indirect Impacts (DI): The Direct and Indirect Impacts No Action Alternative (Alternative 1B) is a “dynamic” baseline—it assumes that the MDHD Phase 1 standards for new vehicles will remain at the model year 2018 level, and then actual new-vehicle fuel economy will rise slowly due to market forces after 2018.

Cumulative Impacts (CI): The Cumulative Impacts No Action Alternative (Alternative 1A) is a “flat” baseline—it assumes that the MDHD Phase 1 standards for new vehicles will remain at the model year 2018 level, and then actual new-vehicle fuel economy will stay constant after 2018. This baseline isn’t truly “flat” but assumes some very small fuel economy increases due to market forces.

The Direct and Indirect and Cumulative Impact analyses differ only in the baseline or No Action Alternative. The action alternatives are complicated combinations of assumptions about what technologies the manufacturers would apply and on what schedule, for each vehicle type including:

- Combination tractors plus combination trailers (regulated separately from tractors)
- Vocational vehicles
- Heavy (class 2b and 3) pickups and vans

The Draft EIS action alternatives are defined as follows:

- *Alternative 2: Less Stringent than the Preferred Alternative.* For tractor trailers and vocational vehicles, Alternative 2 represents a stringency level approximately half as stringent overall as the Preferred Alternative (Alternative 3). Alternative 2 requires annual decreases in per-mile fuel consumption of about 1.1 percent for tractor trailers, about 0.7 to 1.7 percent for vocational vehicles, and about 1.9 percent for heavy (class 2b and 3) pickups and vans.
- *Alternative 3: Preferred Alternative and Proposed Standards.* Alternative 3 requires annual decreases in per-mile fuel consumption of about 1.7 percent for tractor trailers, about 1.7 to 4.4 percent for vocational vehicles, and about 4.1 percent for heavy (class 2b and 3) pickups and vans.
- *Alternative 4: Achieving Proposed Standards with Less Lead Time.* Alternatives 3 and 4 would achieve similar fuel efficiency but Alternative 4 has an accelerated implementation schedule.
- *Alternative 5: More Stringent than the Preferred Alternative.* Alternative 5 would be much more stringent overall than Alternatives 3 and 4 but would be implemented on the same schedule as Alternative 4. Alternative 5 requires annual decreases in per-mile fuel consumption of about 2 to 3 percent for tractor trailers, up to about 6.2 percent for vocational vehicles, and about 4.6 percent for heavy (class 2b and 3) pickups and vans.

The total emissions for the four action alternatives (Alternatives 2 through 5) are the same for DII and CI (see NHTSA 2015 for additional explanation of the alternatives). The impacts differ between DII and CI analyses due to the different No Action Alternative baseline. Depending on alternative and vehicle type, the first model year of the Phase 2 standards would be 2018–2021, and the last year would be 2024–2027.

For each analysis, NHTSA calculated the health effects and monetized health effects associated with each alternative in relation to the baseline of the No Action Alternative for that analysis.

D.2 EMISSION INVENTORY PREPARATION

This section summarizes the data, methods, and procedures used to prepare modeling emission inventories for use in the air quality modeling analysis of the proposed scenarios. The analysis examined the expected changes in criteria pollutant emissions from on-road mobile sources for the alternatives and from the effects those alternatives would have on emissions associated with various upstream activities related to the extraction of oil (feedstock recovery); feedstock transportation; fuel refining; and fuel transportation, storage, and distribution. The emission changes were incorporated into a national air quality modeling database originally developed by EPA, and the impacts were assessed for an annual simulation period. Emission inventories were prepared for 2035 (although the emission inputs represented a variety of different projection years including 2030, 2035, and 2040, based on best available data). NHTSA prepared detailed emissions for each of the alternatives for 2035. EPA provided up-to-date, projected, national-scale emissions data for 2040 for motor vehicles and for 2030 for all other sources.

D.2.1 Emissions Data and Methods

The CMAQ model requires as input hourly, gridded criteria pollutant emissions of both anthropogenic and biogenic sources that have been spatially allocated to the appropriate grid cells and chemically speciated for the chemical mechanism used in the model. NHTSA processed and prepared the modeling inventories for CMAQ using EPA's SMOKE software (version 3.6). NHTSA derived the emission inventories prepared for the modeling analysis for all sectors, in part, based on the 2011/2030/2040 emissions data under the EPA's 2011v6.2 platform which supports emissions modeling for the EPA Greenhouse Gas Emissions and Fuel Efficiency Standards for Medium- and Heavy-Duty Engines and Vehicles - Phase 2 Proposed Rule.

The SMOKE emission input files include the following sectors:

- Particulate emissions from fugitive dust sources
- Agricultural ammonia emissions
- Agricultural burning emissions
- Emissions from Category 1 and 2 commercial marine vessel sources, including ports and navigable waterways. Includes offshore Category 1 and 2 marine vessel emissions in the Atlantic and Pacific Oceans, and the Gulf of Mexico. Railway emissions are also part of this sector
- Ocean-going Class 3 marine vessel port and underway emissions within or close to the United States mainland
- Area-source emissions not included in other sectors
- Off-highway mobile source emissions
- On-highway mobile source emissions
- Area-source oil and gas emissions
- Particulate emissions from fugitive dust sources in Canada
- Area-source emissions from Canada and Mexico
- Mobile-source emissions from Canada and Mexico

- Point-source emissions from Canada, Mexico, and offshore areas
- Point-source emissions from electric generating units (calculated using the Integrated Planning Model [IPM])
- Point-source emissions from industrial activities
- Point-source emissions from year-specific controlled burning and wild fires
- Point-source oil and gas emissions
- Area-source residential wood combustion emissions
- Biogenic emissions generated using the BEIS model, version 3.6.1

These files included emissions data and related information for the contiguous United States and Washington, D.C., along with the emissions for the portions of Canada, Mexico, and offshore areas included in the modeling domain. The modeling inventories include the following pollutants: volatile organic compounds (VOC), oxides of nitrogen (NO_x), CO, SO₂, PM_{2.5}, coarse particulate matter (PM₁₀), and ammonia (NH₃).

NHTSA calculated the expected changes in on-road mobile emissions (for the MDHD vehicles) and upstream emissions associated with these vehicle classes (NHTSA 2015). For each pollutant, total emissions for all states and Washington, D.C. were provided for the MDHD vehicles and for the upstream emissions associated with fuel production for these vehicle classes for the No Action Alternative and action alternatives. As part of the emissions processing, NHTSA incorporated this information into the modeling input files for each simulation, as detailed in Section D.2.2.

D.2.2 Emissions Processing Procedures

As noted previously, NHTSA used SMOKE version 3.6 to process the emissions and prepare CMAQ-ready inputs for the action alternatives using source sector files and other emission information. Preparation of the various modeling inventories included (1) processing the emissions for all source sectors using the SMOKE programs and inputs, (2) substituting the on-road mobile and upstream emissions to reflect the No Action Alternative and action alternatives, and (3) reviewing and performing quality assurance checks.

D.2.2.1 Preparation of On-road Mobile Emission Inputs

The SMOKE on-road mobile input files contain monthly, county-level emissions for criteria pollutants by MOVES-based vehicle type and roadway type. Table D.2.2.1-1 lists the vehicle types, classified as light-duty (LD) or MDHD.

Table D.2.2.1-1. Vehicle Types in EPA’s SMOKE Input Files for On-road Mobile Sources

| LD/MDHD | Vehicle Type | Fuel Type |
|----------------|-------------------------|------------------|
| LD | Motorcycles | Gasoline |
| LD | Passenger Cars | Gasoline |
| LD | Passenger Trucks | Gasoline |
| LD | Light Commercial Trucks | Gasoline |
| LD | Passenger Cars | Diesel |

| LD/MDHD | Vehicle Type | Fuel Type |
|----------------|-------------------------------|------------------------------|
| LD | Passenger Trucks | Diesel |
| LD | Light Commercial Trucks | Diesel |
| LD | Passenger Cars | Ethanol (E-85) |
| LD | Passenger Trucks | Ethanol (E-85) |
| LD | Light Commercial Trucks | Ethanol (E-85) |
| MDHD | Transit Buses | Gasoline |
| MDHD | School Buses | Gasoline |
| MDHD | Refuse Trucks | Gasoline |
| MDHD | Single Unit Short-haul Trucks | Gasoline |
| MDHD | Motor Homes | Gasoline |
| MDHD | Intercity Buses | Diesel |
| MDHD | Transit Buses | Diesel |
| MDHD | School Buses | Diesel |
| MDHD | Refuse Trucks | Diesel |
| MDHD | Single Unit Short-haul Truck | Diesel |
| MDHD | Single Unit Long-haul Trucks | Diesel |
| MDHD | Motor Homes | Diesel |
| MDHD | Combination Short-haul Truck | Diesel |
| MDHD | Combination Long-haul Trucks | Diesel |
| MDHD | Transit Buses | Compressed Natural Gas (CNG) |

Notes:

LD = light duty; MDHD = medium- and heavy-duty

Table D.2.2.1-2 lists the various roadway types.

Table D.2.2.1-2. Roadway Types in EPA’s SMOKE Input Files for On-road Mobile Sources

| Area Type | Description |
|------------------|---------------------------|
| Rural | Rural Restricted Access |
| Rural | Rural Unrestricted Access |
| Rural | Urban Restricted Access |
| Rural | Urban Unrestricted Access |
| Urban | Rural Restricted Access |
| Urban | Rural Unrestricted Access |
| Urban | Urban Restricted Access |
| Urban | Urban Unrestricted Access |

The SMOKE on-road mobile emission files include emissions for exhaust, evaporation, and tire and brake wear. Exhaust emissions are provided for VOC, NO_x, CO, SO₂, PM_{2.5}, PM₁₀, and NH₃. Evaporative emissions are provided for VOC. For tire and brake wear, emissions are provided for PM_{2.5} and PM₁₀.

The Proposed Action applies only to the MDHD vehicles as shown in Table D.2.2.1-1. To incorporate the NHTSA 2035 emission estimates for each action alternative into the emission input files, NHTSA

modified the SMOKE mobile source input files such that the NHTSA-specific emissions were substituted for the MDHD vehicle categories to create modified SMOKE input files. The steps involved in this process are as follows:

Step 1 – Calculate the county-level medium- and heavy-duty vehicle tailpipe emissions for the alternatives

Allocate total U.S. emissions for MDHD vehicles for NO_x, VOC, CO, SO₂ and PM_{2.5} for each alternative to the county level, based on vehicle miles traveled (VMT) fractions for all U.S. counties provided by EPA.

Step 2 – Calculate the county-level total 2040 emissions based on the EPA provided on-road sector SMOKE input files

Using a utility program specifically developed for this analysis (*ann_cty_mdhd_cap_ems*), calculate the annual county-level MDHD vehicle emissions.

Step 3 – Calculate adjustment factors for medium- and heavy-duty vehicles for the alternatives

Using a utility program specifically developed for this analysis (*cal_fac_mdhd*), calculate the ratio of county-level emissions from a specified alternative to EPA 2040 on-road mobile emissions.

Step 4 – Apply the adjustment factors for medium- and heavy-duty vehicles to the EPA 2040 on-road mobile SMOKE input file for each alternative

Using a utility program specifically developed for this analysis (*adj_mdhd_ems*), apply the county-level adjustment factors for MDHD vehicles for a specified alternative to the EPA 2040 on-road mobile SMOKE input files to prepare updated SMOKE input files.

D.2.2.2 Preparation of Upstream Emission Inputs

As noted above, the Proposed Action is also expected to affect the upstream emissions associated with the extraction of oil (feedstock recovery); feedstock transportation; fuel refining; and fuel transportation, storage, and distribution. The upstream emissions are associated with a variety of equipment, processes, and activities involved in the production of fuel, including oil-field extraction equipment (e.g., drills and pumps); oil refining (e.g., boilers and heaters); and transportation, storage, and distribution of the fuel. For this analysis, EPA provided a list of Source Classification Codes (SCC) associated with these activities and equipment types, which included sources from five sectors (non-point, non-IPM point, point oil and gas, non-point oil and gas, and locomotive and Category 1 and Category 2 marine vessels).² For each alternative, NHTSA provided estimates of upstream emissions, by pollutant, associated with the MDHD vehicles only. However, the EPA SMOKE input files for 2030/2040 contain emissions for all vehicle types. To utilize and incorporate the NHTSA upstream emissions estimates into the EPA SMOKE files, it was assumed that 50 percent of the total upstream emissions are associated with the production of fuel for MDHD vehicles (EPA 2009). Using the Source Classification Codes provided by EPA for all assumed sources and source types associated with upstream emissions, NHTSA substituted estimates of the emissions associated with the alternatives for the corresponding

² Category 1 and 2 marine diesel engines are small to medium size engines that provide power to fishing vessels, tugboats, push-boats, supply vessels and a number of other vessels that service ports and harbors. They range in size from 500 to 8,000 kW or 700 to 11,000 hp, and are often used as generators for supplying auxiliary power on vessels.

EPA emissions to prepare modified SMOKE inputs for the non-point, non-IPM point, point oil and gas, and non-point oil and gas files. For the locomotive and Category 1 and 2 marine vessel part of upstream emissions, the adjustments were only made to the percentages of upstream emissions related to the transport of petroleum products. Specifically, the adjustments were made to 3 percent of the locomotive emissions and 28 percent of marine vessel emissions identified by the EPA's SCC list. These estimates were based on information from the American Association of Railroads (AAR 2014) and the Texas Transportation Institute (TTI 2012), respectively.

Regarding upstream emissions for each alternative, NHTSA considered only emissions occurring domestically and did not consider emissions from the transport of crude oil or refined gasoline to the United States. The upstream emissions estimates assumed that (1) 50 percent of the fuel savings from the alternatives would reduce imports of refined gasoline, and therefore would reduce domestic emissions only during fuel transportation, storage, and distribution and would not reduce emissions from feedstock recovery, feedstock transportation, and fuel refining, (2) 90 percent of the reduction in domestic fuel refining would reduce imports of crude petroleum (and therefore would not reduce domestic emissions from feedstock recovery and feedstock transportation), and (3) 10 percent of the reduction in domestic fuel refining would reduce domestic production of crude petroleum (which would reduce domestic emissions from feedstock recovery and feedstock transportation). NHTSA estimated these percentages using several scenarios from the Energy Information Administration Annual Energy Outlook (EIA 2008).

D.2.2.3 Emission Processing and Quality Assurance Procedures

Once the modified mobile source and upstream-related SMOKE input files reflecting the alternatives were developed, the files were processed by SMOKE and merged with the other source category input files to prepare model-ready inputs for CMAQ. The general procedures followed in preparing the modeling inventories, using various programs included with SMOKE, were as follows:

- Modify on-road mobile source SMOKE input files using emissions data and related information
- Modify upstream-related SMOKE input files using emissions data and related information
- Chemically speciate input criteria pollutants into the Carbon Bond 2005 chemical mechanism species, as required by CMAQ
- Temporally distribute the input annual and monthly emissions into hourly emissions
- Spatially distribute input emissions to the modeling grid
- Merge emissions from all source categories into the CMAQ model-ready files
- Review and ensure the quality of the inventory processing procedures and results

The emission inventory processing quality assurance procedures included the development and examination of tabular emission summaries and graphical display products. Tabular summaries were prepared to examine emission totals for various steps of emissions processing. Summaries for input emissions were based on the input inventory data: monthly emissions for the on-road and non-road mobile sectors, and annual emissions for other sectors for criteria pollutants. Summaries for output emissions were based on the SMOKE output reports—daily emissions for each species included in the chemical mechanism for each sector. The output daily emissions were summed over all days in the year and the species were summed for the criteria pollutants. The emissions were summarized for each

alternative by state and sector, and comparisons were made between the input emissions and output emissions for each sector to ensure consistency.

In addition to the tabular summaries, various graphical displays were prepared for one day of each month (the 15th of each month was randomly selected) to examine the spatial distribution and temporal variation for each sector and the final merged emissions using the Package for Analysis and Visualization of Environmental (PAVE) data graphical plotting package, available from the University of North Carolina Institute for the Environment web site at <http://www.ie.unc.edu/cempd/EDSS>.

D.2.3 Emission Summaries

As described in Section D.1, for this air quality analysis NHTSA modeled five alternatives under the two analyses (DII and CI). The alternatives simulated under these analyses include the No Action Alternative (Alternative 1), and Alternatives 2, 3, 4, and 5. Alternatives 2 through 5 are the same for DII and CI. Thus, overall, six modeling emission inventories were prepared.

Using the original and modified inputs, NHTSA used the SMOKE emissions processing system to prepare the CMAQ model-ready hourly emission inventory inputs for each simulation for the 36-kilometer resolution national grid. Although the processed emission inventories were prepared for the full list of emission species given in Section D.2.2.1, most of the presentation and discussion that follows focuses on VOC, NO_x, SO₂, and primary PM_{2.5} emissions.

Table D.2.3-1 lists national (48-state) annual emission totals for each pollutant by sector for each alternative simulated. Table F.2.3-2 lists annual emission totals for all sectors combined for the alternatives and analyses. The emission totals reflect the expected emission reductions from upstream sources and on-road motor vehicles based on the stringency of the alternatives.

The tables and figures in this appendix abbreviate the modeling scenarios as follows: DII No Action Alternative (Alternative 1B) appears as ALT1B_NA_DII; CI No Action Alternative (Alternative 1A) appears as ALT1A_NA_CI; and Alternatives 2 through 5 appear as ALT2 through ALT5.

To illustrate and check the reasonableness of the spatial distribution of emissions throughout the modeling domain, NHTSA prepared and examined daily emission density plots for selected days. NHTSA used emissions associated with the No Action Alternative to check the reasonableness of the spatial distribution of emissions. Figures D.2.3-1(a)-(d) show daily emissions for July 15th for VOC, NO_x, SO₂, and PM_{2.5} for the 36-kilometer resolution NHTSA modeling domain. The date and time appearing on this and all subsequent figures refer to the meteorological base year (2011) and start hour for the selected day or averaging period. The minimum and maximum values for any location in the domain are also provided, along with their grid cell (x,y) locations. NHTSA selected a summer day for display because it is included in both the ozone season and the annual simulation period. The plots show the spatial distribution of emissions under the No Action Alternative for DII, with larger emissions in the more populated areas of the eastern United States and California, and smaller emissions in the less-populated areas of the interior western United States and areas of Canada and Mexico. The VOC emission plots also include biogenic emissions, with larger emissions associated with the more forested regions of the southeastern United States and Canada. The PM_{2.5} emissions are associated with various anthropogenic mobile and industrial sources, and agricultural burning and wildfires.

Table D.2.3-1. National (48-state) Emission Totals (thousands tons/year) by Sector for the NHTSA Future-Year Modeling Analyses and Alternatives

| Pollutant | Sector | ALT1B_NA_DII | ALT1A_NA_CI | ALT2 | ALT3 | ALT4 | ALT5 |
|-----------------|------------------|--------------|-------------|--------|--------|--------|--------|
| VOC | EGU | 31 | 31 | 31 | 31 | 31 | 31 |
| | Non-EGU Point | 5,645 | 5,645 | 5,644 | 5,643 | 5,643 | 5,642 |
| | Non-point (Area) | 7,054 | 7,055 | 7,050 | 7,046 | 7,045 | 7,042 |
| | Non-road | 1,252 | 1,252 | 1,252 | 1,252 | 1,252 | 1,252 |
| | On-road | 717 | 718 | 689 | 679 | 678 | 670 |
| NO _x | EGU | 956 | 956 | 956 | 956 | 956 | 956 |
| | Non-EGU Point | 2,137 | 2,139 | 2,127 | 2,118 | 2,117 | 2,111 |
| | Non-point (Area) | 1,524 | 1,524 | 1,523 | 1,522 | 1,522 | 1,521 |
| | Non-road | 1,521 | 1,522 | 1,517 | 1,512 | 1,512 | 1,509 |
| | On-road | 1,268 | 1,274 | 1,065 | 1,007 | 1,006 | 955 |
| CO | EGU | 730 | 730 | 730 | 730 | 730 | 730 |
| | Non-EGU Point | 23,294 | 23,295 | 23,289 | 23,285 | 23,284 | 23,281 |
| | Non-point (Area) | 5,619 | 5,619 | 5,618 | 5,618 | 5,618 | 5,618 |
| | Non-road | 15,380 | 15,380 | 15,379 | 15,378 | 15,378 | 15,377 |
| | On-road | 6,978 | 6,978 | 6,921 | 6,907 | 6,908 | 6,894 |
| SO ₂ | EGU | 973 | 973 | 973 | 973 | 973 | 973 |
| | Non-EGU Point | 1,107 | 1,109 | 1,097 | 1,088 | 1,087 | 1,082 |
| | Non-point (Area) | 157 | 157 | 157 | 157 | 157 | 157 |
| | Non-road | 10 | 10 | 10 | 10 | 10 | 10 |
| | On-road | 14 | 14 | 13 | 13 | 13 | 13 |
| PM10 | EGU | 186 | 186 | 186 | 186 | 186 | 186 |
| | Non-EGU Point | 2,673 | 2,673 | 2,671 | 2,670 | 2,670 | 2,669 |
| | Non-point (Area) | 9,439 | 9,439 | 9,439 | 9,439 | 9,439 | 9,439 |
| | Non-road | 87 | 87 | 87 | 87 | 87 | 87 |
| | On-road | 270 | 270 | 272 | 272 | 272 | 272 |
| PM2.5 | EGU | 142 | 142 | 142 | 142 | 142 | 142 |
| | Non-EGU Point | 2,196 | 2,196 | 2,194 | 2,193 | 2,193 | 2,192 |
| | Non-point (Area) | 2,009 | 2,009 | 2,009 | 2,008 | 2,008 | 2,008 |
| | Non-road | 81 | 81 | 81 | 81 | 81 | 81 |
| | On-road | 60 | 61 | 62 | 62 | 62 | 62 |
| NH ₃ | EGU | 42 | 42 | 42 | 42 | 42 | 42 |
| | Non-EGU Point | 402 | 402 | 402 | 402 | 402 | 402 |
| | Non-point (Area) | 3,719 | 3,719 | 3,719 | 3,719 | 3,719 | 3,719 |
| | Non-road | 5 | 5 | 5 | 5 | 5 | 5 |
| | On-road | 94 | 94 | 94 | 94 | 94 | 94 |

Notes:

CO = carbon monoxide; EGU = electric generating unit; NH₃ = ammonia; NO_x = oxides of nitrogen; PM10 = particulate matter with diameter equal to or less than 10 microns; PM2.5 = particulate matter with diameter equal to or less than 2.5 microns; SO₂ = sulfur dioxide; VOC = volatile organic compounds

Table D.2.3-2. National (48-state) Emission Totals (thousands tons/year) for All Sectors Combined for the NHTSA Future-Year Modeling Analyses and Alternatives

| Pollutant | ALT1B_NA_DII | ALT1A_NA_CI | ALT2 | ALT3 | ALT4 | ALT5 |
|-----------------|--------------|-------------|--------|--------|--------|--------|
| VOC | 14,699 | 14,700 | 14,666 | 14,650 | 14,649 | 14,637 |
| NO _x | 7,407 | 7,416 | 7,189 | 7,116 | 7,113 | 7,053 |
| CO | 52,001 | 52,002 | 51,937 | 51,918 | 51,918 | 51,900 |
| SO ₂ | 2,261 | 2,262 | 2,250 | 2,241 | 2,240 | 2,234 |
| PM10 | 12,656 | 12,656 | 12,656 | 12,654 | 12,654 | 12,653 |
| PM2.5 | 4,488 | 4,488 | 4,488 | 4,487 | 4,486 | 4,486 |
| NH ₃ | 4,262 | 4,262 | 4,262 | 4,262 | 4,262 | 4,262 |

Notes:

CO = carbon monoxide; NH₃ = ammonia; NO_x = oxides of nitrogen; PM10 = particulate matter with diameter equal to or less than 10 microns; PM2.5 = particulate matter with diameter equal to or less than 2.5 microns; SO₂ = sulfur dioxide; VOC = volatile organic compounds

Figure D.2.3-1a. Daily VOC Emissions for July 15: Direct and Indirect Impacts No Action Alternative (Alternative 1B)

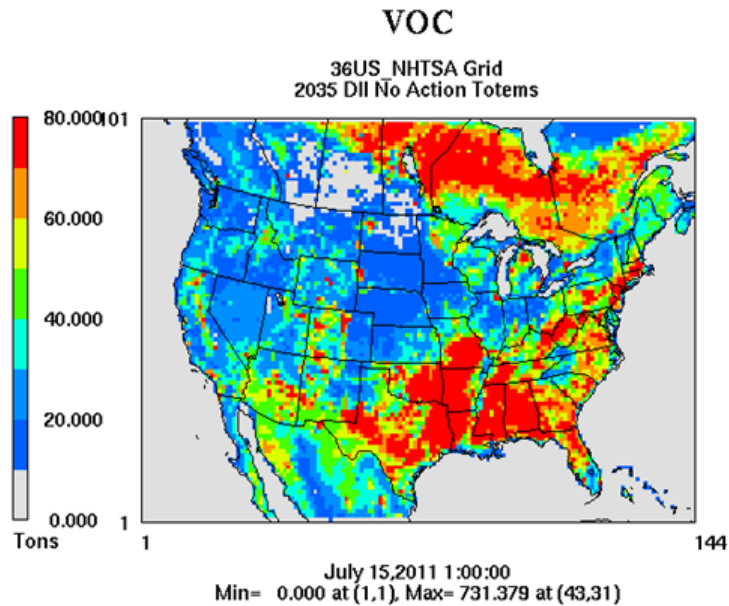


Figure D.2.3-1b. Daily NO_x Emissions for July 15: Direct and Indirect Impacts No Action Alternative (Alternative 1B)

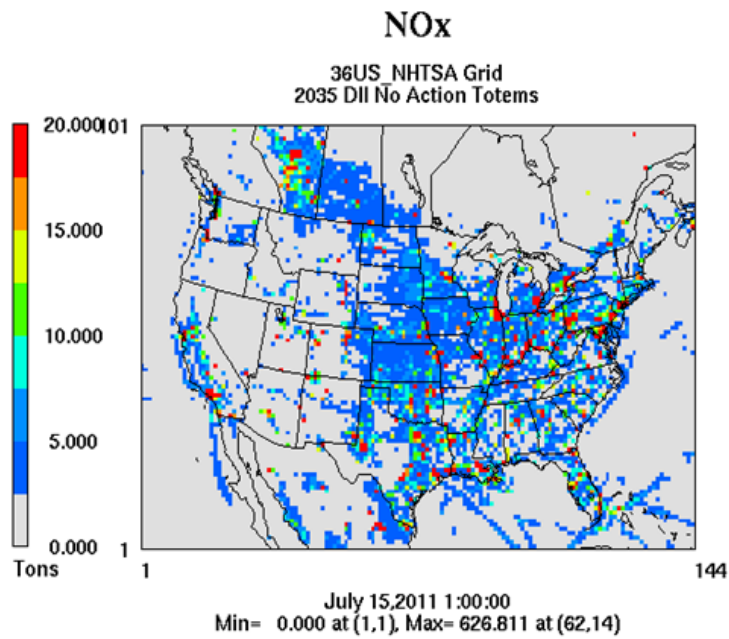


Figure D.2.3-1c. Daily SO₂ Emissions for July 15: Direct and Indirect Impacts No Action Alternative (Alternative 1B)

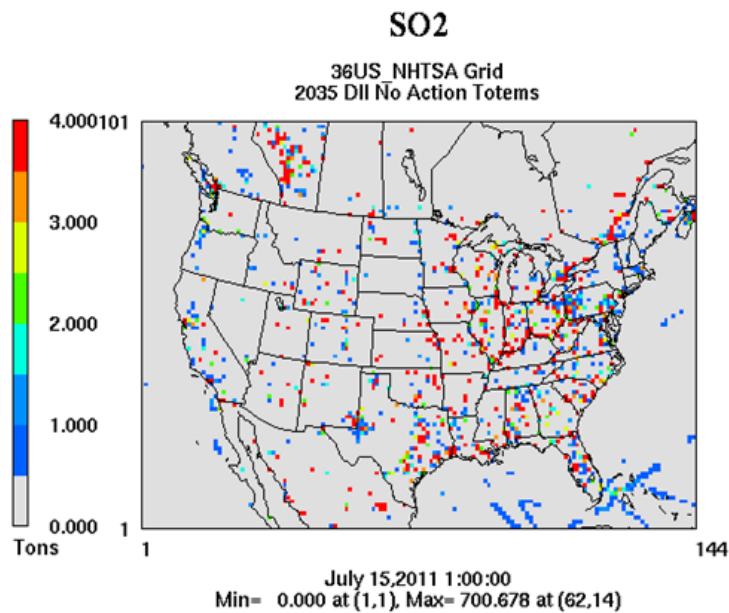
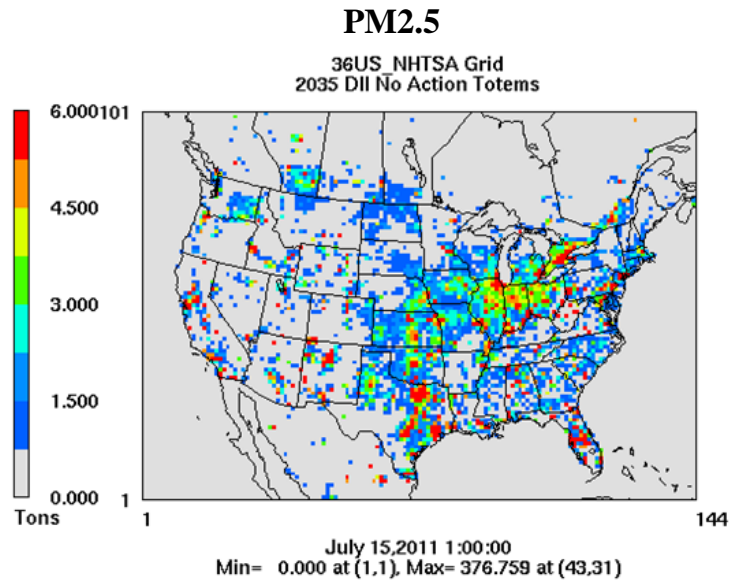


Figure D.2.3-1d. Daily PM2.5 Emissions for July 15: Direct and Indirect Impacts No Action Alternative (Alternative 1B)



Figures D.2.3-2 (a)-(d) illustrate the spatial distribution of differences (or changes) in emissions for the action alternatives compared to the No Action Alternative. The figure presents difference plots for VOC, NO_x, SO₂, and PM2.5, comparing the emissions under Alternative 3 with the emissions under the No Action Alternative for DII (Alternative 1B). The difference plots for these two alternatives were selected for presentation because Alternative 3 is the Preferred Alternative and best suited to illustrate the spatial distribution of the differences (or changes). The difference plots illustrate where the reductions in emissions are expected to occur throughout the 36-kilometer resolution modeling domain. The bright green area indicates no change in emissions.

The figures indicate overall reductions in VOC, SO₂, and PM2.5 emissions throughout the United States associated with the on-road mobile emission reductions from MDHD vehicles and upstream sources. The changes in PM2.5 emissions reflect the combination of reductions from upstream sources and some very minor increases from on-road mobile sources.

Figure D.2.3-2a. Difference in Daily VOC Emissions for July 15 for Alternative 3 Compared to the Direct and Indirect Impacts No Action Alternative (Alternative 1B)

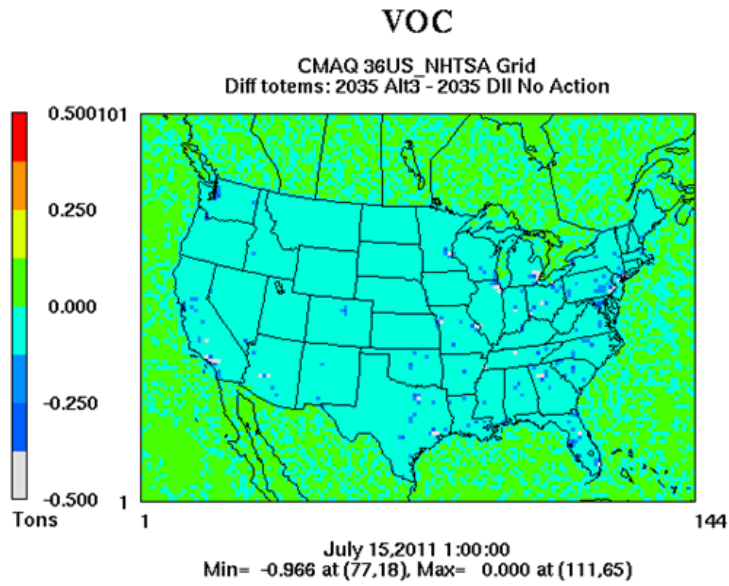


Figure D.2.3-2b. Difference in Daily NO_x Emissions for July 15 for Alternative 3 Compared to the Direct and Indirect Impacts No Action Alternative (Alternative 1B)

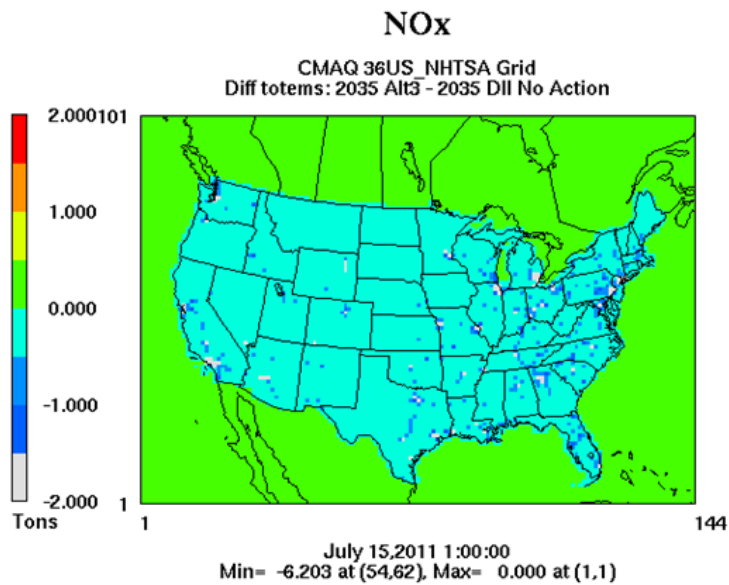


Figure D.2.3-2c. Difference in Daily SO₂ Emissions for July 15 for Alternative 3 Compared to the Direct and Indirect Impacts No Action Alternative (Alternative 1B)

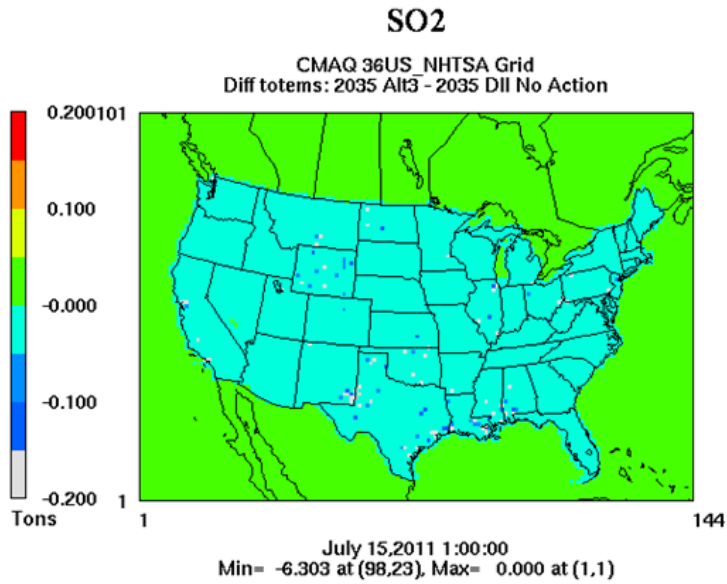
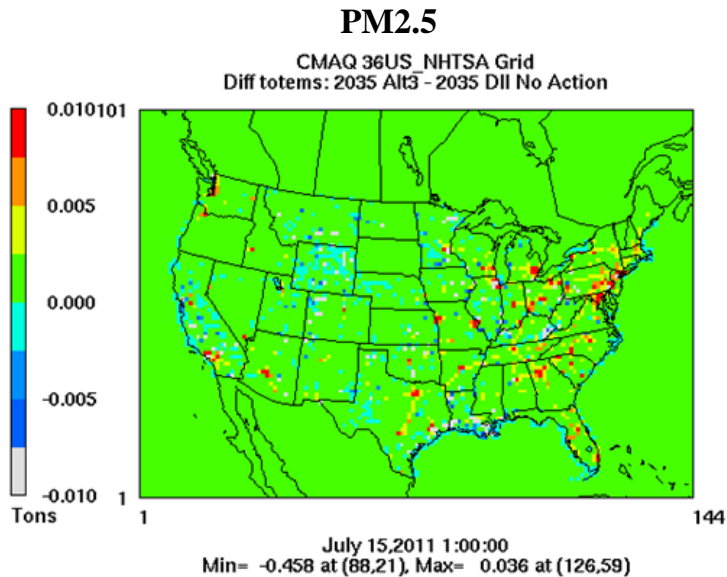


Figure D.2.3-2d. Difference in Daily PM_{2.5} Emissions for July 15 for Alternative 3 Compared to the Direct and Indirect Impacts No Action Alternative (Alternative 1B)



Figures D.2.3-3 (a)-(d) present national emission estimates for the future year by source sector under the No Action Alternatives for DII and CI, and Alternatives 2, 3, 4 and 5. Emissions are for VOC, NO_x, SO₂, and PM_{2.5}.

Figure D.2.3-3a. National Emission Totals for VOC for the NHTSA MDHD Alternatives

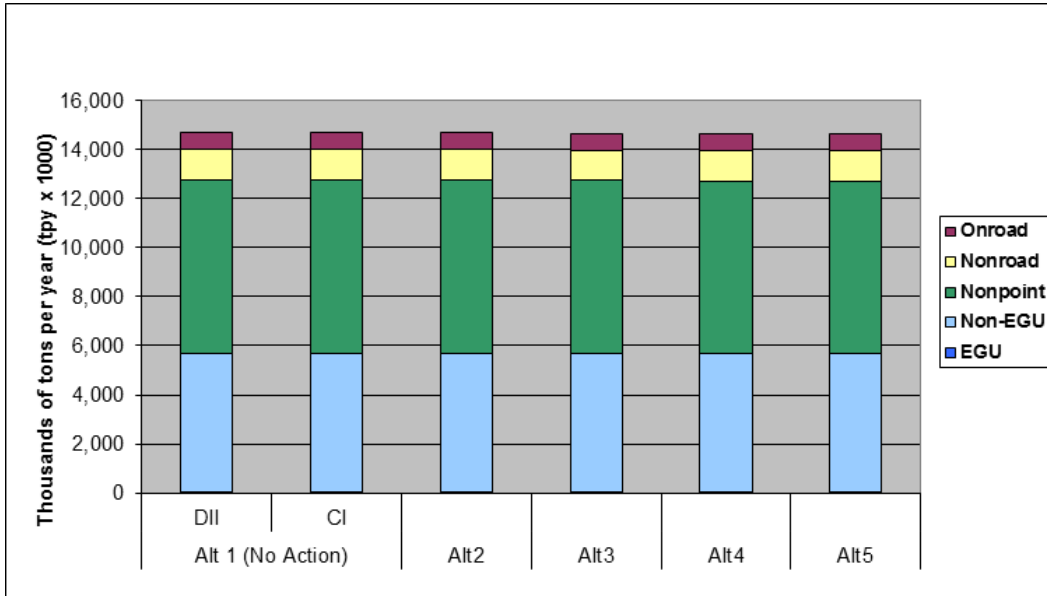


Figure D.2.3-3b. National Emission Totals for NO_x for the NHTSA MDHD Alternatives

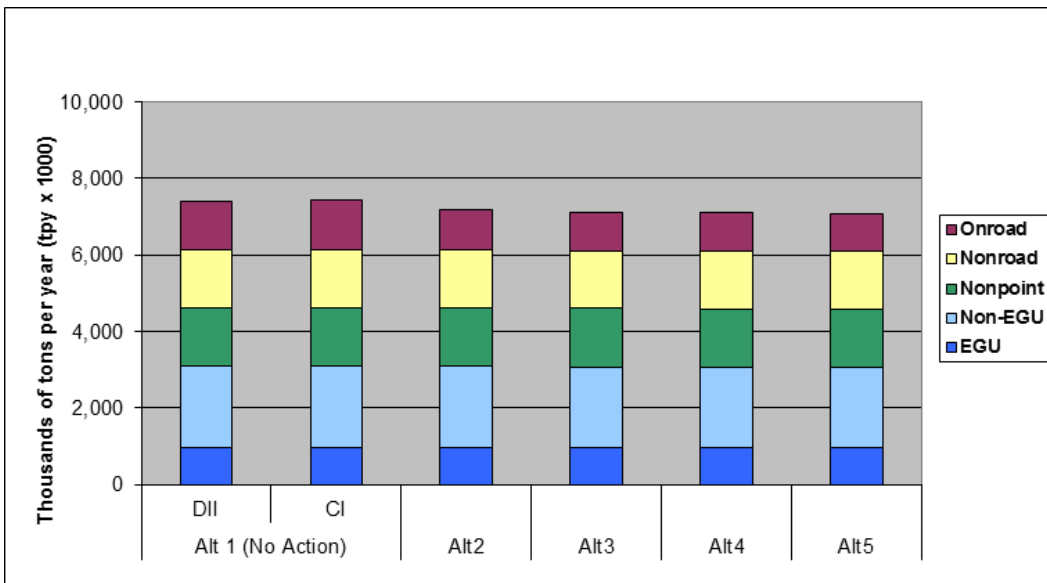


Figure D.2.3-3c. National Emission Totals for SO₂ for the NHTSA MDHD Alternatives

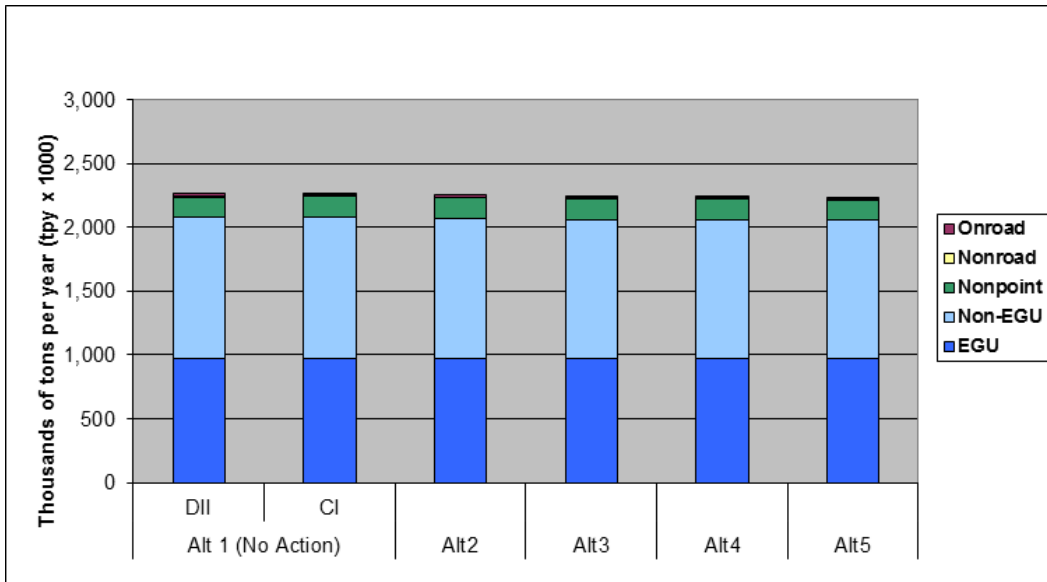
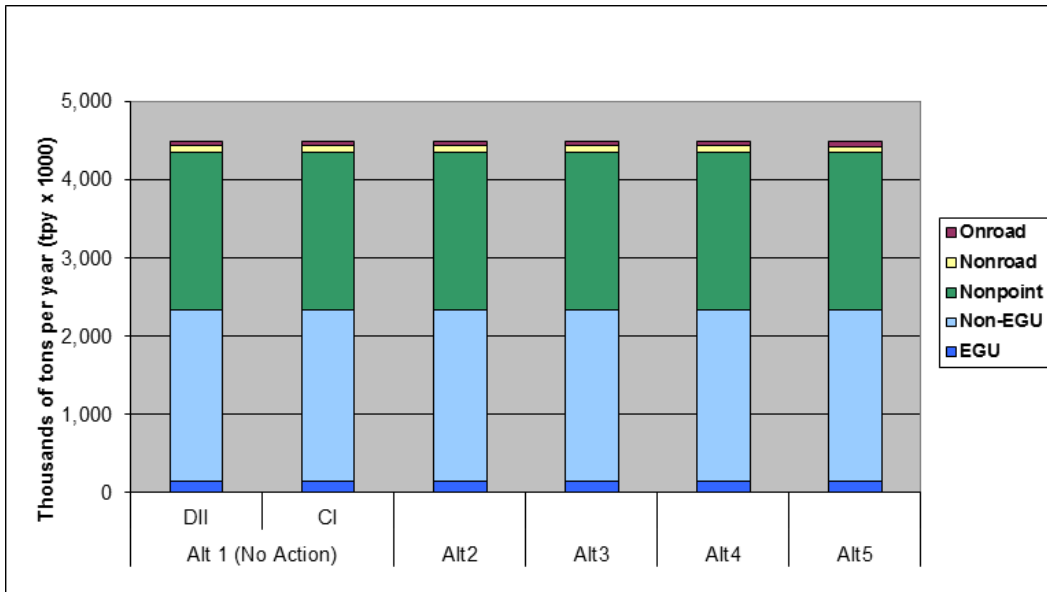


Figure D.2.3-3d. National Emission Totals for PM_{2.5} for the NHTSA MDHD Alternatives



On a national scale, anthropogenic VOC emissions are primarily from area (non-point) and non-EGU sources; NO_x emissions come from all source categories; SO₂ emissions primarily derive from EGU and non-EGU industrial point sources; and PM_{2.5} emissions come primarily from area (non-point) and non-EGU sources. For the action alternatives, the expected changes in emissions for MDHD vehicles are reflected in the on-road mobile source category, while the expected changes in upstream emissions are reflected in the non-point (area), non-EGU point and non-road source categories. The estimated decreases in mobile emissions are distributed nationwide, while most of the decreases in upstream emissions are in petroleum development/fuel production states, including Texas, Oklahoma, Louisiana, California, Wyoming, and New Mexico. A comparison of the DII No Action Alternative to the action alternatives indicates that national-scale VOC, SO₂, NO_x, and PM_{2.5} emissions are all expected to decrease, except for PM_{2.5} emissions for the on-road sector, which are expected to increase about 2.6 to 3.2 percent. The upstream VOC, SO₂, NO_x, and PM_{2.5} emissions are all expected to decrease by less than 1 percent, except for SO₂ emissions for Alternative 3 through Alternative 5, with expected decreases of 1.5 to 2 percent. On a local scale, depending on source makeup, distribution, and population, the expected decreases in emissions could be larger or smaller than these national averages.

D.3 AIR QUALITY MODELING

This section presents the air quality modeling methods and results. NHTSA used the CMAQ model in this study to simulate the air quality impacts of the proposed Phase 2 Fuel Efficiency Standards for MDHD Engines and Vehicles. The model was applied using a 36-kilometer resolution grid at the national scale for an annual simulation period. The CMAQ model requires information on the emissions, meteorology, and land-use characteristics of the modeling domain. Information about the emission changes associated with selected alternative proposed standards were incorporated into the model through the emission input files for the modeled year 2035. Because air quality impacts are calculated at the grid-cell level, the CMAQ model can account for regional differences in the relative magnitudes of the changes in emissions due to increased fuel economy, increased vehicle use, and reduced fuel production and distribution potentially resulting from the Proposed Action. CMAQ modeling results provide the basis for the health effects and benefits modeling analysis.

D.3.1 Overview of the CMAQ Modeling System

The CMAQ model is a state-of-the-science, regional air quality modeling system that can be used to simulate the physical and chemical processes that govern the formation, transport, and deposition of gaseous and particulate species in the atmosphere (Byun and Ching 1999). The CMAQ tool was designed to improve the understanding of air quality issues (including the physical and chemical processes that influence air quality) and to support the development of effective emission control strategies on the regional and local scales. The CMAQ model was designed as a “one-atmosphere” model. This concept refers to the ability of the model to dynamically simulate ozone, particulate matter, and other species (such as mercury) in a single simulation. In addition to addressing a variety of pollutants, CMAQ can be applied to a variety of regions (with varying geographical, land-use, and emission characteristics) and for a range of space and time scales.

Numerous recent applications of the model, for both research and regulatory air quality planning purposes, have focused on the simulation of ozone and PM_{2.5}. NHTSA used the CMAQ model to support the previous analyses of the model year (MY) 2012–2016 CAFE standards (NHTSA 2010), the Phase 1 Medium- and Heavy-Duty Fuel Efficiency Improvement Program (NHTSA 2011), and the MY 2017–2025 CAFE standards (NHTSA 2012).

The CMAQ model numerically simulates the physical processes that determine the magnitude, temporal variation, and spatial distribution of the concentrations of ozone and particulate species in the atmosphere, and the amount, timing, and distribution of their deposition to Earth’s surface. The simulation processes include advection, dispersion (or turbulent mixing), chemical transformation, cloud processes, and wet and dry deposition. Byun and Ching (1999) describe the CMAQ science algorithms in detail.

This model requires several different types of input files. Gridded, hourly emission inventories characterize the release of anthropogenic, biogenic and, in some cases, geogenic emissions from sources in the modeling domain. The emissions represent low-level and elevated sources and a variety of source categories (including, for example, point, on-road mobile, non-road mobile, area, and biogenic). The amount and spatial and temporal distribution of each emitted pollutant or precursor species are key determinants of the resulting simulated air quality values.

The CMAQ model also requires hourly, gridded input fields of several meteorological parameters, including wind, temperature, mixing ratio, pressure, solar radiation, fractional cloud cover, cloud depth, and precipitation. Byun and Ching (1999) provide a full list of the meteorological input parameters. The meteorological input fields are typically prepared using a data-assimilating prognostic meteorological model, the output of which is processed for input to the CMAQ model using the Meteorology-Chemistry Interface Processor (MCIP). The prescribed meteorological conditions influence the transport and vertical mixing and resulting distribution of the simulated pollutant concentrations. Certain of the meteorological parameters, such as mixing ratio, can also influence the simulated chemical reaction rates. Rainfall and near-surface meteorological characteristics govern wet and dry deposition, respectively, of the simulated atmospheric constituents.

Initial- and boundary-condition files provide information on pollutant concentrations throughout the domain for the first hour of the first day of the simulation and along the lateral boundaries of the domain for each hour of the simulation. Photolysis rates and other chemistry-related input files supply information needed by the gas-phase and particulate chemistry algorithms.

NHTSA used CMAQ version 5.0.2 for this study—the latest version of the model available at the time the modeling was conducted. This version of the model supports several options for the gas-phase chemical mechanism, particle treatment, aerosol deposition, and cloud treatment. All simulations conducted as part of this study used the Carbon Bond 2005 chemical mechanism. For particles, NHTSA applied the AERO5 particle treatment, which includes sea salt. In addition, NHTSA used the “inline” point source option, in which point source data are read directly by CMAQ and plume rise is calculated internally based on local meteorological conditions.

D.3.2 CMAQ Application Procedures for the NHTSA Modeling Analysis

This section discusses the application of CMAQ, including the modeling domain, simulation period, input files (with the exception of the emission inventories), and post-processing and quality assurance procedures. Section D.2 discusses preparation of the emission inventories for the application of CMAQ.

D.3.2.1 Modeling Domain and Simulation Period

Figure D.1.2-1 shows the modeling domain used for this analysis. The 36-kilometer resolution modeling domain includes 148×112 horizontal grid cells and 25 vertical layers. The tick marks (refer to Figure D.1.2-1) denote the 36-kilometer grid cells. For this domain, NHTSA ran the model for an entire calendar year. The base-year meteorological conditions are for 2011 and the emissions represent 2035. In running the model, the annual simulation period was divided into two parts (January through June and July through December). Each part of the simulation also included an additional five start-up simulation days, which were intended to reduce the influence of uncertainties in the initial conditions on the simulation results.

D.3.2.2 Meteorological and Other Input Files

EPA provided all input files for the application of the CMAQ model, except for certain components of the emission inventories. Standard processing procedures were used to convert the EPA input files to the modeling domain and grid resolution used for this study.

EPA prepared the meteorological input files for the base year (2011) using the Weather Research and Forecasting (WRF) model (NCAR 2010). WRF is a state-of-the-science atmospheric modeling system designed for use in simulating meteorological fields for a broad range of scales and applications. EPA applied the WRF model at 12-kilometer resolution. NHTSA used the *iowrf* program (NCAR 2010) to convert the output to 36-kilometer resolution and then the MCIP (version 4.2) to prepare CMAQ-ready input files. The vertical resolution, consisting of 25 vertical layers, was kept the same as in the EPA files.

NHTSA used existing initial condition, boundary condition, land-use, and photolysis rate input files for CMAQ modeling for the selected modeling domain and simulation period.

D.3.2.3 Model Performance Evaluation

EPA is evaluating CMAQ model performance for the 2011 base year as part of the air quality modeling analysis to support the Phase 2 MDHD rulemaking. NHTSA conducted a limited model performance evaluation for the 36-kilometer modeling domain. NHTSA prepared base-case emission inputs for 2011, based on data provide by EPA and applied CMAQ for the base year.

NHTSA evaluated the base-year CMAQ simulation results using graphical and statistical analysis. Specifically, NHTSA compared simulated ozone and PM_{2.5} concentrations with observed data, using a variety of graphical and statistical analysis products. The analysis was conducted using the Atmospheric Model Evaluation Tool (AMET), version 1.2 (UNC 2008).

AMET generates a wide variety of statistical measures and graphical analysis products to facilitate the evaluation of CMAQ model performance. Table D.3.2.3-1 summarizes key statistical measures that were used to quantify model performance.

Table D.3.2.3-1. Definition and Description of Measures/Metrics for CMAQ Model Performance Evaluation for the NHTSA MDHD Air Quality Modeling Analysis

| Metric | Definition |
|------------------------|--|
| # of data pairs | The number of observation/simulation data pairs |
| Mean observation value | The average observed concentration |
| Mean simulation value | The average simulated concentration |
| Normalized bias | $\left(\frac{1}{N}\right)\sum_{l=1}^N(S_l - O_l)/O_l \cdot 100\%$ <p>where N is the number of data pairs, and S_l and O_l are the simulated and observed values at site l, respectively, over a given time interval.</p> |
| Fractional bias | $\left(\frac{1}{N}\right)\sum_{l=1}^N(S_l - O_l)/0.5(S_l + O_l) \cdot 100\%$ |
| Normalized error | $\left(\frac{1}{N}\right)\sum_{l=1}^N S_l - O_l /O_l \cdot 100\%$ |
| Fractional error | $\left(\frac{1}{N}\right)\sum_{l=1}^N S_l - O_l /0.5(S_l + O_l) \cdot 100\%$ |
| Index of agreement | A measure of how well the model represents the pattern of perturbation about the mean value; ranges from 0 to 1. |

In calculating the statistical measures, AMET pairs the CMAQ model output with the observed data for the appropriate locations and time intervals.

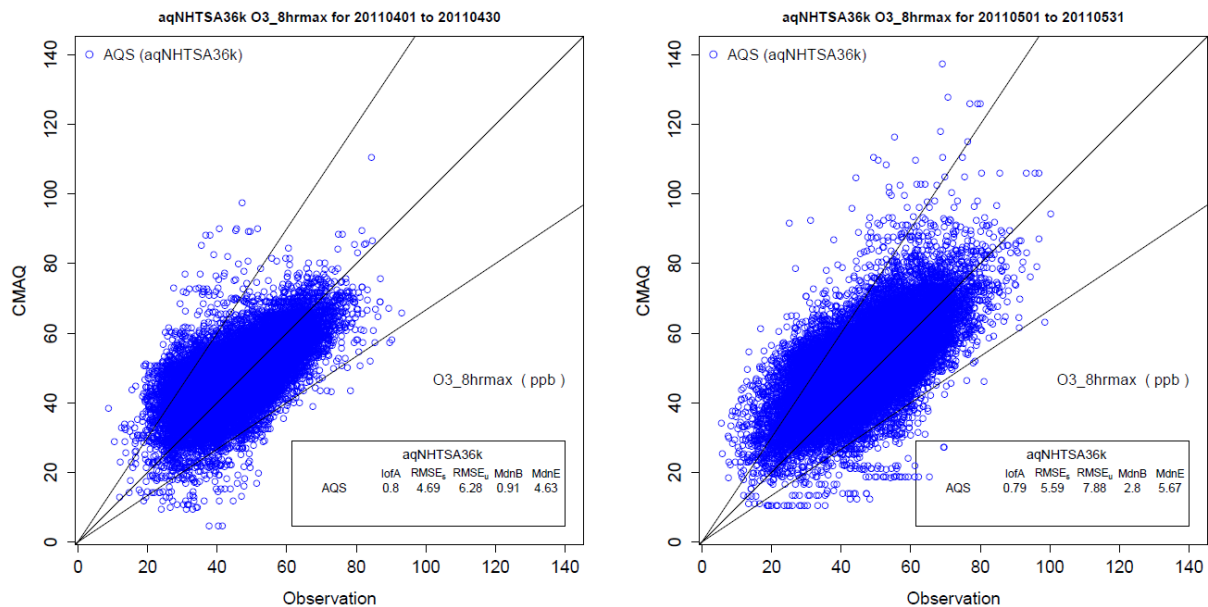
Statistical measures for certain of the pollutants were compared with model performance goals and criteria used for prior studies, as suggested in EPA guidance (EPA 2007; EPA 2014). For ozone, these include recommended ranges for the normalized bias and normalized error from prior (ca. 1990) EPA guidance (these are still widely used for urban- and regional-scale model performance evaluation). For PM2.5 and related species, these include goals presented by Boylan (2005).

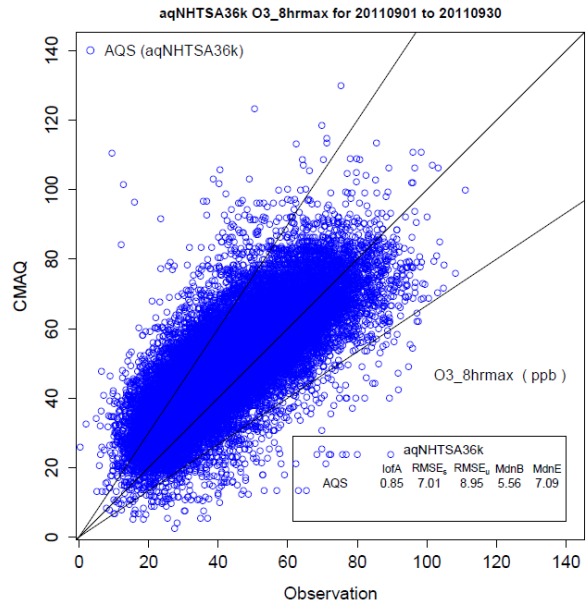
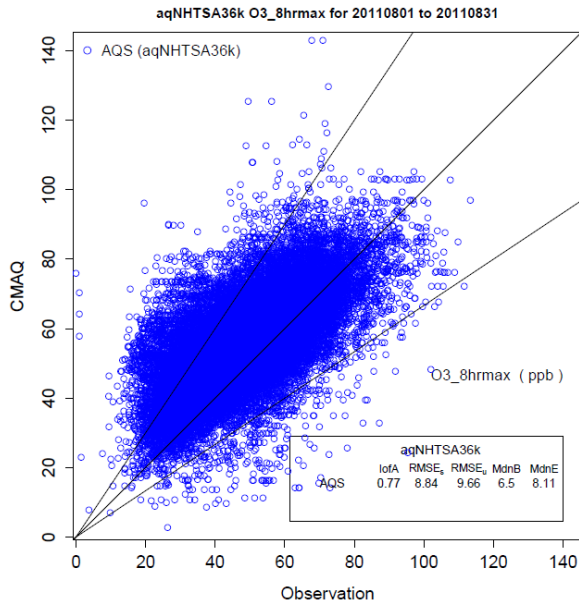
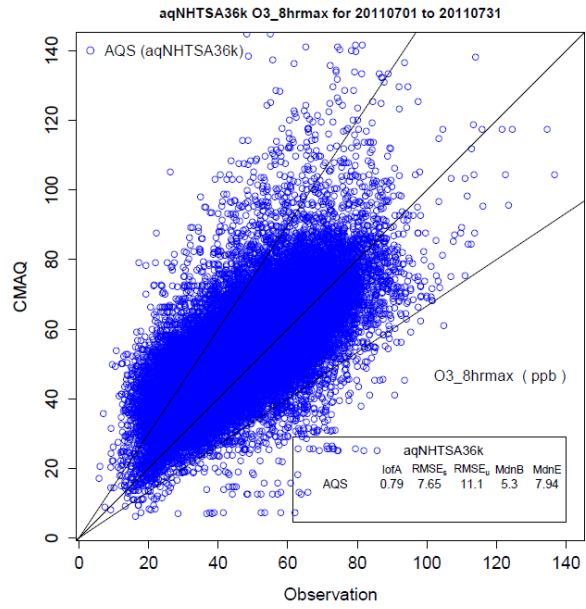
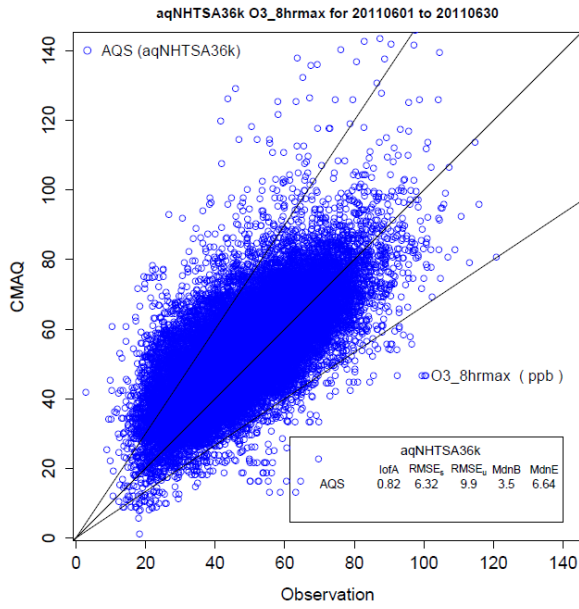
D.3.2.3.1 Ozone

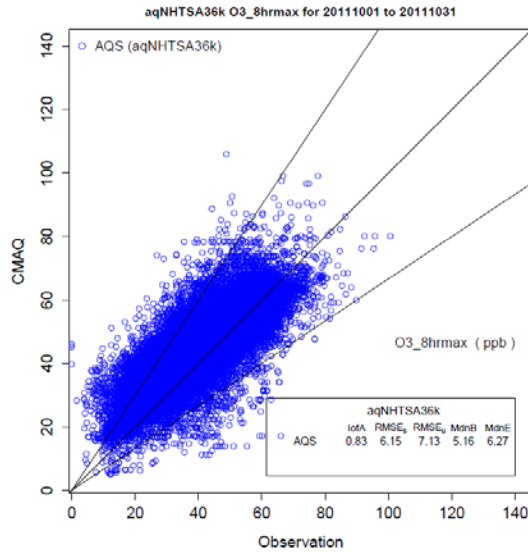
NHTSA evaluated CMAQ base-year model performance for ozone and the results are summarized in the remainder of this section. The evaluation focused on daily maximum 8-hour average ozone concentration and the typical ozone season months of April through October. The observed values are based on EPA’s Air Quality System (AQS) monitoring data for the base year of 2011. The units are parts per billion (ppb).

Scatter plots comparing simulated and observed daily maximum 8-hour ozone concentrations for all monitoring sites located within the contiguous United States for the months of April through October are presented in Figure D.3.2.3-1. The scatter plots provide a visual representation of how well the simulated values match the observations, and can reveal biases toward over- or underestimation of the observed values. Also included on the scatter plot is some statistical information further summarizing model performance. Note that these statistical measures are calculated using the 8-hour average ozone concentrations. The solid lines on the plot are for visual reference and are drawn with slopes of 1:1 (center), 1.5:1 (upper), and 1:1.5 (lower).

Figure D.3.2.3-1. Comparison of Simulated and Observed Daily Maximum 8-Hour Average Ozone Concentration (ppb) by Month (April through October) for the U.S. Portion of the NHTSA CMAQ Modeling Domain







The scatter plots indicate good agreement between the simulated and observed values. There is a general tendency for CMAQ to overestimate the ozone concentrations, including some of the higher concentrations (especially for June, July, and August). The good overall agreement is characterized by an index of agreement of approximately 0.8 for all months (the range is from 0.77 for August to 0.85 for September).

Summary metrics and statistical measures calculated using daily maximum 8-hour average ozone concentrations for all sites within the 48 contiguous states are presented in Tables D.3.2.3-2 and D.3.2.3-3. Statistics were calculated for the individual months of the traditional ozone season (April through October) and the full ozone season. The recommended ranges for the normalized bias and normalized error shown in this table are no longer a part of current EPA guidance but are still widely used for urban- and regional-scale model performance evaluation (EPA 2007; EPA 2014). The normalized bias and error statistics were calculated using a lower bound of 40 ppb (Table D.3.2.3-2) and a lower bound of 60 ppb (Table D.3.2.3-3). Simulation-observation pairs were not included in the calculation if the observed value is less than the lower bound.

Table D.3.2.3-2. Summary Model Performance Statistics for Daily Maximum 8-Hour Average Ozone Concentration for the U.S. Portion of the NHTSA CMAQ Modeling Domain: 40 ppb Lower Bound

| Metric | Apr | May | Jun | Jul | Aug | Sep | Oct | Apr–Oct | Goal |
|----------------------|--------|--------|--------|--------|--------|--------|--------|---------|------|
| Number of Data Pairs | 23,620 | 25,532 | 23,315 | 24,773 | 24,428 | 17,727 | 14,292 | 153,687 | |
| Mean Observed (ppb) | 50.8 | 52.2 | 56.4 | 56.4 | 55.9 | 54.4 | 49.4 | 53.9 | |
| Mean Simulated (ppb) | 50.0 | 53.3 | 58.6 | 60.2 | 60.3 | 57.6 | 51.7 | 56.2 | |
| Normalized Bias (%) | -0.9 | 2.9 | 5.1 | 8.1 | 9.4 | 7.2 | 5.6 | 5.3 | ± 15 |
| Fractional Bias (%) | -1.7 | 1.7 | 3.4 | 5.8 | 7.4 | 5.4 | 4.2 | 3.6 | |
| Normalized Error (%) | 9.7 | 12.0 | 14.2 | 16.8 | 16.2 | 14.9 | 13.1 | 13.9 | ≤ 35 |
| Fractional Error (%) | 9.8 | 11.7 | 13.4 | 15.7 | 15.0 | 14.0 | 12.6 | 13.2 | |

Notes:
CMAQ = Community Multiscale Air Quality; ppb = parts per billion

Table D.3.2.3-3. Summary Model Performance Statistics for Daily Maximum 8-Hour Average Ozone Concentration for the U.S. Portion of the NHTSA CMAQ Modeling Domain: 60 ppb Lower Bound

| Metric | Apr | May | Jun | Jul | Aug | Sep | Oct | Apr–Oct | Goal |
|----------------------|-------|-------|-------|-------|-------|-------|-------|---------|------|
| Number of Data Pairs | 2,799 | 4,275 | 7,883 | 8,298 | 7,642 | 4,648 | 1,403 | 36,948 | |
| Mean Observed (ppb) | 64.8 | 66.0 | 68.4 | 68.6 | 68.4 | 69.3 | 65.8 | 67.9 | |
| Mean Simulated (ppb) | 59.5 | 62.9 | 67.0 | 67.9 | 67.9 | 67.6 | 61.1 | 66.2 | |
| Normalized Bias (%) | -8.1 | -4.6 | -1.8 | -0.6 | -0.2 | -1.9 | -7.0 | -2.2 | ± 15 |
| Fractional Bias (%) | -8.9 | -5.6 | -2.9 | -2.3 | -1.4 | -3.2 | -8.3 | -3.5 | |
| Normalized Error (%) | 10.0 | 10.9 | 11.0 | 13.5 | 11.4 | 11.8 | 11.6 | 11.7 | ≤ 35 |
| Fractional Error (%) | 10.7 | 11.3 | 11.1 | 13.7 | 11.6 | 12.1 | 12.5 | 12.0 | |

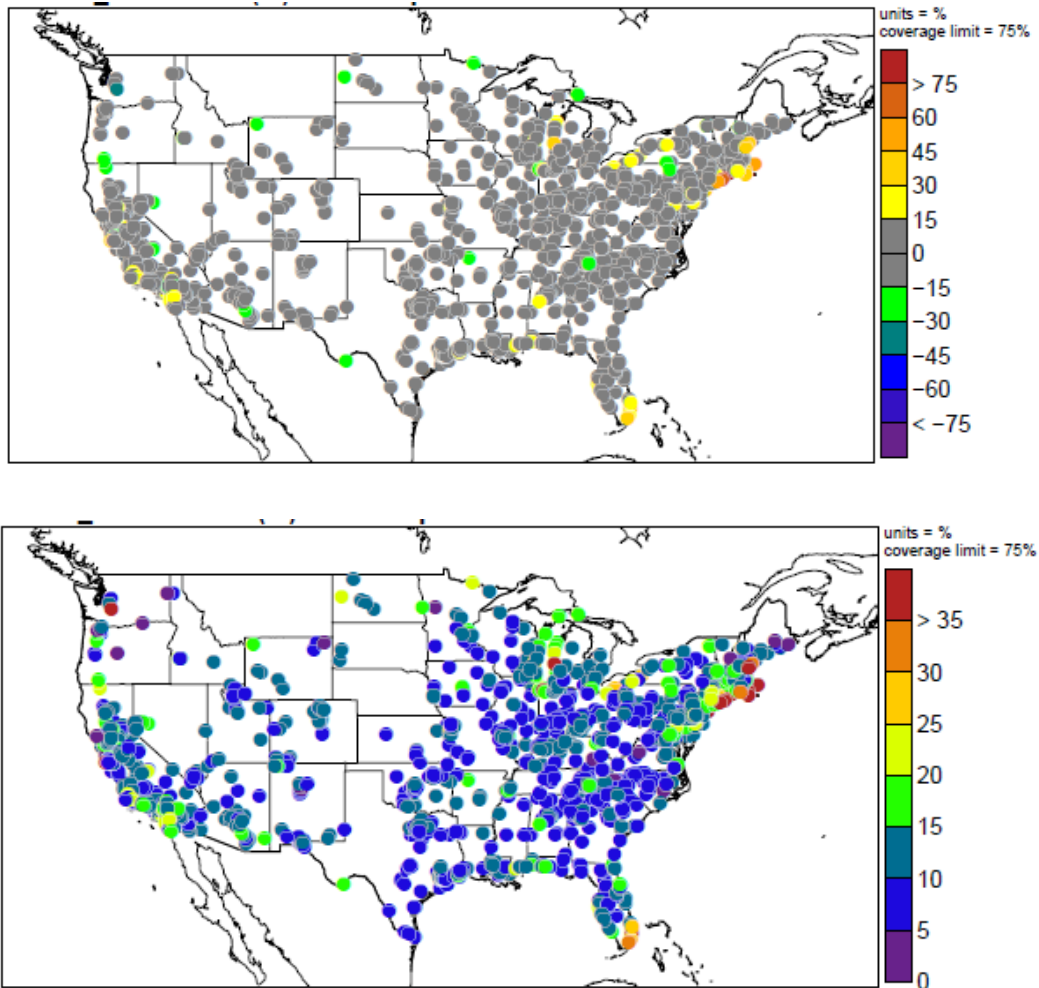
Notes:

CMAQ = Community Multiscale Air Quality; ppb = parts per billion

Using daily maximum 8-hour average ozone concentrations and a lower bound of 40 ppb (Table D.3.2.3-2), the normalized bias is within ±15 percent and the normalized error is well within 35 percent for all periods. Ozone is underestimated for April and slightly overestimated for the remaining ozone season months. Only about 25 percent of the observed concentrations are larger than 60 ppb. The statistics calculated using a lower bound of 60 ppb (Table D.3.2.3-3) indicate that the larger ozone concentrations are slightly underestimated, especially for April, May, and October, but overall very well simulated for all months. The normalized bias is within ±15 percent and the normalized error is well within 35 percent for all periods. Overall, model performance is generally consistent and reasonable for all ozone season months.

The statistical measures were calculated for the entire United States portion of the modeling domain, but it is expected that these will vary from region to region. To illustrate the spatial variation in the agreement between the simulated and observed values, Figure D.3.2.3-2 depicts the average bias and error for all sites in the United States portion of the modeling domain, based on daily maximum 8-hour ozone concentrations. Each monitoring site is represented by a circle and the shading of the circle provides information about how well the hourly observed ozone concentrations are represented by the simulation results, on average. A lower bound of 60 ppb is used in calculating the normalized bias and error statistics. For the normalized bias, gray shaded circles indicate that the bias is within ± 15 percent and this corresponds to good model performance. Blue and green shading indicates underestimation of the observed concentrations and yellow, orange, and red shading indicates overestimation. For the normalized mean error, blue and green shading represent the smaller errors, while red indicates an error larger than 35 percent.

Figure D.3.2.3-2. Site-Specific Normalized Bias (%; Top) and Normalized Mean Error (%; Bottom) Based on Daily Maximum 8-Hour Average Simulated and Observed Ozone Concentrations (April through October Combined)



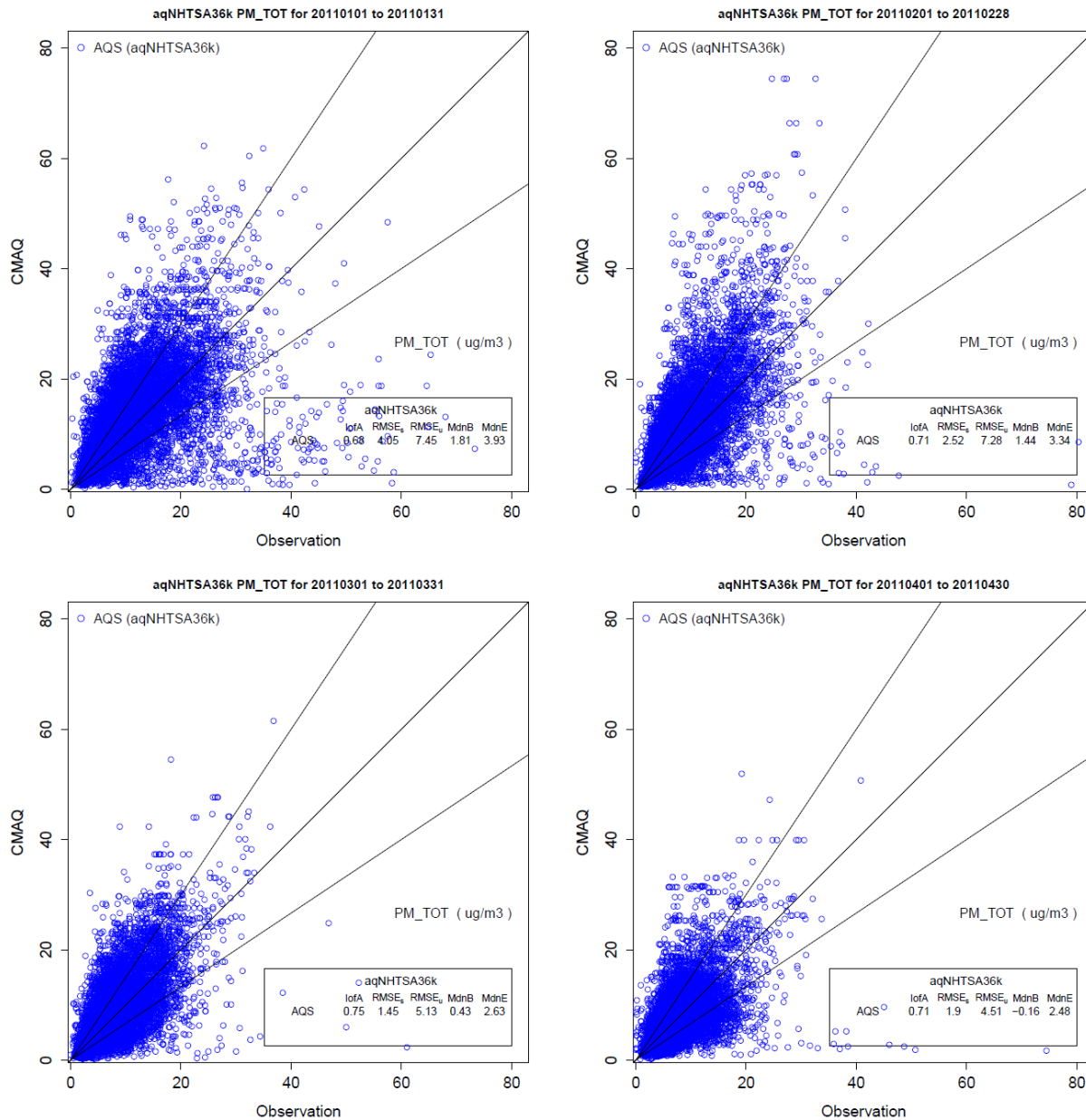
These plots indicate that overall model performance is consistently good throughout the United States. For most monitoring sites, the normalized bias is within ± 15 percent (as indicated by the gray shading). Ozone is overestimated in south Florida and along the coast of New England, and both over- and underestimated at a few isolated monitoring sites throughout the United States. The normalized mean error is less than 35 percent for a majority of the monitoring sites. The errors are larger than 35 percent at a few sites along the coast of New England, one site in southwestern Michigan, and one site northwestern Washington.

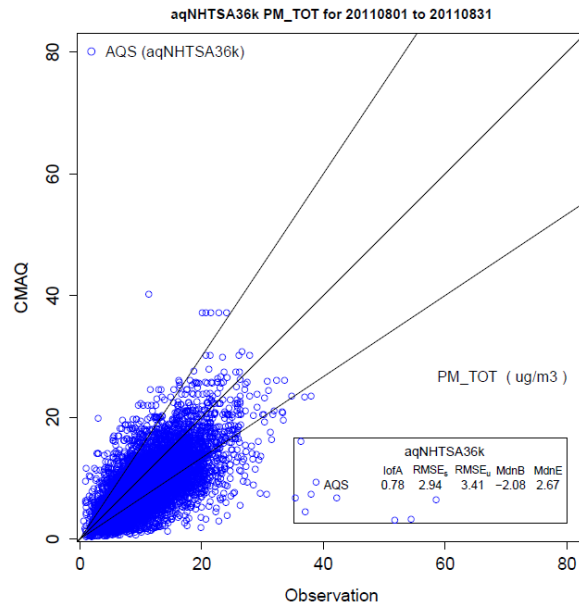
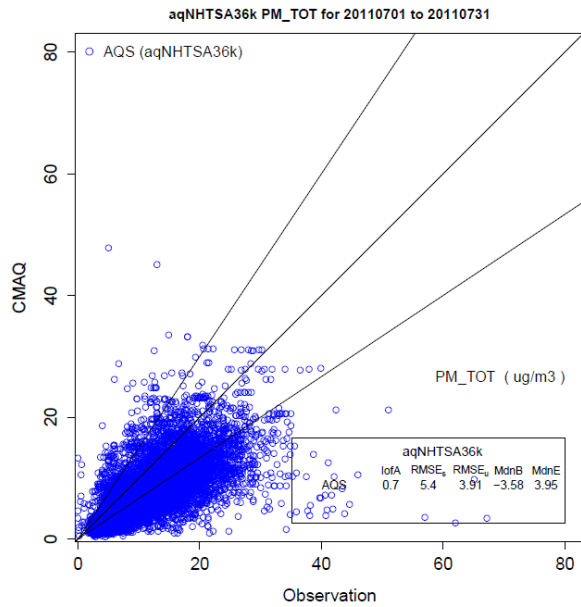
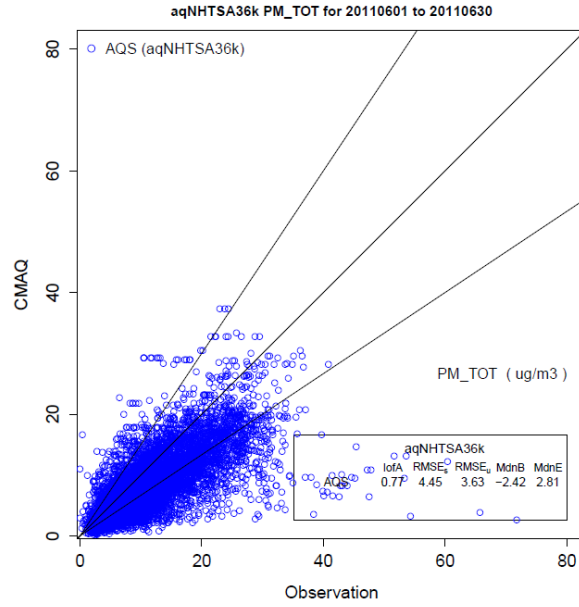
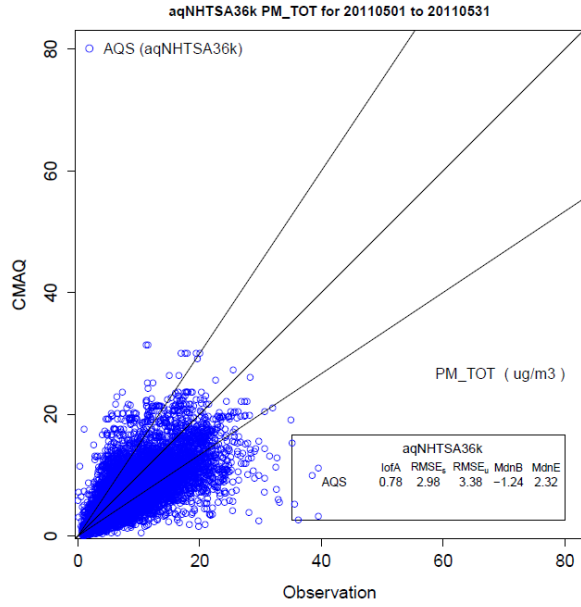
D.3.2.3.2 PM_{2.5}

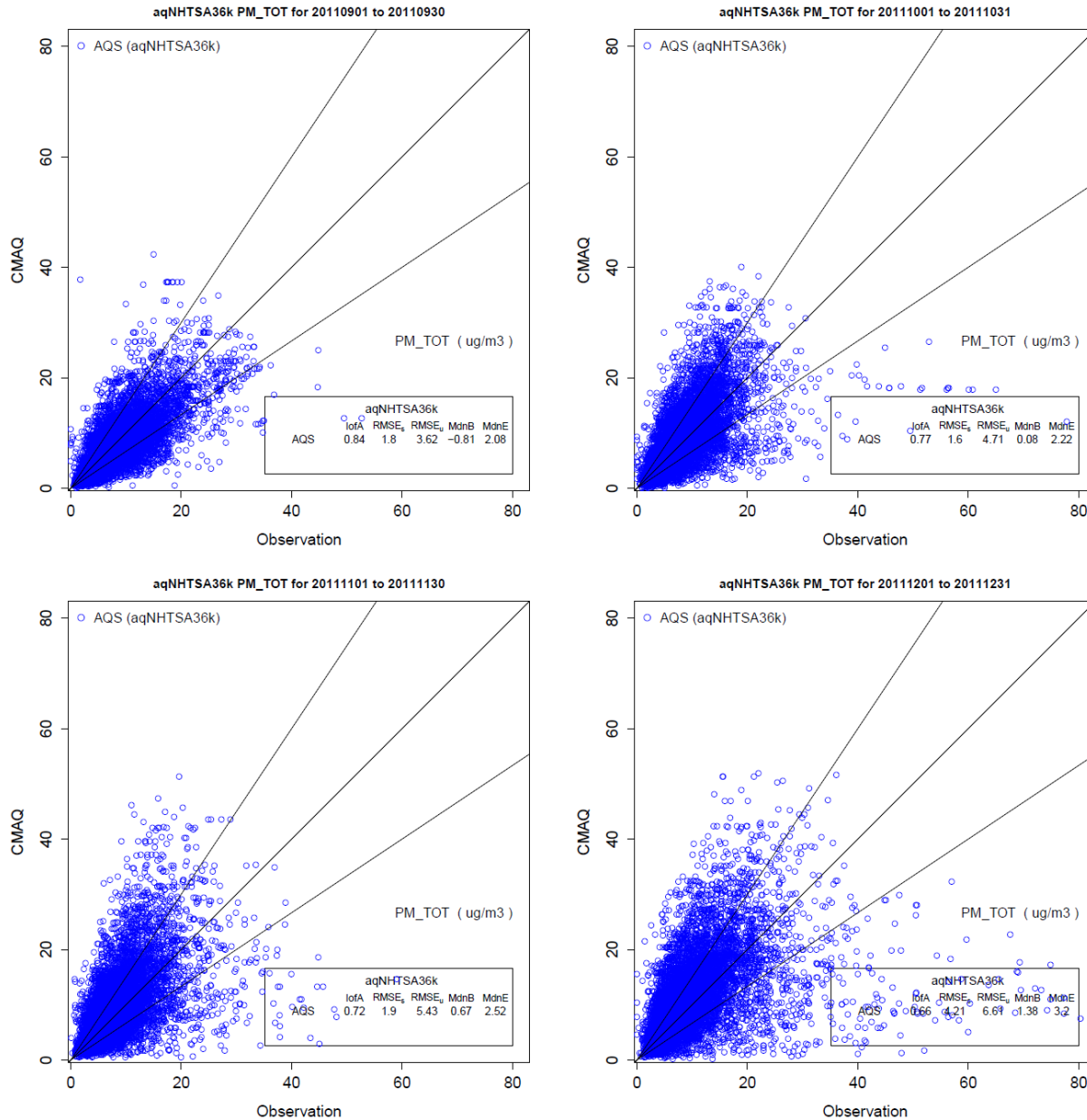
NHTSA evaluated CMAQ base-year model performance for total PM_{2.5} and the results are summarized in the remainder of this section. The evaluation focused on 24-hour average PM_{2.5} concentration. The observed values are based on EPA's AQS monitoring data for the base year of 2011. The units are micrograms per cubic meter ($\mu\text{g}/\text{m}^3$).

Scatter plots comparing simulated and observed 24-hour ozone concentrations for all monitoring sites located within the 48 contiguous states for each month of the annual simulation period are presented in Figure D.3.2.3-3.

Figure D.3.2.3-3. Comparison of Simulated and Observed 24-Hour Average PM2.5 Concentration ($\mu\text{g}/\text{m}^3$) by Month for the U.S. Portion of the NHTSA CMAQ Modeling Domain







The scatter plots indicate a mix of under- and over-estimation of total PM2.5 concentration for most months. There is a general tendency for CMAQ to underestimate the higher concentrations, especially during January, October, and December. Overall performance is characterized by an index of agreement that ranges from 0.66 for December to 0.84 for September.

Summary metrics and statistical measures calculated using daily 24-hour average PM2.5 concentrations for all sites within the 48 contiguous states are presented in Table D.3.2.3-4(a) and (b). Statistics were calculated for each month and the full annual simulation period. Because the observed concentrations can be quite small and there is no accepted minimum threshold, normalized bias and error are not well suited to characterizing model performance for PM2.5, thus only fractional bias and error are presented. The recommended ranges for the fractional bias and fractional error are based on Boylan (2005) and are

widely used for regional-scale model performance evaluation for PM2.5. No lower bound was applied in calculating the statistics.

Table D.3.2.3-4a. Model Performance Statistics for Daily 24-Hour Average PM2.5 Concentration for the U.S. Portion of the NHTSA CMAQ Modeling Domain (January through June)

| Metric | Jan | Feb | Mar | Apr | May | Jun | Goal |
|---|-------|-------|-------|-------|-------|-------|-----------|
| Number of Data Pairs | 8,643 | 7,929 | 9,441 | 8,724 | 8,737 | 8,510 | |
| Mean Observed ($\mu\text{g}/\text{m}^3$) | 12.5 | 10.2 | 8.8 | 8.2 | 9.2 | 11.3 | |
| Mean Simulated ($\mu\text{g}/\text{m}^3$) | 14.2 | 12.5 | 9.7 | 8.2 | 7.7 | 8.2 | |
| Fractional Bias (%) | 11.5 | 13.3 | 3.0 | -4.5 | -18.4 | -32.3 | ± 60 |
| Fractional Error (%) | 44.0 | 44.4 | 40.8 | 41.6 | 39.0 | 42.4 | ≤ 75 |

Notes:

CMAQ = Community Multiscale Air Quality; $\mu\text{g}/\text{m}^3$ = micrograms per cubic meter; PM2.5 = particulate matter with diameter equal to or less than 2.5 microns

Table D.3.2.3-4b. Model Performance Statistics for Daily 24-Hour Average PM2.5 Concentration for the U.S. Portion of the NHTSA CMAQ Modeling Domain (July through December and Annual)

| Metric | Jul | Aug | Sep | Oct | Nov | Dec | Annual | Goal |
|---|-------|-------|-------|-------|-------|-------|---------|-----------|
| Number of Data Pairs | 8,652 | 9,061 | 8,440 | 8,738 | 8,601 | 8,603 | 104,079 | |
| Mean Observed ($\mu\text{g}/\text{m}^3$) | 12.5 | 10.6 | 8.9 | 8.4 | 8.4 | 10.4 | 9.9 | |
| Mean Simulated ($\mu\text{g}/\text{m}^3$) | 8.5 | 8.4 | 8.1 | 8.9 | 9.6 | 11.7 | 9.6 | |
| Fractional Bias (%) | -41.1 | -26.3 | -12.9 | -1.4 | 7.0 | 10.6 | -7.7 | ± 60 |
| Fractional Error (%) | 49.6 | 39.0 | 36.2 | 38.8 | 40.9 | 44.1 | 41.7 | ≤ 75 |

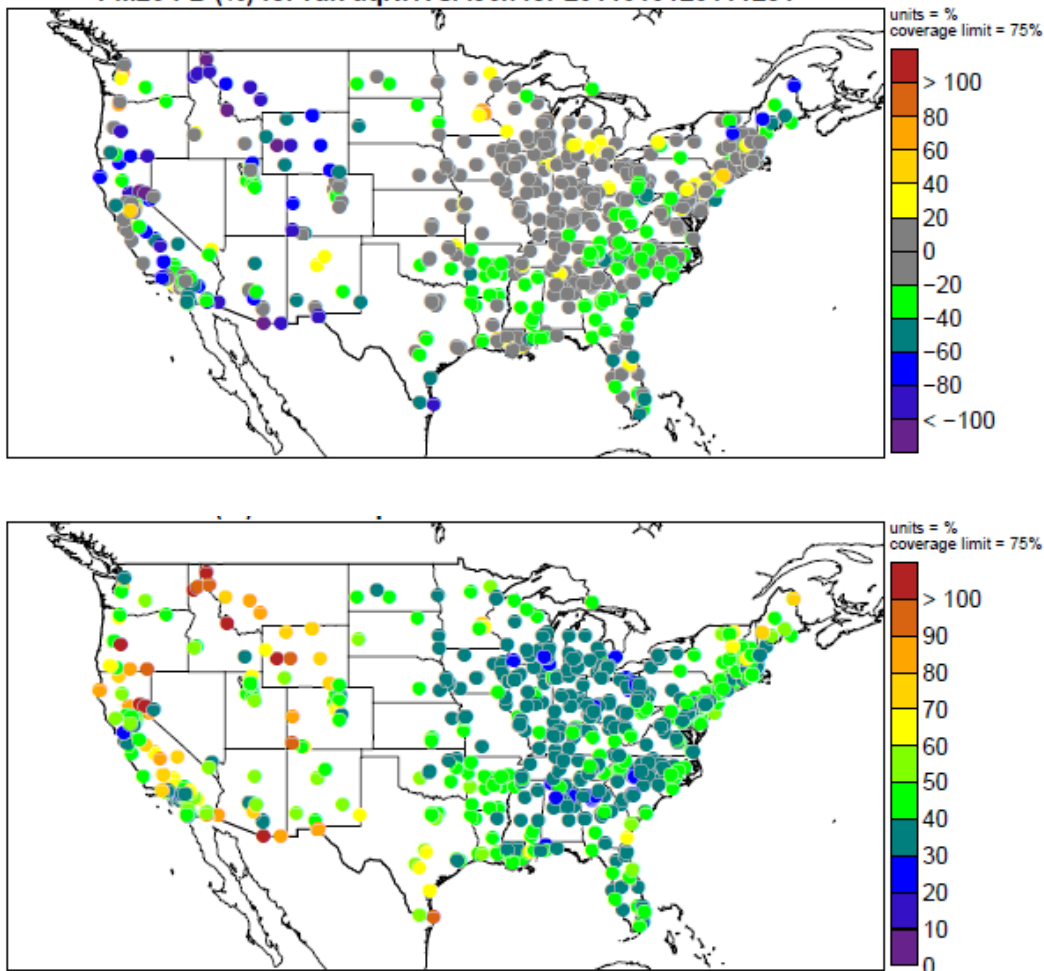
Notes:

CMAQ = Community Multiscale Air Quality; $\mu\text{g}/\text{m}^3$ = micrograms per cubic meter; PM2.5 = particulate matter with diameter equal to or less than 2.5 microns

The statistical measures indicate that model performance is reasonable. The fractional bias is within ± 60 percent and the fractional error is well within 75 percent for all months and the full period. There is a mix of under- and overestimation throughout the year. The bias is largest for June, July, and August and indicates underestimation of the PM2.5 concentrations for these months. Despite the month to month differences, model performance is generally consistent and reasonable for all months.

To illustrate the agreement between the simulated and observed values, Figure D.3.2.3-4 depicts the fractional bias and fractional error statistics for the AQS sites within the U.S. portion of the modeling domain. The statistics were calculated using 24-hour average PM2.5 concentrations and are for the annual simulation period. Each monitoring site is represented by a circle and the shading of the circle provides information about how well the 24-hour observed PM2.5 concentrations are represented by the simulation results, on average. For the fractional bias, gray shaded circles indicate that the fractional bias is within ± 20 percent and, in general, values within ± 60 percent (lighter colors) correspond to acceptable model performance. Blue and green shading indicates underestimation of the observed concentrations and yellow, orange, and red shading indicates overestimation. For the fractional error, blue and green shading represent the smaller errors, while red indicates an error larger than 100 percent. Values less than 75 percent are considered to represent reasonable model performance for PM2.5.

Figure D.3.2.3-4. Site-Specific Fractional Bias (%; Top) and Fractional Error (%; Bottom) Based on Daily 24-Hour Average Simulated and Observed PM2.5 Concentrations (Annual)



These plots indicate that overall model performance is good to very good for most of the eastern United States and characterized by underestimation of PM2.5 concentrations for the western United States. This could be due to the influence of regional wildfires in the western United States, which contributed to observed concentrations in the western states but are difficult to capture in the emission inventory and the modeling. For most monitoring sites, however, the fractional bias is within ± 60 percent (as indicated by the gray, yellow, light orange and green shading). The fractional error is less than 75 percent for a majority of the monitoring sites, with some exceptions throughout California, along the southwestern United States border, and in the mountain west states.

D.3.2.4 Post-processing and Quality Assurance Procedures

Quality assurance of the CMAQ runs included the following steps:

- NHTSA routinely checked scripts to ensure that the correct input files and output file names were used. They checked and reconciled any error messages CMAQ generated.
- NHTSA prepared plots of ozone, PM_{2.5}, and selected particulate species for each month and each simulation. These included daily maximum 8-hour average ozone concentration for the 15th day of each month and monthly average PM_{2.5} concentration. These were examined and compared with the results for other runs. NHTSA checked the concentration patterns and values for reasonableness, and compared the results for each month and each alternative to ensure that differences in the CMAQ results were consistent with the emissions changes.

Following these actions to ensure the quality of the modeling results, NHTSA post-processed the CMAQ results for input to the health impacts and benefits modeling, as discussed in Section D.4 of this report.

D.3.3 CMAQ Modeling Results

This section presents the CMAQ modeling results for the DII and CI analyses. The modeling results for ozone and PM_{2.5} presented in this section were used to calculate health effects and monetized health-related benefits provided in Section D.4 of this report.

D.3.3.1 Direct and Indirect Impacts

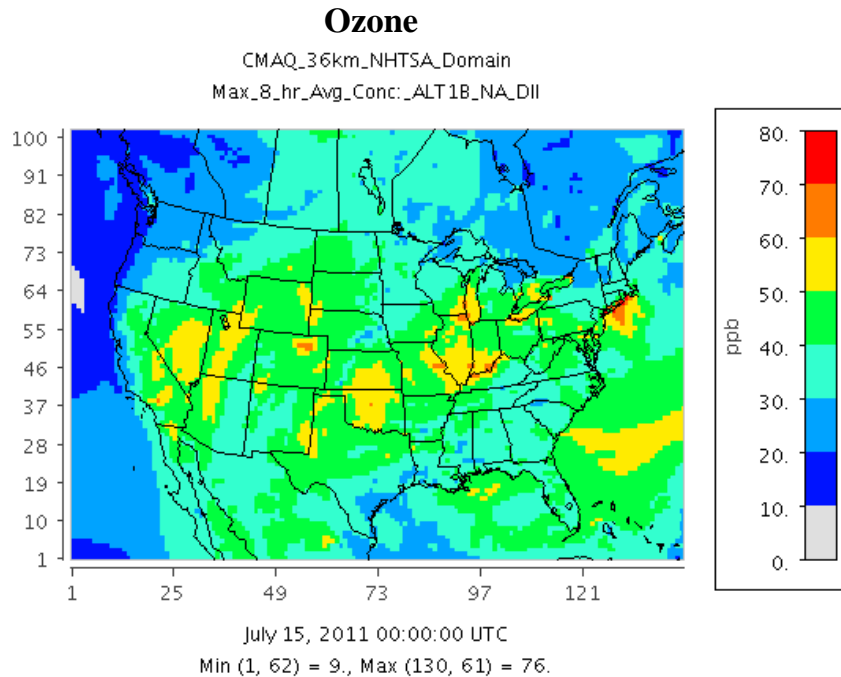
This section presents and compares CMAQ results for the DII Analysis. The results for ozone are presented first, followed by the results for PM_{2.5}.

D.3.3.1.1 Ozone

Figure D.3.3.1-1 shows future-year simulated daily maximum 8-hour ozone concentrations (ppb) for the 15th of July for the No Action Alternative (Alternative 1B). NHTSA selected this day as an example ozone-season day for display of the ozone concentrations (for all simulations), primarily because of relatively larger ozone concentrations on this day compared to other days comprising the simulation period, but also because the meteorological conditions and resulting concentration patterns are typical of the ozone season. The date and time given on this and all subsequent figures refer to the meteorological base year (2011) and start hour for the selected day or averaging period. The minimum and maximum values for any location in the domain are also provided, along with their grid cell (x,y) locations.

Figure D.3.3.1-1 indicates that daily maximum 8-hour ozone concentrations for this day are generally less than 70 ppb (the current 8-hour ozone National Ambient Air Quality Standard [NAAQS]). There are a few areas with larger ozone concentrations, especially over the Midwest, along the mid-Atlantic coast, over northeastern Colorado, and in southern California. This example is representative of modeled ozone-season concentrations and indicates that while most areas would be in attainment of the current 8-hour ozone standard by 2035, some high ozone concentrations (larger than the NAAQS) would still occur.

Figure D.3.3.1-1. Simulated Daily Maximum 8-hour Ozone Concentration (ppb) for July 15, 2035: No Action Alternative (Alternative 1B), Direct and Indirect Impacts



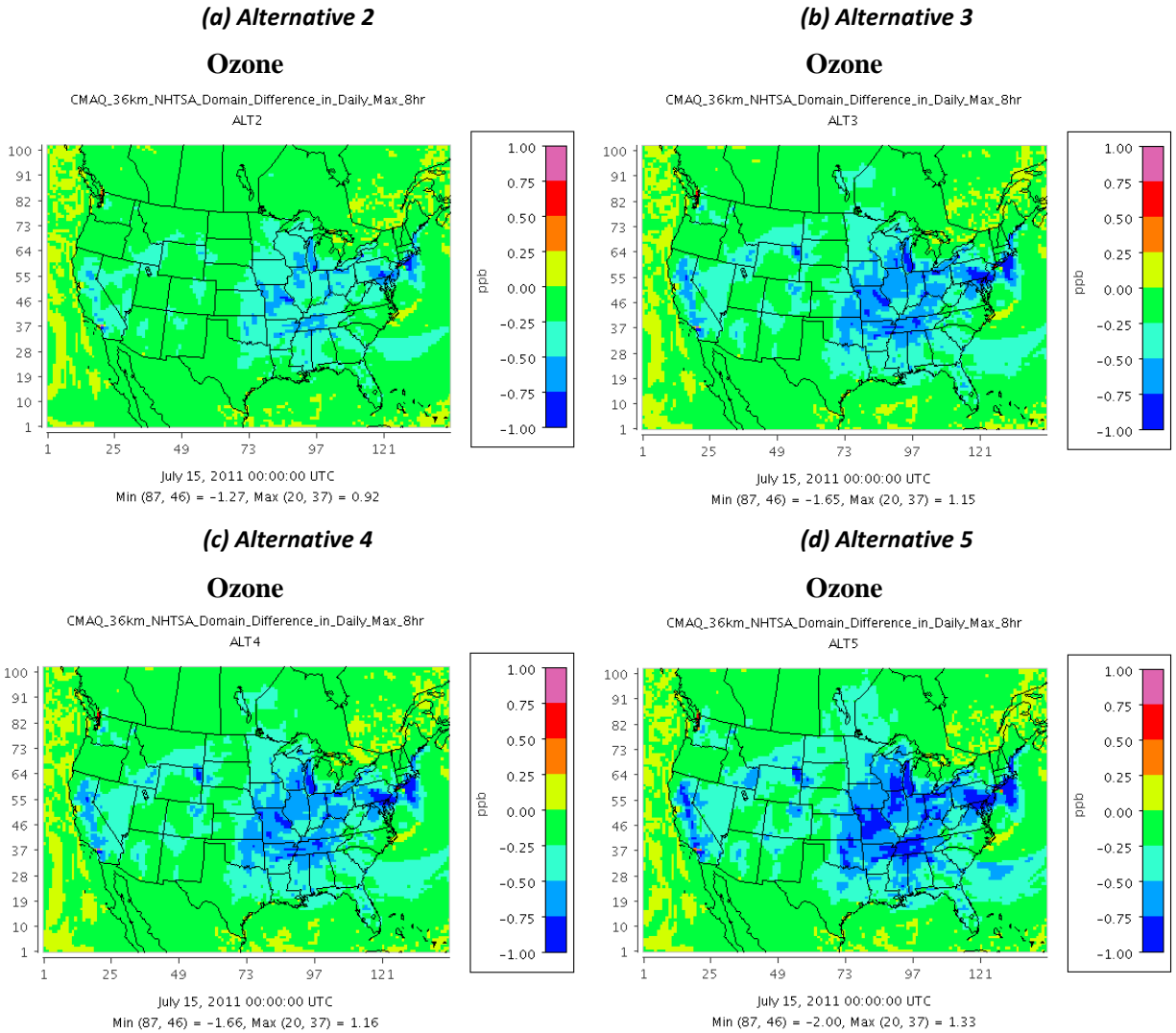
From a meteorological perspective, the observed ozone concentration patterns on July 15, 2011 were affected by typical mid-summer, large-scale weather features situated over the contiguous United States, with a strong upper-level ridge centered over the Texas-Oklahoma area that influenced weather from the southwestern states through the upper Midwest to the southeastern United States. Upper-level troughs were situated off the west coast of California and offshore of Nova Scotia. The dominant upper-level ridge and resulting surface high-pressure features over the central and eastern states resulted in relatively clear skies, light winds, and normal to above-normal temperatures, especially in the central portion of the country, with temperatures from Texas to South Dakota reaching the upper 90s to over 100 degrees Fahrenheit. Other surface features included a weak cold front along the Gulf Coast and a stationary front in the mountain west states stretching from Idaho to Minnesota that resulted in some light precipitation in these areas. The winds aloft over much of the central United States affected by the ridge were light and variable, while the winds over the west coast and offshore of the northeastern United States, influenced by the upper level troughs in these areas, were moderate.

Figures D.3.3.1-2 (a)-(d) illustrate the simulated differences in daily maximum 8-hour ozone between each action alternative and the No Action Alternative (Alternative 2 minus No Action, Alternative 3 minus No Action, Alternative 4 minus No Action, and Alternative 5 minus No Action). Again the results for July 15th are displayed. The widespread decreases and isolated increases in ozone concentration are characteristic of most simulation days.

The location, extent, and magnitude of the decreases in ozone concentration are consistent with the emission changes. The largest reduction in VOC and NO_x emissions occurs for tailpipe emissions from large combination unit/tractor trailer trucks and the largest reduction in ozone occurs in regions where

truck traffic is known to occur (including major transportation corridors in the Midwest and central California). The differences in ozone concentration between each alternative and the No Action Alternative (decreases in concentration) are smallest under Alternative 2, larger and about the same under Alternatives 3 and 4, and largest under Alternative 5. The largest decrease in ozone concentration for any given grid cell is 1.27 ppb under Alternative 2, 1.65 ppb under Alternative 3, 1.66 ppb under Alternative 3, and 2 ppb under Alternative 5. The largest increase in ozone concentration ranges from approximately 0.9 to 1.3 ppb for these same alternatives and is located near Los Angeles.

Figure D.3.3.1-2. Difference in Simulated Daily Maximum 8-hour Ozone Concentration (ppb) for July 15, 2035: Direct and Indirect Impacts under Alternatives 2, 3, 4 and 5 Compared to the No Action Alternative



The key precursor pollutants for ozone are VOC and NO_x. Emissions of both VOC and NO_x are lower under all alternatives compared to the No Action Alternative. The amount by which the emissions are reduced is largest under Alternative 5 and the largest decreases in ozone are also associated with this alternative.

The response of the model to changes in emissions is influenced by the complex photochemistry represented by the model. Under certain conditions (usually characterized by a low VOC-to-NO_x ratio),

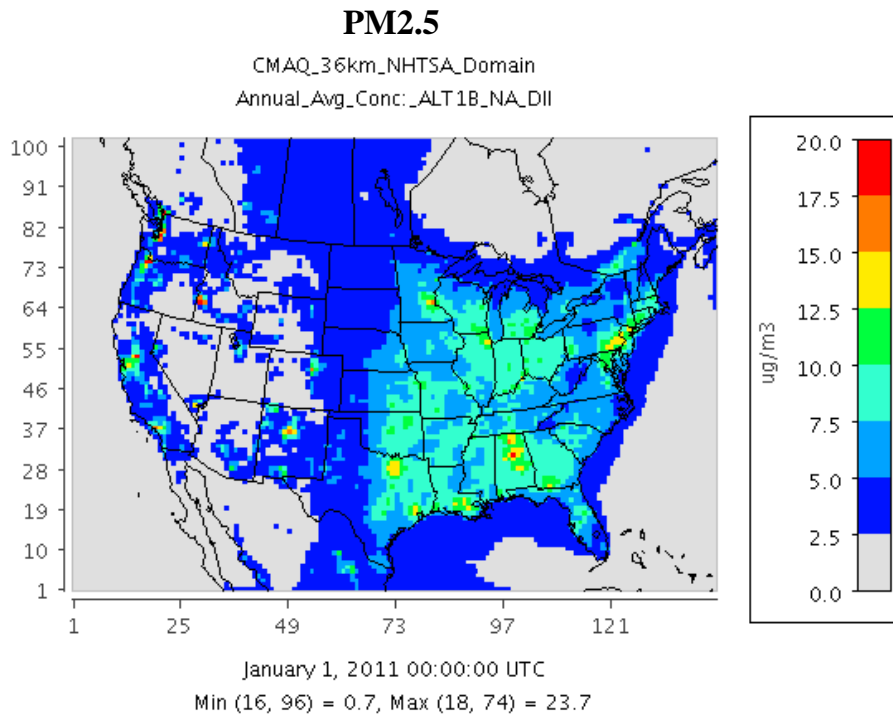
decreases in NO_x emissions can lead to increases in ozone. This is typically expected to occur in urban areas and likely accounts for the increase in ozone in the Los Angeles area.

The response of the model to the changes in emissions varies from region to region, and is influenced by the amount and spatial distribution of the emission changes, and the relative changes in emissions for the different pollutant species (VOC versus NO_x).

D.3.3.1.2 PM2.5

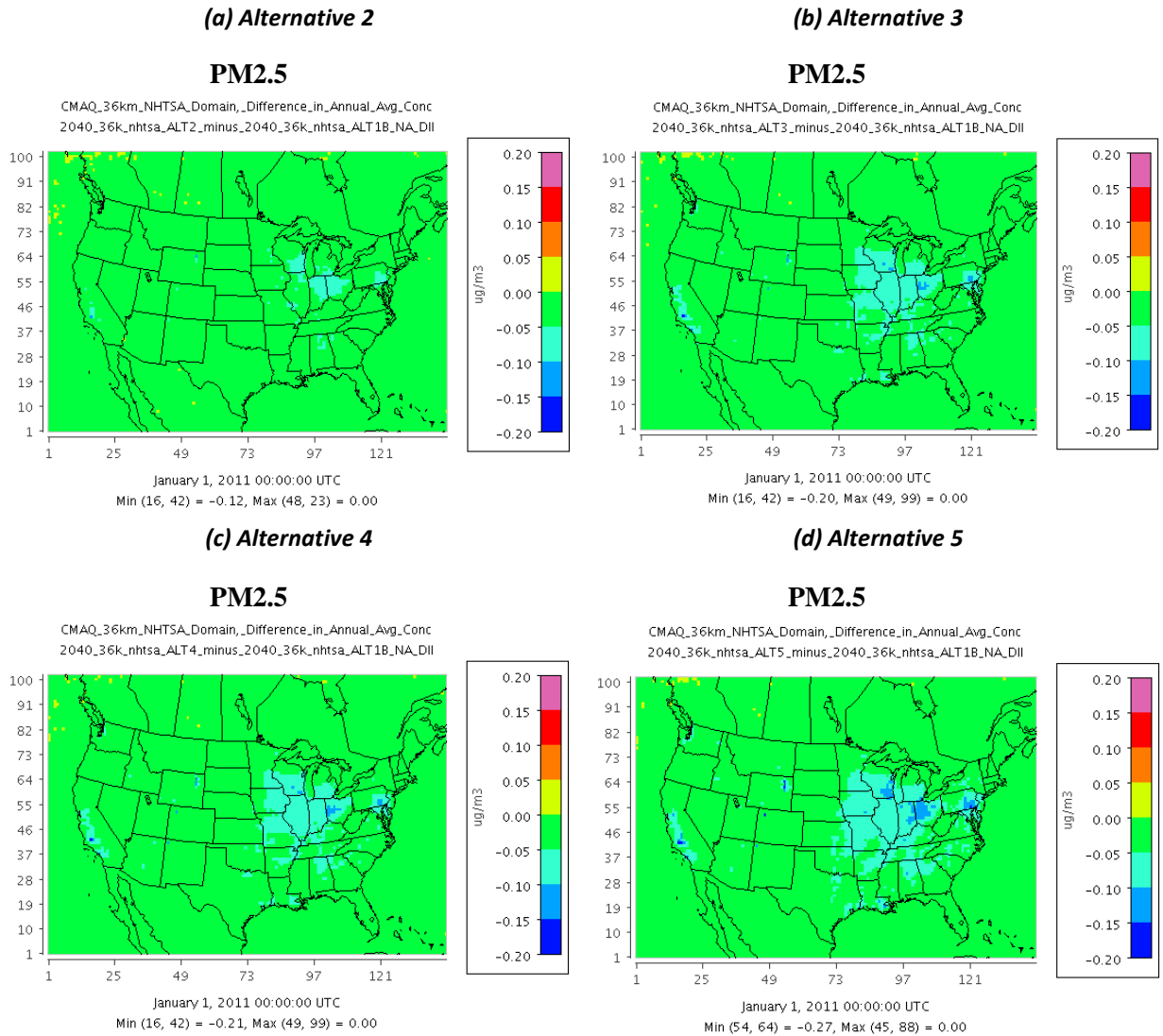
Figure D.3.3.1-3 displays future-year simulated annual average PM2.5 concentrations (µg/m³) under the No Action Alternative. This plot indicates areas of higher PM2.5 in the eastern United States, California, and several isolated areas in the western states (likely due to emissions from wildfires). Except for a few isolated grid cells, the annual average concentration throughout the United States is less than the current annual NAAQS of 12 µg/m³. The date and time given on this and all subsequent figures refer to the meteorological base year and start hour for the selected day or averaging period. The minimum and maximum values for any location in the domain are also provided, along with their grid cell (x,y) locations.

Figure D.3.3.1-3. Simulated Annual Average PM2.5 Concentration (µg/m³) for 2035: No Action Alternative (Alternative 1B), Direct and Indirect Impacts



Figures D.3.3.1-4 (a)-(d) display the difference in simulated annual average PM2.5 concentration (µg/m³) for each alternative compared to the No Action Alternative (Alternative 2 minus No Action, Alternative 3 minus No Action, Alternative 4 minus No Action, and Alternative 5 minus No Action). The differences are characterized by small decreases in PM2.5 concentration.

Figure D.3.3.1-4. Difference in Simulated Annual Average PM_{2.5} Concentration ($\mu\text{g}/\text{m}^3$) for 2035: Direct and Indirect Impacts under Alternatives 2, 3, 4 and 5 Compared to the No Action Alternative



PM_{2.5} comprises primary PM_{2.5} that is released directly into the atmosphere, and secondary PM_{2.5} that is formed in the atmosphere through a series of complex reactions involving several precursor emission species. As indicated in Section D.2 of this report, emissions of primary PM_{2.5} increase slightly for the action alternatives, compared with the No Action Alternative. However, secondary PM_{2.5} is a much larger component of total PM_{2.5} than primary PM_{2.5} and concentrations of secondary PM_{2.5} are lower for the action alternatives compared to the No Action Alternative. The key precursor pollutants for secondary PM_{2.5} are SO₂, NO_x, and VOCs. Tailpipe emissions for these species are lower under all action alternatives compared to the No Action Alternative, and this is reflected in the modeling results as a decrease in PM_{2.5} concentration over the major transportation corridors in the Midwest and California. The differences in PM_{2.5} concentration between each alternative and the No Action Alternative (decreases in concentration) are smallest under Alternative 2, and slightly larger under Alternatives 3, 4, and 5. The largest decrease in PM_{2.5} concentration for any given grid cell is 0.12 $\mu\text{g}/\text{m}^3$ under Alternative 2, 0.20 $\mu\text{g}/\text{m}^3$ under Alternative 3, 0.21 $\mu\text{g}/\text{m}^3$ under Alternative 4, and 0.27 $\mu\text{g}/\text{m}^3$ under Alternative 5.

Some of the largest reductions in PM2.5 concentration occur where the concentrations are largest for the No Action Alternative. The response of the model to the changes in emissions varies from region to region, and is influenced by the amount and spatial distribution of the emission changes and the relative changes in emissions for the different pollutant species.

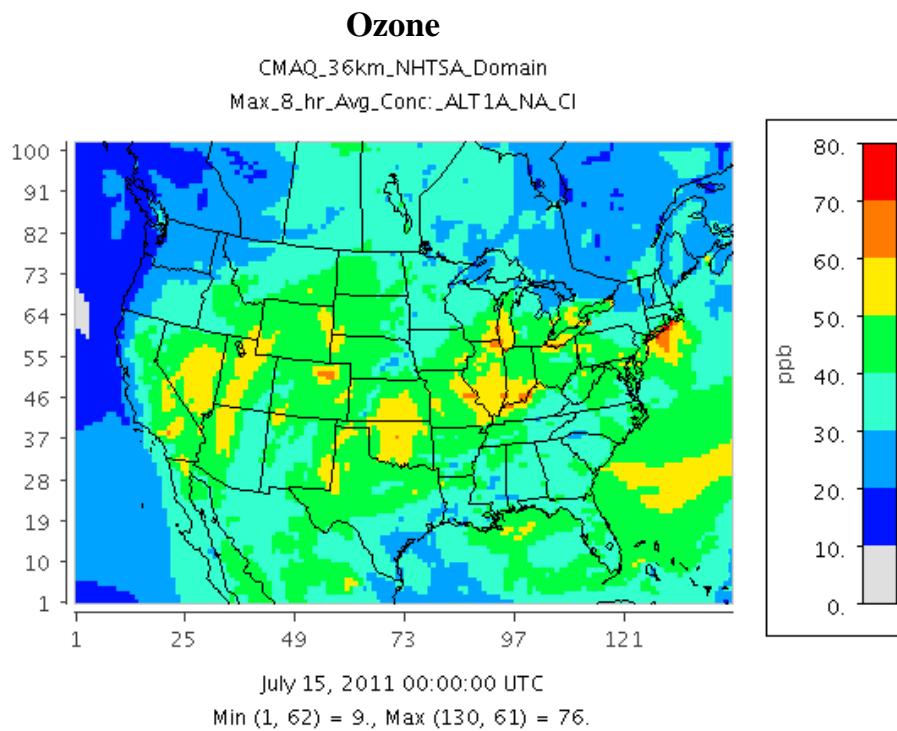
D.3.3.2 Cumulative Impacts

This section presents and compares results for the CI Analysis. The results for ozone are presented first, followed by the results for PM2.5.

D.3.3.2.1 Ozone

Figure D.3.3.2-1 displays simulated daily maximum 8-hour ozone concentration (ppb) for the 15th of July under the No Action Alternative for CI (Alternative 1A). Comparison of Figures D.3.3.1-1 and D.3.3.2-1 shows that the simulated ozone concentrations closely resemble those for the No Action Alternative for DII (Alternative 1B).

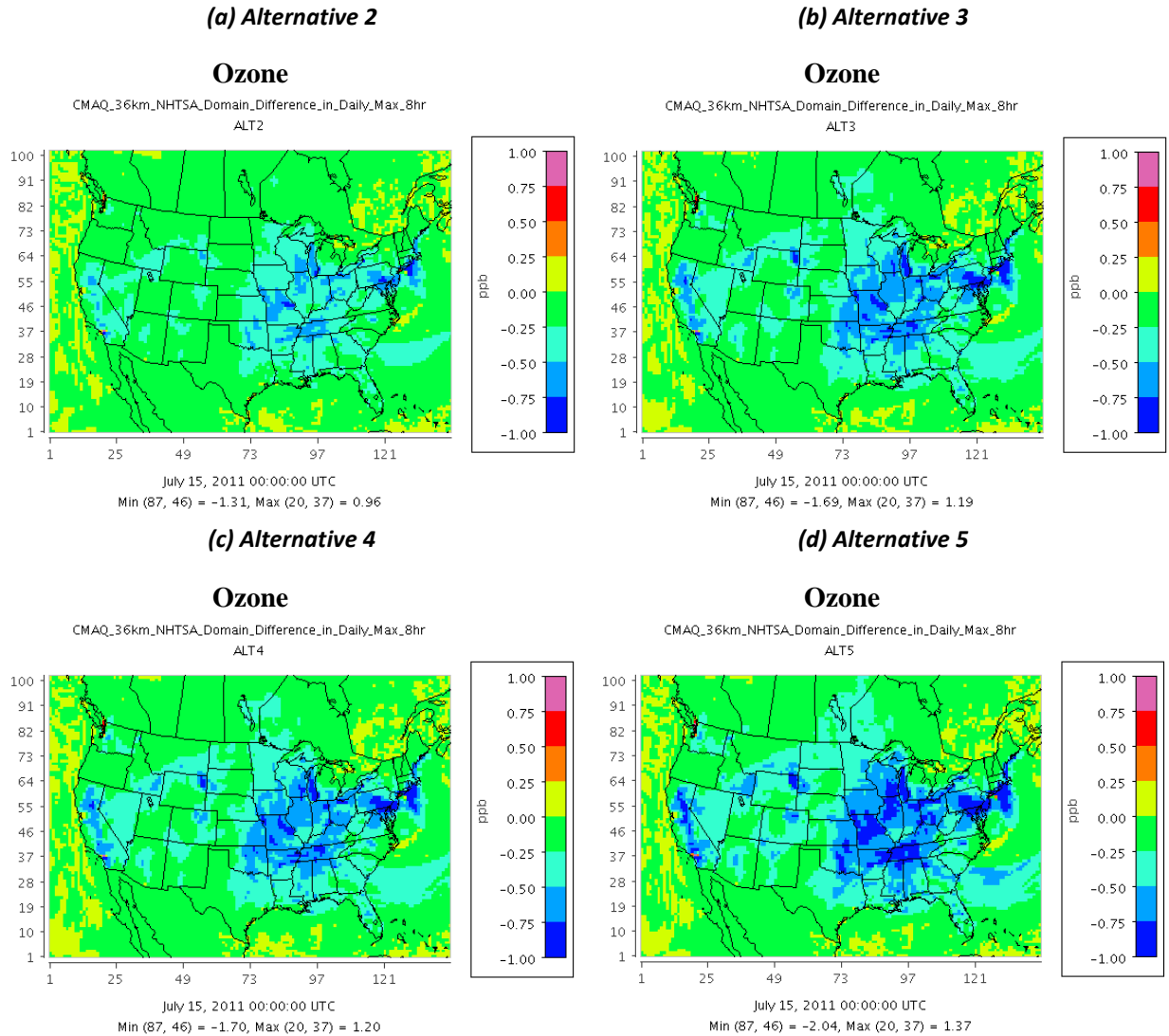
Figure D.3.3.2-1. Simulated Daily Maximum 8-hour Ozone Concentration (ppb) for July 15, 2035: No Action Alternative (Alternative 1A), Cumulative Impacts



Figures D.3.3.2-2 (a)-(d) illustrate the simulated differences in daily maximum 8-hour ozone between each action alternative and the No Action Alternative for CI (Alternative 2 minus No Action, Alternative 3 minus No Action, Alternative 4 minus No Action, and Alternative 5 minus No Action). Again the results for July 15th are displayed. The widespread decreases in ozone concentration are characteristic of all simulation days. The differences in ozone concentration between each alternative and the No Action Alternative (decreases in concentration) are smallest under Alternative 2, larger and about the same

under Alternatives 3 and 4, and largest for Alternative 5. The largest decrease in ozone concentration for any given grid cell is 1.31 ppb under Alternative 2, 1.69 ppb under Alternative 3, 1.70 ppb under Alternative 3, and 2.04 ppb under Alternative 5. The decreases are slightly larger than those for DII.

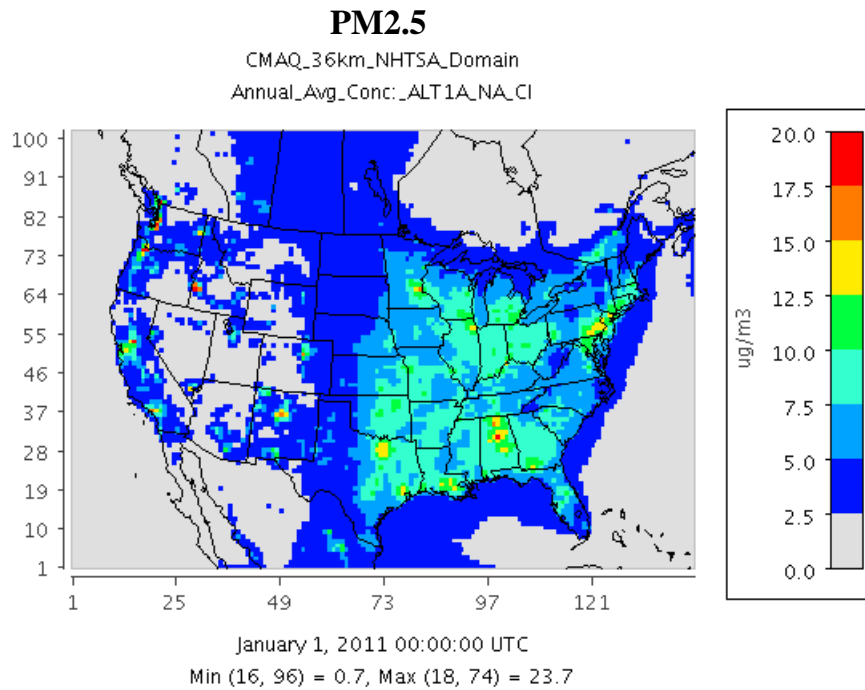
Figure D.3.3.2-2. Difference in Simulated Daily Maximum 8-hour Ozone Concentration (ppb) for July 15, 2035: Cumulative Impacts under Alternatives 2, 3, 4 and 5 Compared to the No Action Alternative



D.3.3.2.2 PM2.5

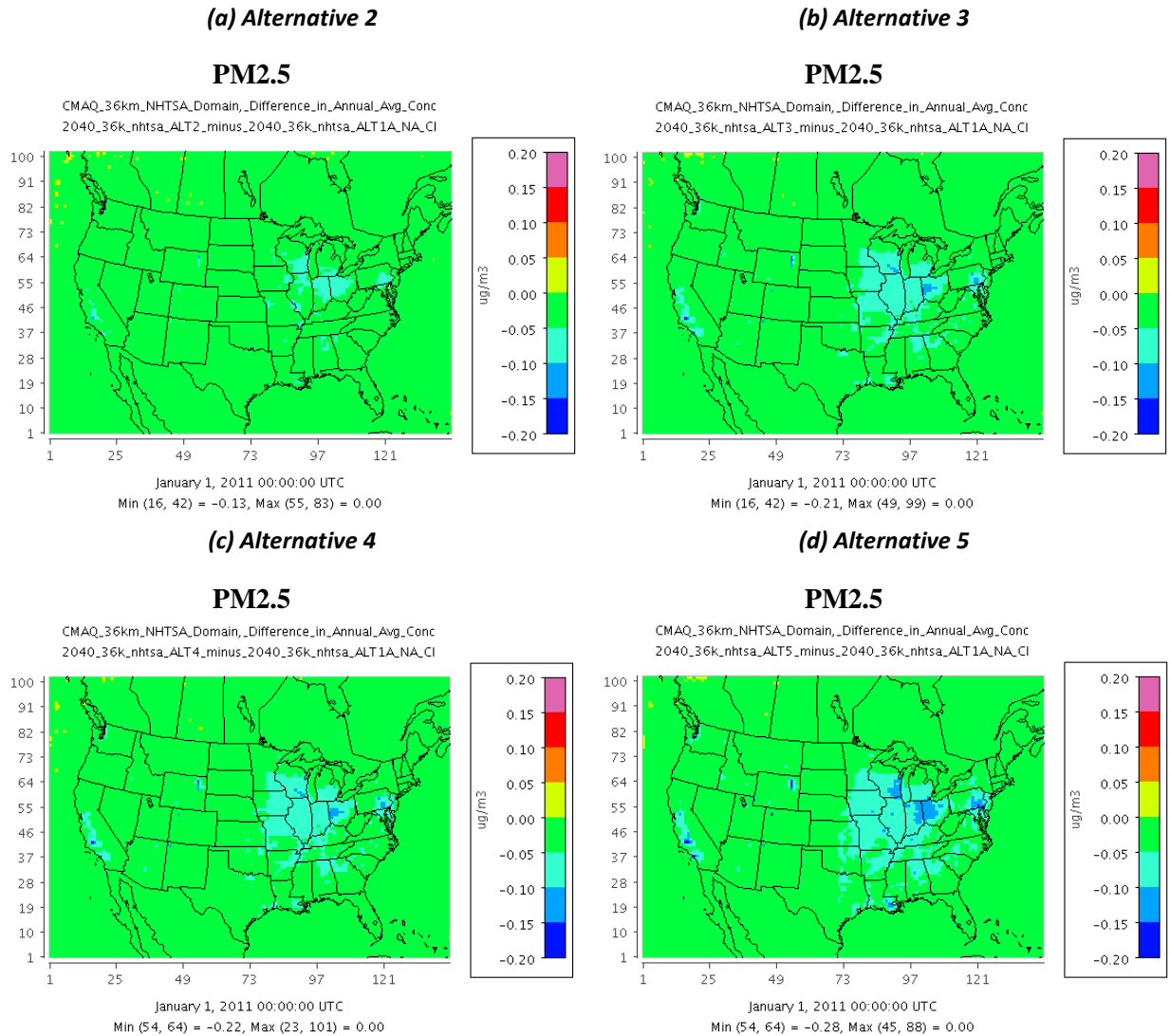
Figure D.3.3.2-3 displays simulated annual average PM2.5 concentration ($\mu\text{g}/\text{m}^3$) under the No Action Alternative for CI. Comparison of Figures D.3.3.1-3 and D.3.3.2-3 shows that the simulated PM2.5 concentrations closely resemble those for the No Action Alternative for DII (Alternative 1B).

Figure D.3.3.2-3. Simulated Annual Average PM_{2.5} Concentration ($\mu\text{g}/\text{m}^3$) for 2035: No Action Alternative (Alternative 1A), Cumulative Impacts



Figures D.3.3.2-4 (a)-(d) display the difference in simulated annual average PM_{2.5} concentration ($\mu\text{g}/\text{m}^3$) for each alternative compared to the No Action Alternative (Alternative 2 minus No Action, Alternative 3 minus No Action, Alternative 4 minus No Action, and Alternative 5 minus No Action). The differences are characterized by decreases in PM_{2.5} concentration. The differences in PM_{2.5} concentration between each alternative and the No Action Alternative (decreases in concentration) are smallest under Alternative 2, larger and about the same for under Alternatives 3 and 4, and largest for Alternative 5. The largest decrease in PM_{2.5} concentration for any given grid cell is 0.13 $\mu\text{g}/\text{m}^3$ under Alternative 2, 0.21 $\mu\text{g}/\text{m}^3$ under Alternative 3, 0.22 $\mu\text{g}/\text{m}^3$ under Alternative 3, and 0.28 $\mu\text{g}/\text{m}^3$ under Alternative 5. The decreases are slightly larger than those for DII.

Figure D.3.3.2-4. Difference in Simulated Annual Average PM_{2.5} Concentration ($\mu\text{g}/\text{m}^3$) for 2035: Cumulative Impacts under Alternatives 2, 3, 4 and 5 Compared to the No Action Alternative



D.3.3.3 Discussion of Attributes, Limitations and Uncertainties

The CMAQ air quality modeling system provides a reliable platform for evaluating the expected responses to changes in precursor emissions at the national and regional scales. The detailed, quantitative modeling results provide an excellent basis for comparing the effects of the action alternatives and provide the requisite input for the health effects modeling.

CMAQ can account for differences in emissions and other factors that affect air quality and the resulting health impacts at any given location, such as meteorology, topography, land-use, and atmospheric chemistry processes. Accordingly, CMAQ can simulate regional differences in the response of the model to the emission changes. This is important because different regions of the country could experience either a net increase or a net decrease in emissions due to the proposed standards, depending on the relative magnitudes of the changes in emissions due to increased fuel economy, increased vehicle use, and reduced fuel production and distribution. Regional differences in the response of the model to

changes in emissions are also important in the calculation of health effects, because the air quality changes are matched to gridded population estimates.

All air quality modeling exercises are affected by inherent uncertainties that derive from model formulation (including numerical approximations and the parameterization of physical and chemical processes) and inaccuracies in the input fields (including the meteorological inputs and emission inventory estimates). The following paragraphs discuss a number of key limitations and uncertainties, both general and specific to this analysis.

One limitation of this application of CMAQ is the use of 36-kilometer horizontal grid resolution. Although this grid resolution is consistent with current EPA modeling guidance and practice for annual and seasonal modeling for PM_{2.5}, it is coarser than that typically used for ozone. This grid resolution might not be sufficiently detailed to resolve certain sub-grid scale processes (e.g., emissions, meteorology, and atmospheric chemistry) in portions of the modeling domain, and this could introduce biases or uncertainties into the simulated concentration fields. Use of 36-kilometer grid resolution might limit the response of the model to small changes in precursor emissions, especially for ozone.

Pollutants such as ozone and PM_{2.5} are secondary pollutants formed through atmospheric chemical processes. There are many different reaction pathways and there are uncertainties associated with each pathway as represented in the CMAQ model.

The emission estimates for on-road motor vehicles and the affected upstream emission sources used in this analysis are total emissions for all states and Washington, D.C. These were spatially allocated to each state and county using VMT and other activity information. These emissions assume that emission rates for vehicles are the same across the United States. As a result, the modeling does not account for such factors as impacts of temperature on emissions, differences in age distribution of the fleet, and differences in fuels (especially regarding ethanol fraction).

Many of the national-scale databases used for this application, including the meteorological and other input databases (for 2011) and the projected baseline criteria pollutant emissions data (for 2030 and 2040), were originally prepared by EPA for use in modeling exercises to support national rulemaking. However, as for any modeling database, it is expected that there are errors and uncertainties in the inputs that contribute to potential biases in the CMAQ results. This is especially true for the future-year modeling. For example, the meteorological conditions for 2011 might be representative of current conditions but would not reflect any effects of potential climate change in 2035. Similarly, the future-year emissions are based on future estimates of population and economic and industrial activity and growth, and contain uncertainties due to potential unknown social, political, and/or economic factors that could affect growth and activity and resulting future emissions.

D.4 HEALTH EFFECTS AND BENEFITS MODELING

This section presents the methods and results of the health effects and benefits modeling. Following the application of CMAQ for each action alternative, NHTSA processed the CMAQ-derived air quality estimates for input to the BenMAP-CE health effects analysis tool, and used BenMAP-CE to estimate the health impacts and monetized health-related benefits associated with the changes in air pollution simulated by CMAQ for each action alternative. The BenMAP-CE tool includes health impact functions, which relate a change in the concentration of a pollutant with a change in the incidence of a health endpoint (health effect). BenMAP-CE also calculates the monetized value of health impacts. BenMAP-CE can be used to calculate health impacts and monetized health-related benefits related to ozone and PM_{2.5} and NHTSA considered both of these pollutants in this study.

D.4.1 Overview of the BenMAP-CE Modeling System

BenMAP-CE is an EPA-developed computer program that uses interpolation functions, population projections, health impact functions, and valuation functions to translate simulated changes in air pollution concentration into changes in health-related incidences and monetized health-related benefits. BenMAP-CE is primarily intended as a tool for estimating the human health effects and economic benefits associated with changes in ambient air pollution. EPA originally developed this tool to analyze national-scale air quality regulations. The health benefits and monetary values derived using BenMAP-CE are intended to inform policymakers by enabling the comparison of the benefits and costs of various regulatory measures (Abt Associates 2008; RTI 2015).

BenMAP-CE relies on the input of air quality information that can be used to calculate the change in ambient air pollution associated with a change in emissions. Typically, the results from two air quality modeling simulations (with different emission inputs) are used. In some cases, measured ambient air quality data can also be used.

BenMAP-CE calculates health effects based on expected relationships between the change in concentration and certain health effects (also known as health endpoints), using concentration-response functions from epidemiology studies (Abt Associates 2008; RTI 2015). The response functions are used together with population data to estimate health effects. For a model-based application, health effects are calculated grid cell by grid cell and then summed to obtain regional- and national-scale estimates. In its most basic form, the health effect for a given health endpoint is a function of the change in air concentration, concentration-response estimates, and population. Primary health endpoints include premature mortality, heart attacks, and chronic respiratory illnesses.

After estimating the change in adverse health effects associated with a given change in air quality, BenMAP-CE calculates the monetary benefits associated with those changes (Abt Associates 2008; RTI 2015). Simply, the economic value is based on the change in the incidence of a certain adverse health effect multiplied by the value of the health effect (on a per-incident or per-case basis). For example, the value associated with avoided premature mortality is typically calculated using the Value of Statistical Life (VSL), which is the monetary amount people are willing to pay to slightly reduce the risk of premature death. For other health effects, the medical costs of the illness are typically used to estimate value. The BenMAP-CE database includes several different valuation functions for the health endpoints.

NHTSA used the BenMAP-CE version 1.1 for this analysis. The user's manual for this version of the program was prepared by RTI (RTI 2015). Configuration files specifying the health impact, valuation, and pooling functions for the application of BenMAP-CE were provided by EPA (EPA 2015).

D.4.2 BenMAP-CE Application Procedures for the NHTSA Modeling Analysis

NHTSA reformatted the CMAQ model output files for input to the BenMAP-CE tool and applied BenMAP-CE separately for ozone and PM_{2.5}. For ozone, BenMAP-CE was run for the traditional ozone season (April through October) and, for PM_{2.5}, it was run for the full annual period. The area covered by the BenMAP-CE analysis is the contiguous United States. BenMAP-CE includes population data at the census-tract level and algorithms for characterizing demographic changes (age distribution) over time. For this study, NHTSA used population estimates for 2035. This is consistent with the MDHD emissions data. Health impacts from reductions in air toxics are not estimated by BenMAP-CE.

BenMAP-CE calculates the changes in health effects and monetized health-related benefits by comparing the results of two simulations. For this study, NHTSA used BenMAP-CE to calculate the change in health effects and monetized health-related benefits for each action alternative compared to the No Action Alternative. This was done separately for DII and CI, and resulted in eight BenMAP-CE applications using the CMAQ results for:

- Alternative 2 and the No Action Alternative for DII (Alternative 1B)
- Alternative 3 and the No Action Alternative for DII (Alternative 1B)
- Alternative 4 and the No Action Alternative for DII (Alternative 1B)
- Alternative 5 and the No Action Alternative for DII (Alternative 1B)
- Alternative 2 and the No Action Alternative for CI (Alternative 1A)
- Alternative 3 and the No Action Alternative for CI (Alternative 1A)
- Alternative 4 and the No Action Alternative for CI (Alternative 1A)
- Alternative 5 and the No Action Alternative for CI (Alternative 1A)

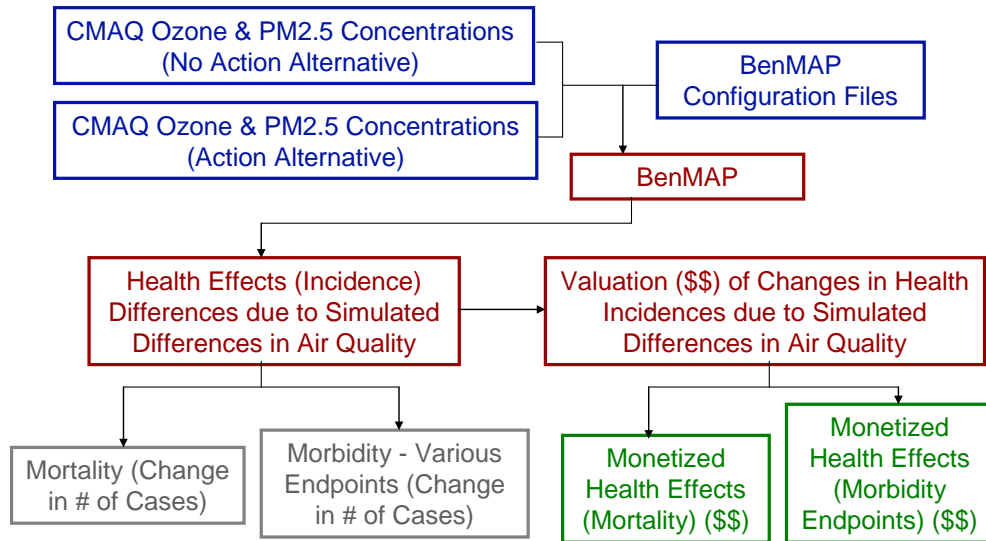
Figures D.3.3.1-2, D.3.3.1-4, D.3.3.2-2, and D.3.3.2-4, show difference plots of the CMAQ-derived ozone and PM_{2.5} concentrations for each of these pairs of simulations, and the corresponding BenMAP-CE results reflect those differences.

For each pollutant and simulation pair, the application of BenMAP-CE involved four steps:

1. Incorporate the CMAQ modeling results into the air quality grid files required by BenMAP-CE (air quality grid creation). In this step, NHTSA used the CMAQ model results directly.
2. Calculate the change in the incidence of adverse health effects based on the differences in the CMAQ-derived ozone and PM_{2.5} concentrations between the two simulations.
3. Aggregate the incidence results and calculate the economic value of the aggregated incidences.
4. Prepare tabular and graphical summaries; ensure the quality of and analyze the results.

Figure D.4.2-1 presents a schematic of the BenMAP-CE health effects analysis procedure using the CMAQ results.

Figure D.4.2-1. Schematic Diagram of the NHTSA Phase 2 MDHD BenMAP-CE Health Effects and Benefits Analysis



D.4.2.1 Health Impact Functions

NHTSA used BenMAP-CE to calculate reductions in both mortality and a range of non-fatal health effects (morbidity), based on epidemiological studies of a number of United States and Canadian populations.

BenMAP-CE can estimate changes in a wide range of health impact “endpoints” associated with changes in ozone and PM2.5 exposure. The endpoints are grouped broadly as “mortality” and “morbidity.” Mortality endpoints include changes in “all-cause” mortality, and mortality due to specific causes, such as cardiopulmonary disease. Morbidity endpoints include specific illnesses and symptoms (for example, asthma exacerbations), events requiring medical care (emergency room visits and hospital admissions), and adverse effects that involve lost work or restricted-activity days.

EPA has evaluated the literature related to the adverse effects of ozone and particulate matter exposures and identified a set of endpoints for which the associations are considered to be well established, and for which reliable exposure-response relationships have been developed (Abt Associates 2008; RTI 2015). Tables D.4.2.1-1 and D.4.2.1-2 list the health endpoints used in this analysis for ozone and PM2.5, respectively. The endpoints include changes in mortality (for both adults and infants), and a range of morbidity endpoints related to respiratory and cardiovascular diseases and symptoms, hospital admissions, and lost work or restricted-activity days. The tables provide the age range for each endpoint.

Pooled estimates for ozone include emergency room visits for asthma, asthma exacerbation, and school loss days. The results options for this study include the mean value, incremental percentile values, and standard deviation.

Table D.4.2.1-1. Health Impact Functions Used to Estimate Ozone-related Health Effects

| Endpoint | Author/Study/Location (If Applicable) | Age Range | Notes |
|---|--|------------------|--------------|
| Mortality, Non-accidental | Bell et al. (2004); 95 U.S. cities | 0–99 | a,b |
| Mortality, Non-accidental | Ito et al. (2005) | 0–99 | a, b |
| Mortality, Non-accidental | Schwartz (2005); 14 U.S. cities | 0–99 | a,d |
| Mortality, Non-accidental | Smith et al. (2009); 98 U.S. cities | 0–99 | a,c |
| Mortality, All Cause | Bell et al. (2005); U.S. and non-U.S. | 0–99 | a,b |
| Mortality, All Cause | Levy et al. (2005); U.S. and non-U.S. | 0–99 | a,d |
| Mortality, All Cause | Zanobetti and Schwartz (b) (2008); 48 cities | 0–99 | a,e |
| Mortality, Cardiopulmonary | Huang et al. (2005); 19 U.S. cities | 0–99 | a,b |
| Emergency Room Visits, Asthma | Mar and Koenig (2009); Seattle, WA | 5–17 | a,f |
| Emergency Room Visits, Asthma | Mar and Koenig (2009); Seattle, WA | 5–17 | a,g |
| Emergency Room Visits, Asthma | Peel et al. (2005); Atlanta, GA | 0–99 | a |
| Emergency Room Visits, Asthma | Wilson et al. (2005); Portland, ME | 0–99 | a |
| Emergency Room Visits, Asthma | Ito et al. (2007); New York, NY | 0–99 | a,h |
| Emergency Room Visits, Asthma | Glad et al. (2012); Pittsburgh, PA | 0–99 | a,i |
| Emergency Room Visits, Asthma | Sarnat et al. (2013); Atlanta, GA | 0–99 | a,j |
| Hospital Admissions, All Respiratory | Katsouyanni et. al. (2009); 14 U.S. cities | 65–99 | a,k,l |
| Asthma Exacerbation, One or More Symptoms | O’Connor et al. (2008); 7 U.S. urban communities | 6–18 | a |
| Asthma Exacerbation, One or More Symptoms | Schildcrout et al. (2006); 8 U.S. cities | 6–18 | a,o |
| Asthma Exacerbation, One or More Symptoms | Mortimer et al. (2002); 8 U.S. cities | 6–18 | a,p |
| School Loss Days, All | Gilliland et al. (2001); Southern CA | 5–17 | a,m |
| School Loss Days, All | Chen et al. (2000); Washoe County, NV | 5–17 | a,n |
| Minor Restricted Activity Days | Ostro and Rothschild (1989); Nationwide | 18–64 | a,n |

- a. Metric is daily maximum 8-hour ozone.
- b. Metric is daily maximum 8-hour ozone; warm season (8-hour max from 24-hour mean)
- c. Metric is daily maximum 8-hour ozone; ozone season
- d. Metric is daily maximum 8-hour ozone; warm season (8-hour max from 1-hour mean)
- e. Metric is daily maximum 8-hour ozone; 0-3 day lag; June-August, 1989-2000
- f. Child model; metric is daily maximum 8-hour ozone; 3 day lag; May-September
- g. Adult model; metric is daily maximum 8-hour ozone; 4 day lag; May-September
- h. Metric is daily maximum 8-hour ozone; warm season; April-August, 1999-2002
- i. Metric is daily maximum 8-hour ozone; 2 day lag (largest)
- j. Metric is daily maximum 8-hour ozone; all air exchange rates; all poverty levels
- k. Metric is daily maximum 8-hour ozone; Summer, 1985-1994 (penalized splines)
- l. Metric is daily maximum 8-hour ozone; Summer, 1985-1994 (natural splines)
- m. Metric is daily maximum 8-hour ozone; all year (8-hour max from 8-hour mean)
- n. Metric is daily maximum 8-hour ozone; all year (8-hour max from 1-hour max)
- o. Metric is daily maximum 8-hour ozone; 0 day lag; warm season; May-September

Table D.4.2.1-2. Health Impact Functions Used to Estimate PM2.5-related Health Effects

| Endpoint | Author/Study/Location (If Applicable) | Age Range | Notes |
|--|--|-----------|-----------|
| Mortality, All Cause | Krewski et al. (2009); 116 U.S. cities | 30–99 | a |
| Mortality, All Cause | Lepeule et al. (2012); 6 eastern cities | 25–99 | a |
| Mortality, All Cause | Woodruff et al. (1997); 86 cities | 0–0 | a |
| Mortality, All Cause | Expert Elicitation A (2006) | 30–99 | a |
| Mortality, All Cause | Expert Elicitation B (2006) | 30–99 | a,b |
| Mortality, All Cause | Expert Elicitation C (2006) | 30–99 | a,c |
| Mortality, All Cause | Expert Elicitation D (2006) | 30–99 | a,d |
| Mortality, All Cause | Expert Elicitation E (2006) | 30–99 | a,e |
| Mortality, All Cause | Expert Elicitation F (2006) | 30–99 | a,f,g |
| Mortality, All Cause | Expert Elicitation G (2006) | 30–99 | a,h,i |
| Mortality, All Cause | Expert Elicitation H (2006) | 30–99 | a,j |
| Mortality, All Cause | Expert Elicitation I (2006) | 30–99 | a,k,l |
| Mortality, All Cause | Expert Elicitation J (2006) | 30–99 | a,m,n,o,p |
| Acute Bronchitis | Dockery et al. (1996); 24 communities | 8–12 | a |
| Acute Myocardial Infarction, Nonfatal | Peters et al. (2001); Boston, MA | 18–99 | q |
| Acute Myocardial Infarction, Nonfatal | Pope et al. (2006); Greater Salt Lake City, Utah | 18–99 | q |
| Acute Myocardial Infarction, Nonfatal | Sullivan et al. (2005); King County, WA | 18–99 | q |
| Acute Myocardial Infarction, Nonfatal | Zanobetti and Schwartz (2006); Greater Boston Area, MA | 18–99 | q |
| Acute Myocardial Infarction, Nonfatal | Zanobetti and Schwartz (2009); 26 U.S. communities | 18–99 | q |
| Asthma Exacerbation, Cough | Mar et al. (2004); Spokane, WA | 6–18 | q |
| Asthma Exacerbation, Cough | Ostro et al. (2001); Los Angeles, CA | 6–18 | q |
| Asthma Exacerbation, Shortness of Breath | Mar et al. (2004); Spokane, WA | 6–18 | q |
| Asthma Exacerbation, Shortness of Breath | Ostro et al. (2001); Los Angeles, CA | 6–18 | q |
| Asthma Exacerbation, Wheeze | Mar et al. (2004); Spokane, WA | 6–18 | q |
| Asthma Exacerbation, Wheeze | Ostro et al. (2001); Los Angeles, CA | 6–18 | q |
| Emergency Room Visits, Asthma | Glad et al. (2012); Pittsburgh, PA | 0–99 | q |
| Emergency Room Visits, Asthma | Mar et al. (2010); Greater Tacoma, WA | 0–99 | q |
| Emergency Room Visits, Asthma | Slaughter et al. (2005); Spokane, WA | 0–99 | q |
| Hospital Admissions, less Myocardial Infarctions | Bell et al. (2008); 202 U.S. counties | 65–99 | q |
| Hospital Admissions, less Myocardial Infarctions | Moolgavkar (2000); Los Angeles, CA | 18–64 | q |
| Hospital Admissions, less Myocardial Infarctions | Peng et al. (2008); 108 U.S. counties | 65–99 | q,r |
| Hospital Admissions, less Myocardial Infarctions | Peng et al. (2009); 119 U.S. counties | 65–99 | q,s |
| Hospital Admissions, less Myocardial Infarctions | Zanobetti et al. (2009); 26 U.S. communities | 65–99 | q,t |

| Endpoint | Author/Study/Location (If Applicable) | Age Range | Notes |
|---|--|-----------|-------|
| Hospital Admissions, Asthma | Babin et al. (2007); Washington D.C. | 1–17 | q |
| Hospital Admissions, Asthma | Sheppard (2003); Seattle WA | 0–17 | q |
| Hospital Admissions, All Respiratory | Kloog et al. (2012); New England | 65–99 | q,r |
| Hospital Admissions, All Respiratory | Zanobetti et al. (2009); 26 U.S. communities | 65–99 | q,t |
| Hospital Admissions, Chronic Lung Disease | Moolgavkar (2000); Los Angeles, CA | 18–64 | q |
| Lower Respiratory Symptoms | Schwartz and Neas (2000); 6 U.S. cities | 7–14 | q |
| Upper Respiratory Symptoms | Pope et al. (1991); Utah Valley; UT | 9–11 | q |
| Minor Restricted Activity Days | Ostro and Rothschild (1989); Nationwide | 18–64 | q |
| Work Loss Days | Ostro (1987); Nationwide | 18–64 | Q |

| | |
|---|---|
| a. 24-hour mean/quarterly mean | k. Range from 4 to 10 µg; unconditional distribution; 2% no causality included |
| b. Unconditional distribution; 1% no causality included | l. Range from 4 to 10 µg; unconditional distribution; 25% no causality included |
| c. Unconditional distribution; 5% no causality included | m. Range from 4 to 16 µg; threshold 0 to 5 µg; conditional distribution |
| d. Unconditional distribution; 30% no causality included | n. Range from 4 to 16 µg; threshold 5 to 10 µg; conditional distribution |
| e. Range from 4 to 7 µg | o. Range from 4 to 16 µg; no threshold |
| f. Range from > 10 to 30 µg; unconditional distribution; 1% no causality included | p. Range from 4 to 16 µg; no causality |
| g. Range from > 10 to 30 µg; unconditional distribution; 2% no causality included | q. 24-hour mean |
| h. Range from > 16 to 30 µg; no threshold; conditional distribution | r. Emergency hospital admissions only |
| i. Range from > 16 to 30 µg; no causality | s. Urgent or emergency admissions |
| j. Range from >7 to 30 µg | t. All seasons |

Pooled estimates for PM2.5 include acute myocardial infarction, asthma exacerbation, emergency room visits for asthma, and hospital admissions. In the health incidence calculation step, no threshold value was specified, consistent with EPA guidance. The optional use of a threshold value can be to examine the sensitivity of particulate matter-related health impact estimates to different assumed thresholds. The results options for this study include the mean value, incremental percentile values, and standard deviation.

D.4.2.2 Valuation Metrics

NHTSA also used BenMAP-CE to estimate monetized health-related benefits (based on VSL studies, lost wages, health care expenses, and “willingness-to-pay”) associated with the health impacts. These estimates are derived using a set of monetary surrogates for the various health effects developed by EPA and public health researchers. BenMAP-CE also tracks changes over time in willingness to pay for reductions in health risks, and includes adjustment factors that incorporate the effect of inflation on health-care costs.

The assessment of monetized health-related benefits involves assigning monetary values to each health endpoint, and totaling all benefits associated with changes in pollutant exposures. Different valuation methods are used for the various health endpoints. The monetary surrogate value for mortality is derived using a VSL approach; that is, the additional cost that individuals would be willing to bear for reductions in risks that, in the aggregate, reduce the expected number of fatalities by one (Abt Associates 2008; RTI 2015). The VSL used for this analysis is built into BenMAP-CE and is \$7.4 million (in 2006-equivalent dollars).

Valuation methods for morbidity endpoints (non-fatal health effects) include approaches referred to as cost of illness (COI), willingness to pay (WTP), and lost wages or productivity (Abt Associates 2008; RTI 2015). COI estimates comprise a range of approaches, which account for the costs of medical care and in some cases lost wages. WTP approaches refer to methods in which voluntary payments to avoid disease are directly or indirectly estimated and used to estimate monetized health-related benefits. Finally, lost-productivity methods value the time lost to illness using wage rates or the estimated value of leisure or school time (Abt Associates 2008; RTI 2015). For all endpoints, the total monetized health-related benefit for a given endpoint is estimated by multiplying the monetary values for that endpoint by the estimated change in the number of “cases” of the endpoint. For most studies, morbidity values are small compared to the mortality values. Therefore, the specific valuation methods used for morbidity have only a small effect on the overall monetized health-related benefits estimates.

Tables D.4.2.2-1 and D.4.2.2-2 list the endpoints and methods used for the valuation portion of the analysis for ozone and PM2.5, respectively. The endpoints include monetized health-related benefits associated with changes in mortality, and a range of morbidity endpoints. All monetized health-related benefits results for this analysis are presented in 2010-equivalent dollars.

Table D.4.2.2-1. Valuation Functions Used to Estimate Ozone-related Monetized Health-related Benefits

| Endpoint | Author/Study/(If Applicable) | Valuation Method | Notes |
|---|--|-------------------------|--------------|
| Mortality, All Cause | Bell et al. (2004); 95 U.S. cities | VSL | a,b |
| Mortality, All Cause | Bell et al. (2005); U.S. and non-U.S. | VSL | a,b |
| Mortality, All Cause | Huang et al. (2005); 19 U.S. cities | VSL | a,b |
| Mortality, All Cause | Ito et al. (2005) | VSL | a,b |
| Mortality, All Cause | Levy et al. (2005); U.S. and non-U.S. | VSL | a,b |
| Mortality, All Cause | Schwartz (2005); 14 U.S. cities | VSL | a,b |
| Mortality, All Cause | Smith et al. (2009); 98 U.S. cities | VSL | a,b |
| Mortality, All Cause | Zanobetti and Schwartz (b) (2008); 48 cities | VSL | a,b |
| Emergency Room Visits, Asthma | Sarnat et al. (2005); Peel et al.(2005); Glad et al.; Wilson et al (2005); Mar and Koenig; Ito et al. (2005) | | a |
| Minor Restricted Activity Days | Ostro and Rothschild (1989); Nationwide | WTP | c,d |
| Asthma Exacerbation, One or More Symptoms | O'Connor et al. (2008); Schildcrout et al. (2006); Mortimer et al. (2002) | WTP | e,f |
| School Loss Days | Chen et al.(2000); Gilliland et al. (2001) | | g |

- a. Age: 0-99
- b. Based on 26 value-of-statistical-life (VSL) studies
- c. Age: 18-64
- d. 1 day; CV studies
- e. Age: 6-18
- f. Bad asthma day; Rowe and Chestnut (1986)
- g. Age: 5-17

Table D.4.2.2-2. Valuation Functions Used to Estimate PM2.5-related Monetized Health-Related Benefits

| Endpoint | Author/Study | Valuation Method | Notes |
|---|--|-------------------|-------|
| Mortality, All Cause | Lepeule et al. (2012); 6 eastern U.S. cities | VSL | a,b,d |
| Mortality, All Cause | Krewski et al. (2009) ; 116 U.S. cities | VSL | a,b,c |
| Mortality, All Cause | Woodruff et al. (1997); 86 Cities | VSL | a,b |
| Mortality, All Cause | Expert Elicitation A (2006) | VSL | a,b,c |
| Mortality, All Cause | Expert Elicitation B (2006) | VSL | a,b,c |
| Mortality, All Cause | Expert Elicitation C (2006) | VSL | a,b,c |
| Mortality, All Cause | Expert Elicitation D (2006) | VSL | a,b,c |
| Mortality, All Cause | Expert Elicitation E (2006) | VSL | a,b,c |
| Mortality, All Cause | Expert Elicitation F (2006) | VSL | a,b,c |
| Mortality, All Cause | Expert Elicitation G (2006) | VSL | a,b,c |
| Mortality, All Cause | Expert Elicitation H (2006) | VSL | a,b,c |
| Mortality, All Cause | Expert Elicitation I (2006) | VSL | a,b,c |
| Mortality, All Cause | Expert Elicitation J (2006) | VSL | a,b,c |
| Mortality, All Cause | Expert Elicitation K (2006) | VSL | a,b,c |
| Mortality, All Cause | Expert Elicitation L (2006) | VSL | a,b,c |
| Hospital Admissions, All Respiratory | Zanobetti et al. (2009) | COI | e,f |
| Hospital Admissions, Asthma | Babin et al. (2007); Sheppard (2003) | COI | f,g |
| Hospital Admissions, Chronic Lung Disease | Moolgavkar (2000); Los Angeles, CA | COI | f,h,i |
| Hospital Admissions, All Cardiovascular | Zanobetti et al. (2009); Bell et al.(2008); Peng et al. (2008 and 2009) | COI | e,f |
| Hospital Admissions, All Cardiovascular | Moolgavkar (2000); Los Angeles, CA | COI | f,h,i |
| Lower Respiratory Symptoms | Schwartz and Neas (2000); 6 U.S. cities | WTP | h,j,k |
| Upper Respiratory Symptoms | Pope et al. (1991); Utah Valley, UT | WTP | h,j,l |
| Asthma Exacerbation | Ostro et al. (2001); Mar et al. (2004) | WTP | m,n |
| Emergency Room Visits, Asthma | Glad et al.; Mar et al. (2004 and 2010); Slaughter et al.(2005) | | o |
| Acute Bronchitis | Dockery et al. (1996); 24 communities | WTP | a,p,q |
| Acute Myocardial Infraction | Peters et al. (2001) | | r |
| Acute Myocardial Infraction | Pope et al. (2006); Sullivan et al. (2005); Zanobetti and Schwartz (2006); Zanobetti et al. (2009) | | r |
| Minor Restricted Activity | Ostro and Rothschild (1989); Nationwide | WTP | h,i,j |
| Work Loss Days | Ostro (1987); Nationwide | Median Daily Wage | h,i,s |

a. 24-hour mean/Quarterly mean

b. Based on 26 value-of-statistical-life (VSL) studies

c. Age: 30-99

d. Age: 25-99

e. Age: 65-99

f. Med. Costs + Wage Loss

g. Age: 0-17

h. 24-hour mean

i. Age: 18-64

j. 1 day, CV studies

k. Age: 7-14

l. Age: 9-11

m. Bad asthma day, Rowe and Chestnut (1986)

n. Age: 6-18

o. Age: 0-99

p. 6 day illness, CV studies

q. Age: 8-12

r. Age: 18-99

s. County-specific

In the aggregation and valuation step, the results were aggregated for the national scale. Default options were applied in the aggregation and pooling of the results. Similarly, EPA standard inflation values (defaults) were used for the valuation. The results are given in 2010-equivalent dollars.

D.4.2.3 Post-processing and Quality Assurance Procedures

As a first step in the quality assurance process for the BenMAP-CE application procedures and results, NHTSA prepared a protocol document outlining each application step and then used the protocol document as a checklist for each application and to ensure quality. Following the application of BenMAP-CE, NHTSA duplicated a subset of the BenMAP-CE runs using another computer and confirmed the results to be the same. Finally, NHTSA checked the results for each simulation pair for consistency with emissions and the CMAQ modeling results.

NHTSA then prepared tabular and graphical summaries of the results, as presented in the following sections, and systematically checked the contents of the tables and charts by comparing the values with the raw BenMAP-CE report files.

D.4.3 BenMAP-CE Results

As noted earlier, NHTSA used BenMAP-CE to estimate the reduction in the incidence of various health-related endpoints, and to develop a monetized estimate of the health-related benefits for each action alternative. The remainder of this section provides the incidence and valuation results. The health incidence results in this section are the BenMAP-derived mean values. The valuation estimates reflect both an income growth adjustment and a time lag between exposure and PM2.5 mortality.

The income growth adjustment accounts for expected growth in real income over time. Economic theory suggests that WTP for most goods and services (such as environmental protection) will increase if income increases. To account for growth in income through 2035, the BenMAP-derived reductions were multiplied by 1.2 for long-term mortality, 1.23 for chronic health impacts, and 1.07 for minor health impacts.

The valuation results for PM2.5 assume that there is a time lag between changes in PM2.5 concentration and changes in PM2.5 mortality. To account for this, monetized health-related benefits occurring in the future are discounted. For this analysis, the BenMAP-derived reductions were multiplied by 0.91 to achieve a 3 percent discount rate and by 0.82 to achieve a 7 percent discount rate. There are no similar adjustments for ozone or for the morbidity endpoints.

All of the incidence and valuation results are rounded to two significant figures.

D.4.3.1 Direct and Indirect Impacts

Tables D.2.3-1 and D.2.3-2 list the emissions associated with the action alternatives for the DII Analysis. This section presents the health impacts and monetized-health impacts for the emission changes associated with the alternatives.

D.4.3.1.1 Ozone

Table D.4.3.1-1 lists BenMAP-CE results for ozone mortality (reduction in number of cases) for the four action alternatives for the DII Analysis. The reductions in premature mortality incidence are for the entire contiguous United States. There are no results for the No Action Alternative because this is the

baseline to which the CMAQ results under the action alternatives were compared within the BenMAP-CE tool (see the list of simulation pairs in Section D.4.2).

Table D.4.3.1-1. BenMAP-CE Aggregated/Pooled Incidence Results for Ozone-related Mortality: Estimated Nationwide Reduction in Premature Mortality, Direct and Indirect Impacts

| Epidemiology Study | Reduction in Number of Cases | | | |
|---|------------------------------|---------------|---------------|---------------|
| | Alternative 2 | Alternative 3 | Alternative 4 | Alternative 5 |
| Mortality, Non-Accidental (Bell et al.) | 76 | 100 | 100 | 120 |
| Mortality, Non-Accidental (Ito et al.) | 340 | 450 | 450 | 550 |
| Mortality, Non-Accidental (Schwartz) | 120 | 150 | 160 | 190 |
| Mortality, Non-Accidental (Smith et al.) | 75 | 100 | 100 | 120 |
| Mortality, All Cause (Bell et al.) | 240 | 320 | 330 | 390 |
| Mortality, All Cause (Levy et al.) | 340 | 460 | 460 | 560 |
| Mortality, All Cause (Zanobetti and Schwartz) | 160 | 210 | 210 | 250 |
| Mortality, Cardiopulmonary (Huang) | 110 | 150 | 150 | 180 |

The results vary by epidemiology study and by alternative. Alternative 2 is associated with fewer reductions in mortality incidence than the other three action alternatives, and Alternative 5 is associated with more reductions than the other action alternatives. The results for Alternatives 3 and 4 are very similar—especially when reported to two significant figures. For two studies, Alternative 4 is associated with slightly more reductions than Alternative 3, due to the accelerated implementation schedule. Under Alternative 3 (Preferred Alternative), the reduction in mortality incidence due to the simulated change in ozone concentration ranges from 100 to 460 cases, based on the various studies.

Table D.4.3.1-2 lists the BenMAP-CE results for other ozone-related health effects (reduction in number of cases) and associated endpoints (morbidity) for the DII Analysis. In some cases, the studies cover different age groups, as indicated. The reductions in incidence for all endpoints are for the entire contiguous United States.

Table D.4.3.1-2. BenMAP-CE Aggregated/Pooled Incidence Results for Ozone-related Morbidity: Estimated Nationwide Reduction in Various Morbidity Endpoints, Direct and Indirect Impacts

| Epidemiology Study | Reduction in Number of Cases | | | |
|--|------------------------------|---------------|---------------|---------------|
| | Alternative 2 | Alternative 3 | Alternative 4 | Alternative 5 |
| Emergency Room Visits, Asthma | 480 | 640 | 640 | 780 |
| Hospital Admissions, All Respiratory | 180 | 240 | 240 | 290 |
| Asthma Exacerbation, One or More Symptoms | 170,000 | 220,000 | 220,000 | 270,000 |
| School Loss Days (age 5–17) | 140,000 | 180,000 | 180,000 | 220,000 |
| Minor Restricted-activity Days (age 18–65) | 400,000 | 520,000 | 530,000 | 640,000 |

For all endpoints considered here, the fewest reductions are associated with Alternative 2 and the most reductions are associated with Alternative 5. The results for Alternatives 3 and 4 are very similar—especially when reported to two significant figures. Under Alternative 3 (Preferred Alternative),

emergency room visits for asthma are reduced by 640 cases, hospital admissions for respiratory problems are reduced by 240 cases, and exacerbation of asthma symptoms due to ozone are reduced by 220,000 cases due to the change in simulated ozone concentration.

Table D.4.3.1-3 lists BenMAP-CE valuation results for ozone mortality (reduction in millions of U.S. dollars/year) under the action alternatives for the DII Analysis. The monetized health-related benefits represent nationwide changes in millions of United States 2010-equivalent dollars. As noted above, no discount rate was applied for ozone mortality.

Table D.4.3.1-3. BenMAP-derived Nationwide Monetized Health-related Benefits for Ozone-related Mortality: Estimated Monetized Benefits (millions 2010 U.S. dollars/year) Related to Premature Mortality, Direct and Indirect Impacts

| Epidemiology Study | Reduction (Millions 2010 U.S. Dollars/Year) | | | |
|---|---|---------------|---------------|---------------|
| | Alternative 2 | Alternative 3 | Alternative 4 | Alternative 5 |
| Mortality, Non-Accidental (Bell et al.) | 710 | 940 | 950 | 1,100 |
| Mortality, Non-Accidental (Ito et al.) | 3,200 | 4,200 | 4,200 | 5,100 |
| Mortality, Non-Accidental (Schwartz) | 1,100 | 1,400 | 1,500 | 1,800 |
| Mortality, Non-Accidental (Smith et al.) | 700 | 920 | 930 | 1,100 |
| Mortality, All Cause (Bell et al.) | 2,300 | 3,000 | 3,000 | 3,700 |
| Mortality, All Cause (Levy et al.) | 3,200 | 4,300 | 4,300 | 5,200 |
| Mortality, All Cause (Zanobetti and Schwartz) | 1,500 | 1,900 | 1,900 | 2,400 |
| Mortality, Cardiopulmonary (Huang) | 1,100 | 1,400 | 1,400 | 1,700 |

Estimates of monetized health-related benefits under Alternative 3 (Preferred Alternative) range from 920 million to 4.3 billion dollars for the ozone-related mortality valuation. The estimated benefits under Alternative 2 are smaller than those under Alternative 3, those under Alternative 4 are about the same, and those under Alternative 5 are larger than those under Alternative 3 by about a factor of 1.2.

Table D.4.3.1-4 lists BenMAP-CE valuation results for other ozone-related health effects (reduction in millions of U.S. dollars/year) and associated endpoints (morbidity) for the DII Analysis.

Table D.4.3.1-4. BenMAP-derived Nationwide Monetized Health-related Benefits for Ozone-related Morbidity: Estimated Monetized Benefits (millions 2010 U.S. dollars/year) Related to Various Morbidity Endpoints, Direct and Indirect Impacts

| Epidemiology Study | Reduction (Millions 2010 U.S. Dollars/Year) | | | |
|--|---|---------------|---------------|---------------|
| | Alternative 2 | Alternative 3 | Alternative 4 | Alternative 5 |
| Emergency Room Visits, Asthma | <1 | <1 | <1 | <1 |
| Asthma Exacerbation, One or More Symptoms | 10 | 13 | 13 | 16 |
| School Loss Days (age 5–17) | 14 | 18 | 18 | 22 |
| Minor Restricted-activity Days (age 18–65) | 27 | 35 | 36 | 43 |

For the endpoints considered here, the monetized health-related benefits are smallest under Alternative 2 and the same or slightly larger for each successive action alternative. Monetized health-related

benefits under Alternative 3 (Preferred Alternative) range from less than 1 million dollars for a reduction in emergency room visits related to asthma, to 35 million dollars for a reduction in minor restricted-activity days.

D.4.3.1.2 PM2.5

Table D.4.3.1-5 lists BenMAP-CE results for PM2.5 mortality (reduction in number of cases) under the action alternatives for the DII Analysis. The mortality estimates are based on both epidemiology literature and expert elicitation in which experts were asked to develop estimates of the increment in mortality that would be associated with increments of PM2.5 exposures, based on their understanding of the epidemiological literature taken as a whole (Abt Associates 2008; RTI 2015).

Table D.4.3.1-5. BenMAP-CE Aggregated/Pooled Incidence Results for PM2.5-related Mortality: Estimated Nationwide Reduction in Premature Mortality, Direct and Indirect Impacts

| | Reduction in Number of Cases | | | |
|---------------------------------------|------------------------------|---------------|---------------|---------------|
| | Alternative 2 | Alternative 3 | Alternative 4 | Alternative 5 |
| Epidemiology Literature | | | | |
| Mortality, All Cause (Krewski et al.) | 570 | 810 | 820 | 1,000 |
| Mortality, All Cause (Lepule et al.) | 1,300 | 1,800 | 1,900 | 2,300 |
| Infant Mortality (Woodruff et al.) | 1 | 1 | 1 | 2 |
| Expert Elicitation | | | | |
| Expert A | 1,500 | 2,100 | 2,100 | 2,600 |
| Expert B | 1,200 | 1,700 | 1,700 | 2,100 |
| Expert C | 1,200 | 1,600 | 1,700 | 2,100 |
| Expert D | 810 | 1,100 | 1,200 | 1,400 |
| Expert E | 1,900 | 2,700 | 2,800 | 3,400 |
| Expert F | 1,100 | 1,500 | 1,600 | 1,900 |
| Expert G | 680 | 960 | 980 | 1,200 |
| Expert H | 830 | 1,200 | 1,200 | 1,500 |
| Expert I | 1,100 | 1,600 | 1,600 | 2,000 |
| Expert J | 930 | 1,300 | 1,300 | 1,700 |
| Expert K | 120 | 170 | 170 | 220 |
| Expert L | 770 | 1,100 | 1,100 | 1,400 |

The results vary by study, due to the use of different study populations and exposure-response relationships, and by alternative. Alternative 2 is associated with the fewest reductions in mortality incidence and Alternative 5 is associated with the most reductions. The results for Alternatives 3 and 4 are very similar—especially when reported to two significant figures. Under Alternative 3 (Preferred Alternative), the reduction in adult mortality incidence due to the simulated change in PM2.5 concentration ranges from 810 to 1,800 cases for the epidemiology studies and from 170 to 2,700 for the expert elicitation studies.

Table D.4.3.1-6 lists BenMAP-CE results for other PM2.5-related health effects (reduction in number of cases) and associated endpoints (morbidity) for the DII Analysis.

Table D.4.3.1-6. BenMAP-CE Aggregated/Pooled Incidence Results for PM2.5-related Morbidity: Estimated Nationwide Reduction in Various Morbidity Endpoints, Direct and Indirect Impacts

| Epidemiology Study | Reduction in Number of Cases | | | |
|--|------------------------------|---------------|---------------|---------------|
| | Alternative 2 | Alternative 3 | Alternative 4 | Alternative 5 |
| Acute Bronchitis (age 8–12) | 780 | 1,100 | 1,100 | 1,400 |
| Acute Myocardial Infarction, Non-fatal (age 18–99) | 72 | 100 | 110 | 130 |
| Asthma Exacerbation (age 6–18) | 14,000 | 21,000 | 21,000 | 26,000 |
| Emergency Room Visits, Asthma (all ages) | 270 | 380 | 390 | 480 |
| Hospital Admissions, Less Myocardial Infarctions (age 65–99) | 140 | 200 | 210 | 250 |
| Hospital Admissions, Asthma (age 1–17) | 14 | 20 | 20 | 25 |
| Hospital Admissions, All Respiratory (age 65–99) | 130 | 190 | 190 | 230 |
| Hospital Admissions, Chronic Lung Disease (age 18–64) | 30 | 42 | 42 | 52 |
| Lower Respiratory Symptoms (age 7–14) | 9,900 | 14,000 | 14,000 | 18,000 |
| Upper Respiratory Symptoms (age 9–11) | 14,000 | 20,000 | 21,000 | 25,000 |
| Minor Restricted-activity Days (age 18–64) | 380,000 | 540,000 | 550,000 | 680,000 |
| Work Loss Days (age 18–64) | 64,000 | 91,000 | 93,000 | 110,000 |

Notes:

PM2.5 = particulate matter with diameter equal to or less than 2.5 microns

For all endpoints considered here, the fewest reductions are associated with Alternative 2 and the most reductions are associated with Alternative 5. Under Alternative 3 (Preferred Alternative), there are benefits for all endpoints. For example, emergency room visits for asthma are reduced by 380 cases and hospital admissions for respiratory problems are reduced by 190 cases due to the change in simulated PM2.5 concentration.

Table D.4.3.1-7 lists BenMAP-CE valuation results for PM2.5 related mortality (reduction in millions of U.S. dollars/year) under the action alternatives for the Direct and Indirect Analysis with a 3 percent discount rate. The monetized health-related benefits represent nationwide changes in millions of United States 2010-equivalent dollars.

Table D.4.3.1-7. BenMAP-CE Monetized Health-related Benefits for PM2.5-related Mortality with a 3 Percent Discount Rate: Estimated Monetized Benefits (millions 2010 U.S. dollars/year) Related to Premature Mortality, Direct and Indirect Impacts

| | Reduction (Millions 2010 U.S. Dollars/Year) | | | |
|---------------------------------------|---|---------------|---------------|---------------|
| | Alternative 2 | Alternative 3 | Alternative 4 | Alternative 5 |
| Epidemiology Literature | | | | |
| Mortality, All Cause (Krewski et al.) | 4,900 | 7,000 | 7,100 | 8,800 |
| Mortality, All Cause (Lepule et al.) | 11,000 | 16,000 | 16,000 | 20,000 |
| Infant Mortality (Woodruff et al.) | 7 | 11 | 11 | 13 |
| Expert Elicitation | | | | |
| Expert A | 13,000 | 18,000 | 18,000 | 23,000 |
| Expert B | 10,000 | 15,000 | 15,000 | 18,000 |
| Expert C | 10,000 | 14,000 | 15,000 | 18,000 |
| Expert D | 7,000 | 9,900 | 10,000 | 12,000 |
| Expert E | 17,000 | 24,000 | 24,000 | 30,000 |
| Expert F | 9,400 | 13,000 | 14,000 | 17,000 |
| Expert G | 5,900 | 8,400 | 8,500 | 10,000 |
| Expert H | 7,200 | 10,000 | 10,000 | 13,000 |
| Expert I | 9,900 | 14,000 | 14,000 | 18,000 |
| Expert J | 8,000 | 11,000 | 12,000 | 14,000 |
| Expert K | 1,000 | 1,500 | 1,500 | 1,900 |
| Expert L | 6,600 | 9,500 | 9,700 | 12,000 |

Notes:
 PM2.5 = particulate matter with diameter equal to or less than 2.5 microns

The monetized health-related benefits under Alternative 3 (Preferred Alternative) range from 7 to 16 billion dollars for premature mortality (not including infant mortality) based on epidemiological studies and from 1.5 to 24 billion dollars for the expert elicitation estimates. The monetized health-related benefits under Alternative 2 are smaller than those under Alternative 3, those under Alternative 4 are about the same as under Alternative 3, and those under Alternative 5 are larger than those under Alternative 3 by about 25 percent.

Table D.4.3.1-8 lists BenMAP-CE valuation results for PM2.5-related mortality (reduction in millions of U.S. dollars/year) for the DII Analysis with a 7 percent discount rate.

Table D.4.3.1-8. BenMAP-CE Monetized Health-related Benefits for PM2.5-related Mortality with a 7 Percent Discount Rate: Estimated Monetized Benefits (millions 2010 U.S. dollars/year) Related to Premature Mortality, Direct and Indirect Impacts

| | Reduction (Millions 2010 U.S. Dollars/Year) | | | |
|---------------------------------------|---|---------------|---------------|---------------|
| | Alternative 2 | Alternative 3 | Alternative 4 | Alternative 5 |
| Epidemiology Literature | | | | |
| Mortality, All Cause (Krewski et al.) | 4,400 | 6,300 | 6,400 | 7,900 |
| Mortality, All Cause (Lepule et al.) | 10,000 | 14,000 | 14,000 | 18,000 |
| Infant Mortality (Woodruff et al.) | 7 | 10 | 10 | 12 |
| Expert Elicitation | | | | |
| Expert A | 11,000 | 16,000 | 17,000 | 20,000 |
| Expert B | 9,000 | 13,000 | 13,000 | 16,000 |
| Expert C | 9,000 | 13,000 | 13,000 | 16,000 |
| Expert D | 6,000 | 9,000 | 9,000 | 11,000 |
| Expert E | 15,000 | 21,000 | 22,000 | 27,000 |
| Expert F | 8,400 | 12,000 | 12,000 | 15,000 |
| Expert G | 5,300 | 7,500 | 7,700 | 9,400 |
| Expert H | 6,400 | 9,200 | 9,300 | 12,000 |
| Expert I | 8,900 | 13,000 | 13,000 | 16,000 |
| Expert J | 7,200 | 10,000 | 10,000 | 13,000 |
| Expert K | 930 | 1,300 | 1,400 | 1,700 |
| Expert L | 6,000 | 8,500 | 8,700 | 11,000 |

Notes:

PM2.5 = particulate matter with diameter equal to or less than 2.5 microns

With the 7 percent discount, the monetized health-related benefits under Alternative 3 (Preferred Alternative) range from 6.3 to 14 billion dollars for premature mortality (not including infant mortality) based on epidemiological studies and from 1.3 to 21 billion dollars for the expert elicitation estimates.

Table D.4.3.1-9 lists BenMAP-CE valuation results for other PM2.5-related health effects (reduction in millions of U.S. dollars/year) and associated endpoints (morbidity) for the DII Analysis.

Table D.4.3.1-9. BenMAP-derived Nationwide Monetized Health-related Benefits for PM2.5-related Morbidity: Estimated Monetized Benefits (millions 2010 U.S. dollars/year) Related to Various Morbidity Endpoints, Direct and Indirect Impacts

| Epidemiology Study | Reduction (Millions 2010 U.S. Dollars/Year) | | | |
|--|---|---------------|---------------|---------------|
| | Alternative 2 | Alternative 3 | Alternative 4 | Alternative 5 |
| Acute Bronchitis (age 8–12) | <1 | 1 | 1 | 1 |
| Acute Myocardial Infarction, Non-fatal (age 18–99) | 8 | 12 | 12 | 15 |
| Asthma Exacerbation (age 6–18) | 1 | 1 | 1 | 2 |
| Emergency Room Visits, Asthma (all ages) | <1 | <1 | <1 | <1 |
| Hospital Admissions, Less Myocardial Infarctions (age 65–99) | 5 | 8 | 8 | 10 |
| Hospital Admissions, Asthma (age 1–17) | <1 | <1 | <1 | <1 |
| Hospital Admissions, All Respiratory (age 65–99) | 4 | 6 | 6 | 7 |
| Hospital Admissions, Chronic Lung Disease (age 18–64) | 1 | 1 | 1 | 1 |
| Lower Respiratory Symptoms (age 7–14) | <1 | <1 | <1 | <1 |
| Upper Respiratory Symptoms (age 9–11) | 1 | 1 | 1 | 1 |
| Minor Restricted-activity Days (age 18–64) | 26 | 37 | 37 | 46 |
| Work Loss Days (age 18–64) | 10 | 15 | 15 | 19 |

Notes:

PM2.5 = particulate matter with diameter equal to or less than 2.5 microns

For the endpoints considered here, the monetized health-related benefits are smallest under Alternative 2, about the same for Alternatives 3 and 4, and largest for Alternative 5. The largest reductions in monetized health-related benefits are associated with fewer incidences of minor restricted-activity days, work loss days, and acute (non-fatal) myocardial infarctions.

D.4.3.2 Cumulative Impacts

Tables D.2.3-1 and D.2.3-2 list the emissions associated with the action alternatives for the CI Analysis. This section presents the health impacts and monetized-health impacts for the emission changes associated with the alternatives.

D.4.3.2.1 Ozone

Table D.4.3.2-1 lists BenMAP-CE results for ozone mortality (reduction in number of cases) for the four action alternatives for the CI Analysis. The reductions in premature mortality incidence are for the entire contiguous United States. There are no results for the No Action Alternative because this is the baseline to which the CMAQ results under the action alternatives were compared within the BenMAP-CE tool (see the list of simulation pairs in Section D.4.2).

Table D.4.3.2-1. BenMAP-CE Aggregated/Pooled Incidence Results for Ozone-related Mortality: Estimated Nationwide Reduction in Premature Mortality, Cumulative Impacts

| Epidemiology Study | Reduction in Number of Cases | | | |
|---|------------------------------|---------------|---------------|---------------|
| | Alternative 2 | Alternative 3 | Alternative 4 | Alternative 5 |
| Mortality, Non-Accidental (Bell et al.) | 78 | 100 | 100 | 130 |
| Mortality, Non-Accidental (Ito et al.) | 350 | 460 | 470 | 560 |
| Mortality, Non-Accidental (Schwartz) | 120 | 160 | 160 | 190 |
| Mortality, Non-Accidental (Smith et al.) | 77 | 100 | 100 | 120 |
| Mortality, All Cause (Bell et al.) | 250 | 330 | 330 | 400 |
| Mortality, All Cause (Levy et al.) | 360 | 470 | 470 | 570 |
| Mortality, All Cause (Zanobetti and Schwartz) | 160 | 210 | 210 | 260 |
| Mortality, Cardiopulmonary (Huang) | 120 | 160 | 160 | 190 |

The results vary by epidemiology study and by alternative. Alternative 2 is associated with fewer reductions in mortality incidence than the other three action alternatives, and Alternative 5 is associated with more reductions than the other action alternatives. Under Alternative 3 (Preferred Alternative), the reduction in mortality incidence due to the simulated change in ozone concentration ranges from 100 to 470 cases, based on the study.

Table D.4.3.2-2 lists the BenMAP-CE results for other ozone-related health effects (reduction in number of cases) and associated endpoints (morbidity) for the CI Analysis. In some cases, the studies cover different age groups, as indicated. The reductions in incidence for all endpoints are for the entire contiguous United States.

Table D.4.3.2-2. BenMAP-CE Aggregated/Pooled Incidence Results for Ozone-related Morbidity: Estimated Nationwide Reduction in Various Morbidity Endpoints, Cumulative Impacts

| Epidemiology Study | Reduction in Number of Cases | | | |
|--|------------------------------|---------------|---------------|---------------|
| | Alternative 2 | Alternative 3 | Alternative 4 | Alternative 5 |
| Emergency Room Visits, Asthma | 500 | 650 | 660 | 790 |
| Hospital Admissions, All Respiratory | 190 | 250 | 250 | 300 |
| Asthma Exacerbation, One or More Symptoms | 170,000 | 230,000 | 230,000 | 280,000 |
| School Loss Days (age 5–17) | 140,000 | 190,000 | 190,000 | 230,000 |
| Minor Restricted-activity Days (age 18–65) | 410,000 | 540,000 | 540,000 | 650,000 |

For all endpoints considered here, the fewest reductions are associated with Alternative 2 and the most reductions are associated with Alternative 5. Under Alternative 3 (Preferred Alternative), emergency room visits for asthma are reduced by 650 cases, hospital admissions for respiratory problems are reduced by 250 cases, and exacerbation of asthma symptoms due to ozone are reduced by 230,000 cases due to the change in simulated ozone concentration.

Table D.4.3.2-3 lists BenMAP-CE valuation results for ozone mortality (reduction in millions of U.S. dollars/year) under the action alternatives for the CI Analysis. The monetized health-related benefits represent nationwide changes in millions of United States 2010-equivalent dollars. As noted above, no discount rate is applied for ozone mortality.

Table D.4.3.2-3. BenMAP-derived Nationwide Monetized Health-related Benefits for Ozone-related Mortality: Estimated Monetized Benefits (millions 2010 U.S. dollars/year) Related to Premature Mortality, Cumulative Impacts

| Epidemiology Study | Reduction in Number of Cases | | | |
|---|------------------------------|---------------|---------------|---------------|
| | Alternative 2 | Alternative 3 | Alternative 4 | Alternative 5 |
| Mortality, Non-Accidental (Bell et al.) | 730 | 960 | 970 | 1,200 |
| Mortality, Non-Accidental (Ito et al.) | 3,300 | 4,300 | 4,400 | 5,200 |
| Mortality, Non-Accidental (Schwartz) | 1,100 | 1,500 | 1,500 | 1,800 |
| Mortality, Non-Accidental (Smith et al.) | 720 | 950 | 960 | 1,100 |
| Mortality, All Cause (Bell et al.) | 2,400 | 3,100 | 3,100 | 3,800 |
| Mortality, All Cause (Levy et al.) | 3,300 | 4,400 | 4,400 | 5,300 |
| Mortality, All Cause (Zanobetti and Schwartz) | 1,500 | 2,000 | 2,000 | 2,400 |
| Mortality, Cardiopulmonary (Huang) | 1,100 | 1,400 | 1,500 | 1,800 |

Estimates of monetized health-related benefits under Alternative 3 (Preferred Alternative) range from 950 million to 4.4 billion dollars for the ozone-related mortality valuation. Similar to the Direct and Indirect Impact Analysis, the estimated benefits under Alternative 2 are smaller than those under Alternative 3 and those under Alternative 5 are higher than those under Alternative 3 by about a factor of 1.2.

Table D.4.3.2-4 lists BenMAP-CE valuation results for other ozone-related health effects (reduction in millions of U.S. dollars/year) and associated endpoints (morbidity) for the CI Analysis.

Table D.4.3.2-4. BenMAP-derived Nationwide Monetized Health-related Benefits for Ozone-related Morbidity: Estimated Monetized Benefits (millions 2010 U.S. dollars/year) Related to Various Morbidity Endpoints, Cumulative Impacts

| Epidemiology Study | Reduction in Number of Cases | | | |
|--|------------------------------|---------------|---------------|---------------|
| | Alternative 2 | Alternative 3 | Alternative 4 | Alternative 5 |
| Emergency Room Visits, Asthma | <1 | <1 | <1 | <1 |
| Asthma Exacerbation, One or More Symptoms | 10 | 13 | 13 | 16 |
| School Loss Days (age 5–17) | 14 | 18 | 19 | 22 |
| Minor Restricted-activity Days (age 18–65) | 8 | 36 | 37 | 44 |

For the endpoints considered here, the monetized health-related benefits are smallest under Alternative 2 and the same or slightly larger for each successive action alternative. Monetized health-related benefits under Alternative 3 (Preferred Alternative) range from less than 1 million dollars, for a reduction in emergency room visits related to asthma, to 36 million dollars, for a reduction in minor restricted activity days.

D.4.3.2.2 PM2.5

Table D.4.3.2-5 lists BenMAP-CE results for PM2.5 mortality (reduction in number of cases) under the actions alternatives for the CI Analysis. The mortality estimates are based on both epidemiology literature and expert elicitation.

Table D.4.3.2-5. BenMAP-CE Aggregated/Pooled Incidence Results for PM2.5-related Mortality: Estimated Nationwide Reduction in Premature Mortality, Cumulative Impacts

| | Reduction in Number of Cases | | | |
|---------------------------------------|------------------------------|---------------|---------------|---------------|
| | Alternative 2 | Alternative 3 | Alternative 4 | Alternative 5 |
| Epidemiology Literature | | | | |
| Mortality, All Cause (Krewski et al.) | 600 | 840 | 860 | 1,000 |
| Mortality, All Cause (Lepule et al.) | 1,400 | 1,900 | 1,900 | 2,400 |
| Infant Mortality (Woodruff et al.) | 1 | 1 | 1 | 2 |
| Expert Elicitation | | | | |
| Expert A | 1,600 | 2,200 | 2,200 | 2,700 |
| Expert B | 1,300 | 1,700 | 1,800 | 2,200 |
| Expert C | 1,200 | 1,700 | 1,700 | 2,100 |
| Expert D | 850 | 1,200 | 1,200 | 1,500 |
| Expert E | 2,000 | 2,900 | 2,900 | 3,500 |
| Expert F | 1,100 | 1,600 | 1,600 | 2,000 |
| Expert G | 720 | 1,000 | 1,000 | 1,300 |
| Expert H | 880 | 1,200 | 1,200 | 1,500 |
| Expert I | 1,200 | 1,700 | 1,700 | 2,100 |
| Expert J | 990 | 1,400 | 1,400 | 1,700 |
| Expert K | 130 | 180 | 180 | 220 |
| Expert L | 810 | 1,100 | 1,200 | 1,400 |

Notes:

PM2.5 = particulate matter with diameter equal to or less than 2.5 microns

The results vary by study and by alternative. Alternative 2 is associated with the fewest reductions in mortality incidence and Alternative 5 is associated with the most reductions. The results for Alternatives 3 and 4 are very similar—especially when reported to two significant figures. Under Alternative 3 (Preferred Alternative), the reduction in adult mortality incidence due to the simulated change in PM2.5 concentration ranges from 840 to 1,900 cases for the epidemiology studies and from 180 to 2,900 for the expert elicitation studies.

Table D.4.3.1-6 lists BenMAP-CE results for other PM2.5-related health effects (reduction in number of cases) and associated endpoints (morbidity) for the CI Analysis.

Table D.4.3.1-6. BenMAP-CE Aggregated/Pooled Incidence Results for PM2.5-related Morbidity: Estimated Nationwide Reduction in Various Morbidity Endpoints, Cumulative Impacts

| Epidemiology Study | Reduction in Number of Cases | | | |
|--|------------------------------|---------------|---------------|---------------|
| | Alternative 2 | Alternative 3 | Alternative 4 | Alternative 5 |
| Acute Bronchitis (age 8–12) | 830 | 1,200 | 1,200 | 1,400 |
| Acute Myocardial Infarction, Non-fatal (age 18–99) | 77 | 110 | 110 | 130 |
| Asthma Exacerbation (age 6–18) | 15,000 | 21,000 | 22,000 | 27,000 |
| Emergency Room Visits, Asthma (all ages) | 290 | 400 | 400 | 490 |
| Hospital Admissions, Less Myocardial Infarctions (age 65–99) | 150 | 210 | 210 | 260 |
| Hospital Admissions, Asthma (age 1–17) | 15 | 21 | 21 | 26 |
| Hospital Admissions, All Respiratory (age 65–99) | 140 | 190 | 200 | 240 |
| Hospital Admissions, Chronic Lung Disease (age 18–64) | 31 | 43 | 44 | 54 |
| Lower Respiratory Symptoms (age 7–14) | 11,000 | 15,000 | 15,000 | 18,000 |
| Upper Respiratory Symptoms (age 9–11) | 15,000 | 21,000 | 21,000 | 26,000 |
| Minor Restricted-activity Days (age 18–64) | 400,000 | 560,000 | 570,000 | 700,000 |
| Work Loss Days (age 18–64) | 68,000 | 95,000 | 96,000 | 120,000 |

Notes:

PM2.5 = particulate matter with diameter equal to or less than 2.5 microns

For all endpoints considered here, the fewest reductions are associated with Alternative 2 and the most reductions are associated with Alternative 5. Under Alternative 3 (Preferred Alternative), there are benefits for all endpoints. For example, emergency room visits for asthma are reduced by 400 cases and hospital admissions for respiratory problems are reduced by 190 cases due to the change in simulated PM2.5 concentration.

Table D.4.3.1-7 lists BenMAP-CE valuation results for PM2.5 related mortality (reduction in millions of U.S. dollars/year) under the action alternatives for the Cumulative Analysis with a 3 percent discount rate. The monetized health-related benefits represent nationwide changes in millions of United States 2010-equivalent dollars.

Table D.4.3.1-7. BenMAP-CE Monetized Health-related Benefits for PM2.5-related Mortality with a 3 Percent Discount Rate: Estimated Monetized Benefits (millions 2010 U.S. dollars/year) Related to Premature Mortality, Cumulative Impacts

| | Reduction (Millions 2010 U.S. Dollars/Year) | | | |
|---------------------------------------|---|---------------|---------------|---------------|
| | Alternative 2 | Alternative 3 | Alternative 4 | Alternative 5 |
| Epidemiology Literature | | | | |
| Mortality, All Cause (Krewski et al.) | 5,200 | 7,300 | 7,400 | 9,100 |
| Mortality, All Cause (Lepule et al.) | 12,000 | 16,000 | 17,000 | 20,000 |
| Infant Mortality (Woodruff et al.) | 8 | 11 | 11 | 14 |
| Expert Elicitation | | | | |
| Expert A | 14,000 | 19,000 | 19,000 | 24,000 |
| Expert B | 11,000 | 15,000 | 15,000 | 19,000 |
| Expert C | 11,000 | 15,000 | 15,000 | 19,000 |
| Expert D | 7,400 | 10,000 | 11,000 | 13,000 |
| Expert E | 18,000 | 25,000 | 25,000 | 31,000 |
| Expert F | 9,900 | 14,000 | 14,000 | 17,000 |
| Expert G | 6,200 | 8,700 | 8,900 | 11,000 |
| Expert H | 7,600 | 11,000 | 11,000 | 13,000 |
| Expert I | 10,000 | 15,000 | 15,000 | 18,000 |
| Expert J | 8,500 | 12,000 | 12,000 | 15,000 |
| Expert K | 1,100 | 1,500 | 1,600 | 1,900 |
| Expert L | 7,100 | 9,900 | 10,000 | 12,000 |

Notes:

PM2.5 = particulate matter with diameter equal to or less than 2.5 microns

The monetized health-related benefits under Alternative 3 (Preferred Alternative) range from 7.3 to 16 billion dollars for premature mortality (not including infant mortality) based on epidemiological studies and from 1.5 to 25 billion dollars for the expert elicitation estimates. The monetized health-related benefits under Alternative 2 are smaller than those under Alternative 3, those under Alternative 4 are about the same or slightly larger compared to Alternative 3, and those under Alternative 5 are larger than those under Alternative 3 by about 25 percent.

Table D.4.3.1-8 lists BenMAP-CE valuation results for PM2.5-related mortality (reduction in millions of U.S. dollars/year) for the CI Analysis with a 7 percent discount rate.

Table D.4.3.1-8. BenMAP-CE Monetized Health-related Benefits for PM2.5-related Mortality with a 7 Percent Discount Rate: Estimated Monetized Benefits (millions 2010 U.S. dollars/year) Related to Premature Mortality, Cumulative Impacts

| | Reduction (Millions 2010 U.S. Dollars/Year) | | | |
|---------------------------------------|---|---------------|---------------|---------------|
| | Alternative 2 | Alternative 3 | Alternative 4 | Alternative 5 |
| Epidemiology Literature | | | | |
| Mortality, All Cause (Krewski et al.) | 4,700 | 6,600 | 6,700 | 8,200 |
| Mortality, All Cause (Lepule et al.) | 11,000 | 15,000 | 15,000 | 18,000 |
| Infant Mortality (Woodruff et al.) | 7 | 10 | 10 | 12 |
| Expert Elicitation | | | | |
| Expert A | 12,000 | 17,000 | 17,000 | 21,000 |
| Expert B | 9,800 | 14,000 | 14,000 | 17,000 |
| Expert C | 9,600 | 13,000 | 14,000 | 17,000 |
| Expert D | 6,700 | 9,300 | 9,500 | 12,000 |
| Expert E | 16,000 | 22,000 | 23,000 | 28,000 |
| Expert F | 9,000 | 13,000 | 13,000 | 16,000 |
| Expert G | 5,600 | 7,800 | 8,000 | 9,800 |
| Expert H | 6,800 | 9,600 | 9,700 | 12,000 |
| Expert I | 9,400 | 13,000 | 13,000 | 16,000 |
| Expert J | 7,700 | 11,000 | 11,000 | 13,000 |
| Expert K | 990 | 1,400 | 1,400 | 1,700 |
| Expert L | 6,400 | 8,900 | 9,100 | 11,000 |

Notes:

PM2.5 = particulate matter with diameter equal to or less than 2.5 microns

With the 7 percent discount, the monetized health-related benefits under Alternative 3 (Preferred Alternative) range from 6.6 to 15 billion dollars for premature mortality (not including infant mortality) based on epidemiological studies and from 1.4 to 22 billion dollars for the expert elicitation estimates.

Table D.4.3.1-9 lists BenMAP-CE valuation results for other PM2.5-related health effects (reduction in millions of U.S. dollars/year) and associated endpoints (morbidity) for the CI Analysis.

Table D.4.3.1-9. BenMAP-derived Nationwide Monetized Health-related Benefits for PM2.5-related Morbidity: Estimated Monetized Benefits (millions 2010 U.S. dollars/year) Related to Various Morbidity Endpoints, Cumulative Impacts

| Epidemiology Study | Reduction (Millions 2010 U.S. Dollars/Year) | | | |
|--|---|---------------|---------------|---------------|
| | Alternative 2 | Alternative 3 | Alternative 4 | Alternative 5 |
| Acute Bronchitis (age 8–12) | <1 | 1 | 1 | 1 |
| Acute Myocardial Infarction, Non-fatal (age 18–99) | 9 | 12 | 12 | 15 |
| Asthma Exacerbation (age 6–18) | 1 | 1 | 1 | 2 |
| Emergency Room Visits, Asthma (all ages) | <1 | <1 | <1 | <1 |
| Hospital Admissions, Less Myocardial Infarctions (age 65–99) | 6 | 8 | 8 | 10 |
| Hospital Admissions, Asthma (age 1–17) | <1 | <1 | <1 | <1 |
| Hospital Admissions, All Respiratory (age 65–99) | 4 | 6 | 6 | 8 |
| Hospital Admissions, Chronic Lung Disease (age 18–64) | 1 | 1 | 1 | 1 |
| Lower Respiratory Symptoms (age 7–14) | <1 | <1 | <1 | <1 |
| Upper Respiratory Symptoms (age 9–11) | 1 | 1 | 1 | 1 |
| Minor Restricted-activity Days (age 18–64) | 27 | 38 | 39 | 48 |
| Work Loss Days (age 18–64) | 11 | 16 | 16 | 19 |

Notes:

PM2.5 = particulate matter with diameter equal to or less than 2.5 microns

For the endpoints considered here, the monetized health-related benefits are smallest under Alternative 2, about the same for Alternatives 3 and 4, and largest for Alternative 5. The largest reductions in monetized health-related benefits are associated with fewer incidences of minor restricted-activity days, work loss days, and acute (non-fatal) myocardial infarctions.

D.4.3.3 Summary of BenMAP-CE Results

One of the goals of this application was to compare the health effects and monetized health-related benefits across the range of alternatives under the DII and CI analyses. Figures D.4.3.3-1 and D.4.3.3-2 graphically display the nationwide reduction in the number of cases associated with selected health endpoints for ozone and PM2.5. For ozone (Figure D.4.3.3-1), the endpoints are mortality (Zanobetti and Schwartz 2008 in RTI 2015), emergency room visits for asthma hospital admissions for respiratory symptoms, and minor restricted-activity days. For PM2.5 (Figure D.4.3.3-1), the endpoints are mortality (Krewski et al. 2009 in RTI 2015), emergency room visits for asthma hospital admissions for respiratory symptoms, and minor restricted-activity days. Note that the scales are different for each plot.

Figure D.4.3.3-1. BenMAP-derived Changes in Selected Health Outcomes for the Direct and Indirect Impacts and Cumulative Impacts Analyses: Ozone (Reduction in the Number of Cases)

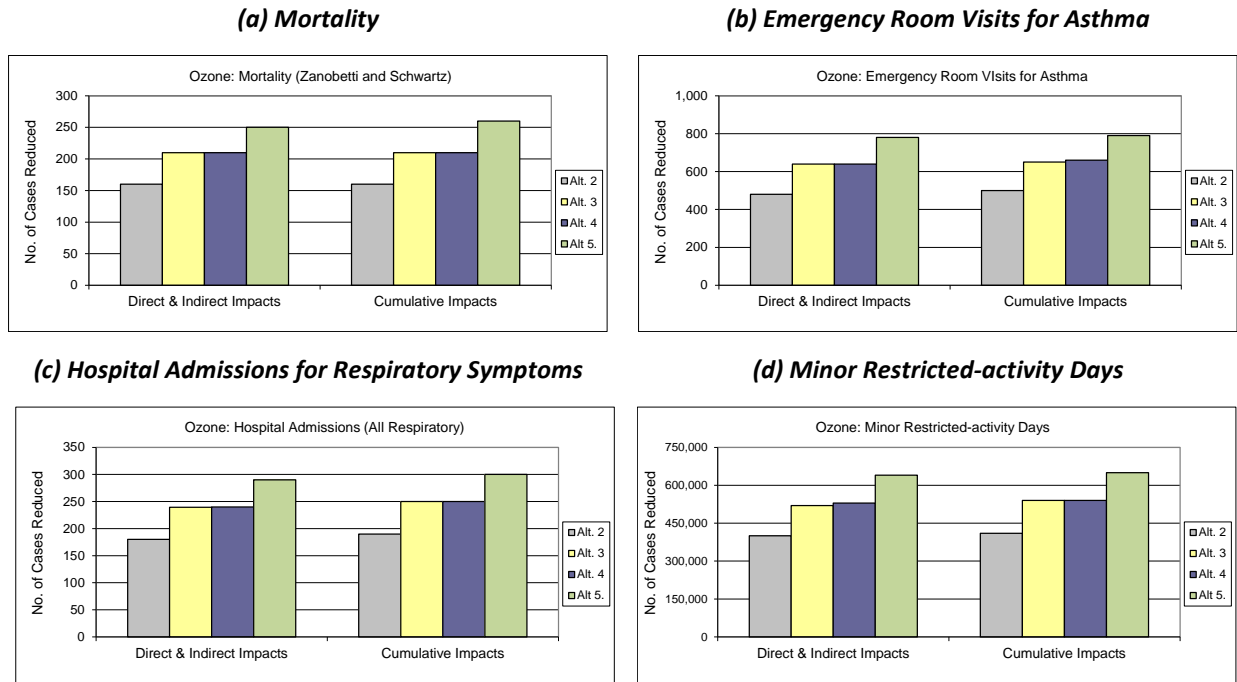
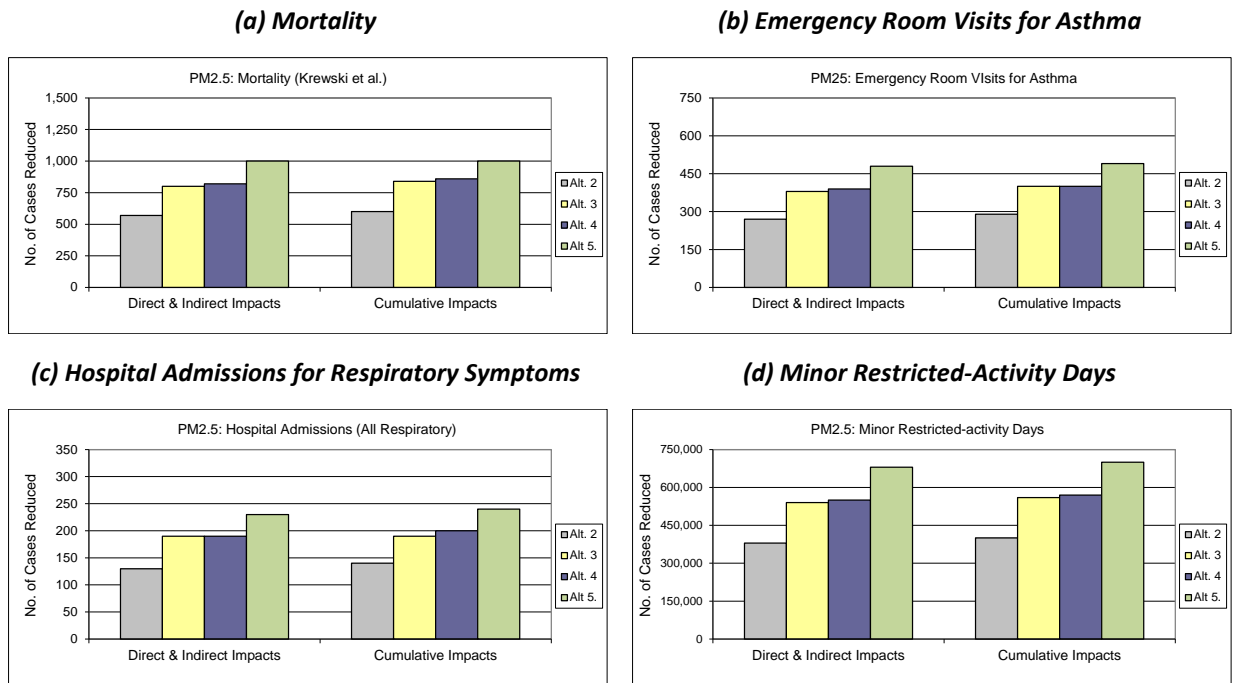


Figure D.4.3.3-2. BenMAP-derived Changes in Selected Health Outcomes for the Direct and Indirect Impacts and Cumulative Impacts Analyses: PM2.5 (Reduction in the Number of Cases)



Figures D.4.3.3-3 and D.4.3.3-4 graphically display the nationwide monetized health-related benefits associated with selected health endpoints for ozone and PM2.5. For both ozone and PM2.5, the monetized health-related benefits (cost savings) are displayed for mortality and combined respiratory symptoms. For ozone, the combined symptoms include emergency room visits for asthma, asthma exacerbation (one or more symptoms), and hospital admissions for respiratory symptoms. For PM2.5, the combined symptoms include acute bronchitis, asthma exacerbation, emergency room visits for asthma, lower and upper respiratory symptoms, and hospital admissions for respiratory symptoms. Again, to accommodate differences in the results, the scales are different for each plot.

Figure D.4.3.3-3. BenMAP-derived Monetized Health-related Benefits for the Direct and Indirect Impacts and Cumulative Impacts Analyses: Ozone (Reduction in Millions of 2010 U.S. Dollars/Year)

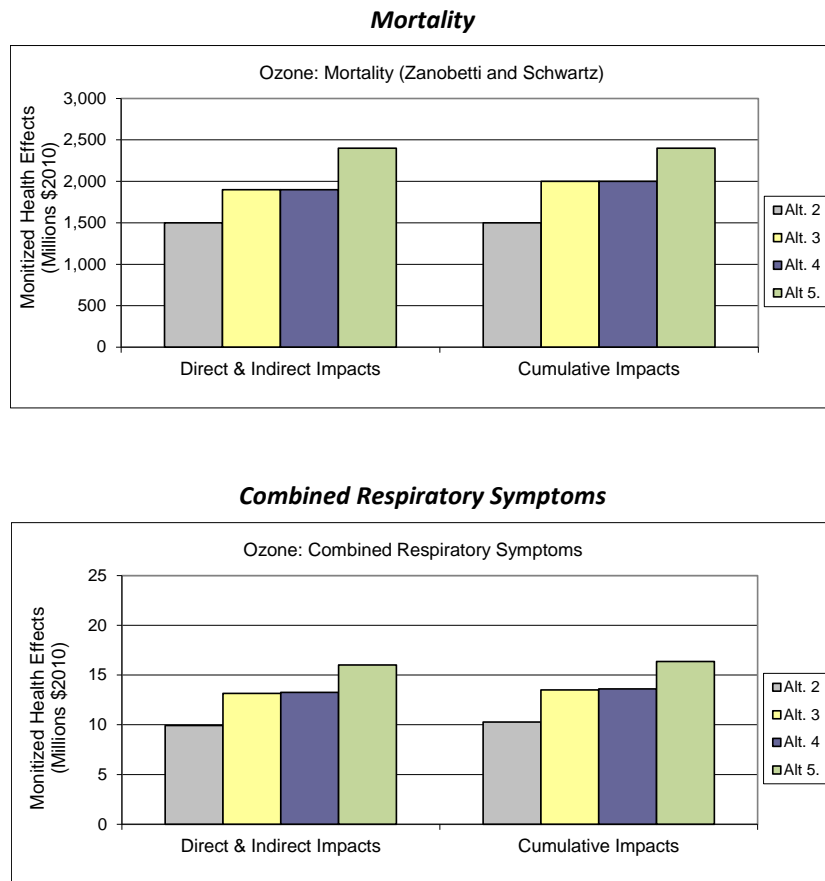
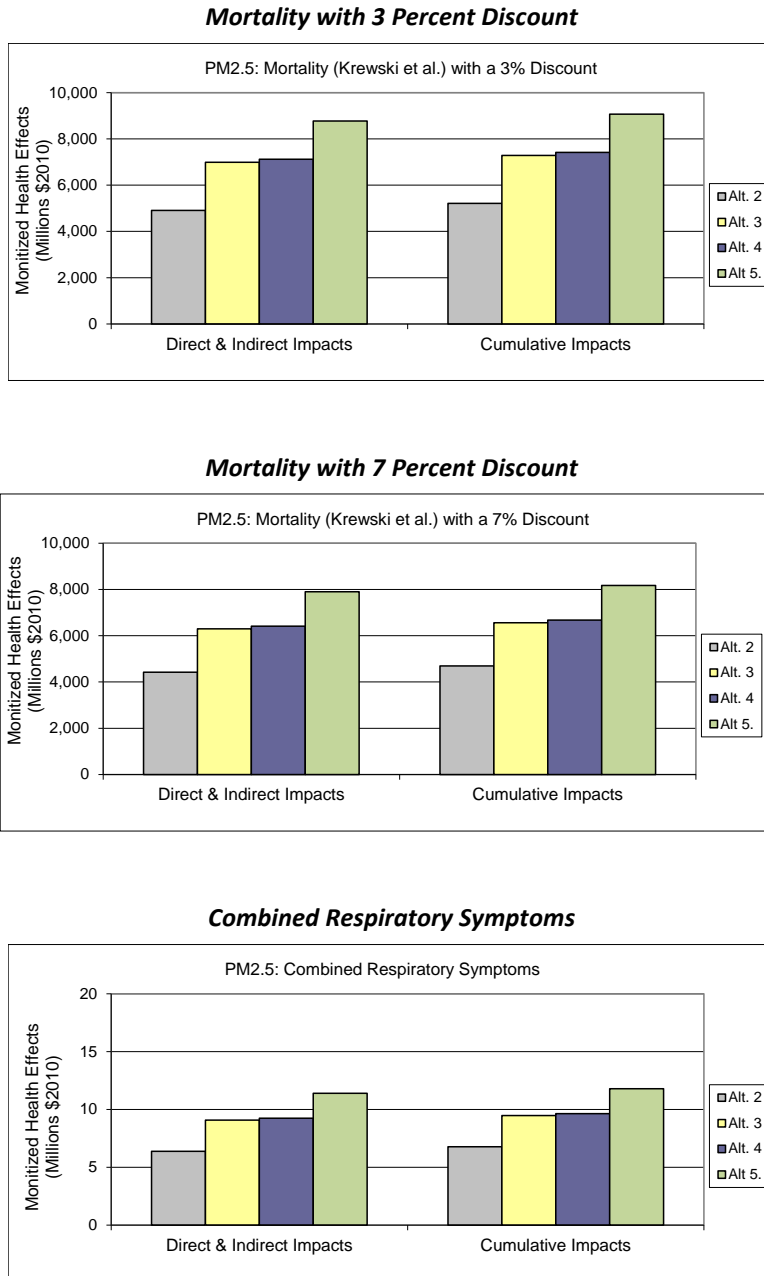


Figure D.4.3.3-4. BenMAP-derived Monetized Health-related Benefits for the Direct and Indirect Impacts and Cumulative Impacts Analyses: PM2.5 (Reduction in Millions of 2010 U.S. Dollars/Year)



In summary:

- For both analyses, the relative changes in health effects incidences and monetized health-related benefits among the action alternatives are consistent with the changes in emissions for the action alternatives. Because they are driven by the CMAQ modeling results, the BenMAP-CE results are also affected by the emission changes, their spatial distributions in relation to population, and the complex (and often non-linear) chemical reactions in the atmosphere throughout each of the different regions during the course of the annual simulation period.

- Alternative 2 (the least stringent alternative) is associated with the fewest reductions in cases of health effects and the smallest monetized health-related benefits. Alternative 5 (the most stringent alternative) is associated with the most reductions in the number of cases of health effects and the largest monetized health-related benefits. Alternatives 3 and 4 fall between the least and most stringent and the benefits associated with these two alternatives reflect that; the calculated benefits for Alternative 4 are about the same as (or slightly greater than) those for Alternative 3.

Similar to other studies, the estimated health-related benefits associated with mortality are much greater than those associated with the morbidity endpoints, and the health-related benefits associated with PM_{2.5} are greater than those associated with ozone.

D.4.3.4 Discussion of Attributes and Limitations

The BenMAP-CE tool incorporates a wide variety of studies that can be used to quantify and monetize health effects resulting from reductions in air pollutant concentrations. The epidemiological studies address a variety of different health endpoints and, in some cases, multiple studies (involving different populations or concentration-response functions) are available, allowing for some comparison. BenMAP-CE includes up-to-date valuation methods and data for the monetization of health impacts. BenMAP-CE also incorporates advanced statistical methods for aggregating and weighting the results to obtain both mean values and information about the likelihood (probability) that the value will be within a given range. A primary advantage of BenMAP-CE is that it can incorporate the change in air quality directly from air quality model output files. Therefore, BenMAP-CE accounts for spatial and temporal differences in the changes in air quality and relates these to population. For this analysis, selection of the health effects studies and valuation methods were based on the latest BenMAP-CE (configuration and aggregation, pooling and valuation) input files (which reference the studies and methods EPA considers to be the most relevant and applicable to the United States population as a whole.)

Nevertheless, there are uncertainties associated with the estimation of changes in health effects and monetized health-related benefits associated with changes in ozone and PM_{2.5} air quality. For the health incidence calculations, BenMAP-CE includes an option to generate an average incidence estimate, and range of results that assume there is variability in the inputs to the health impact functions. Variability is incorporated into most of the BenMAP-CE exposure-response algorithms by prescribing a dose-response parameter that assumes a Gaussian (bell-shaped) distribution about the mean value. In calculating the health effects, BenMAP-CE samples this distribution to develop a probability distribution of effect. The result is expressed as the mean value of the distribution. For the PM_{2.5} mortality expert elicitation functions, variability is accounted for in a variety of ways.

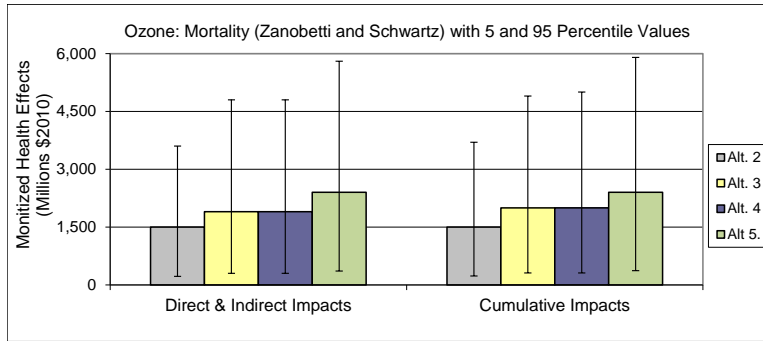
For the valuation calculation, the valuation function is also specified as a probability distribution, accounting for different methods of estimating health costs and WTP. BenMAP-CE samples from probability distributions from single or multiple cost estimation models, and combines the results through Monte Carlo simulation. The valuation function for morbidity used for this analysis is a Weibull distribution with a mean of \$7.4 million (in 2006 dollars).

Therefore, the resulting monetized benefit distributions include contributions both from the uncertainty in the exposure-response relationships and in the valuation functions. Sections D.4.3.1 through D.4.3.3 present the expected value (mean) estimates generated by BenMAP-CE. Figures D.3.4-1 (a)-(c) present the BenMAP-generated overall distributions in monetized health-related benefits (represented by 5th- and 95th- percentile intervals) for mortality for ozone, as determined by Zanobetti and Schwartz (2008)

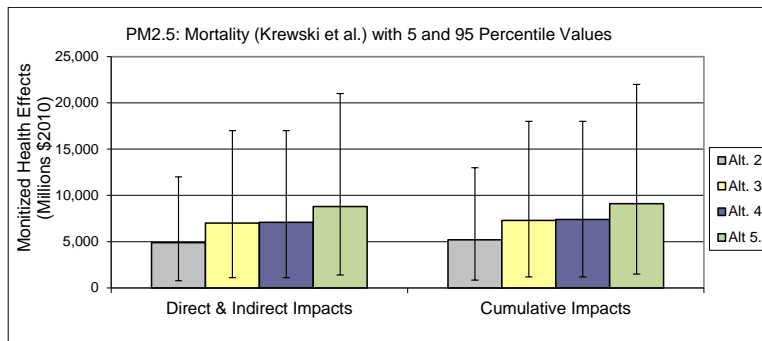
in RTI (2015), and PM2.5, as determined by Krewski et al. (2009) in RTI (2015). Mortality is used here to illustrate the uncertainty because most monetized health-related benefits are associated with mortality.

Figure D.4.3.4-1. BenMAP-derived Monetized Health-related Benefits for the Direct and Indirect Impacts and Cumulative Impact Analyses, with 5th- and 95th-percentile Ranges (Reduction in Millions of 2010 U.S. Dollars/Year)

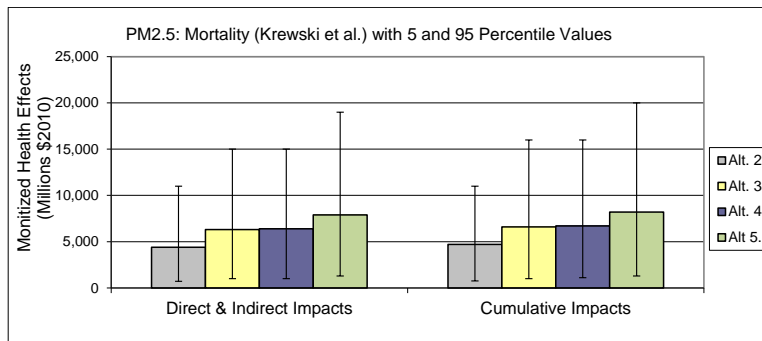
(a) Ozone Mortality



(b) PM2.5 Mortality with 3 Percent Discount



(c) PM2.5 Mortality with 7 Percent Discount

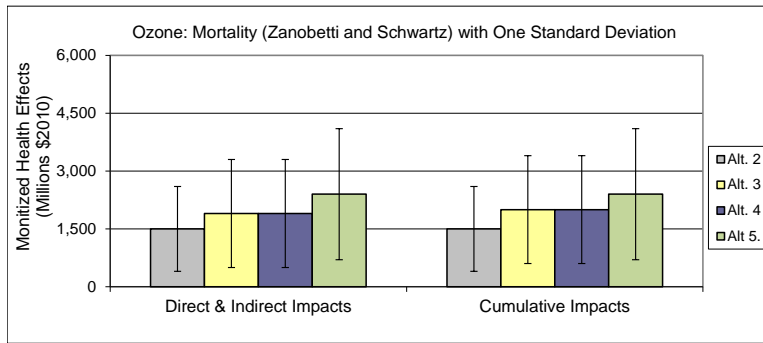


In general, the 5th- and 95th-percentile values indicate a large range in values compared to the mean value. For example, for the Direct and Indirect Analysis, the results under Alternative 2 for PM2.5 with a 7 percent discount rate indicate that the mean value is \$4.4 billion. The 5th- and 95th-percentile values are 710 million and 11 billion dollars, respectively. Therefore, there is a 90 percent probability that the monetized health-related benefits would be between 710 million and 11 billion dollars.

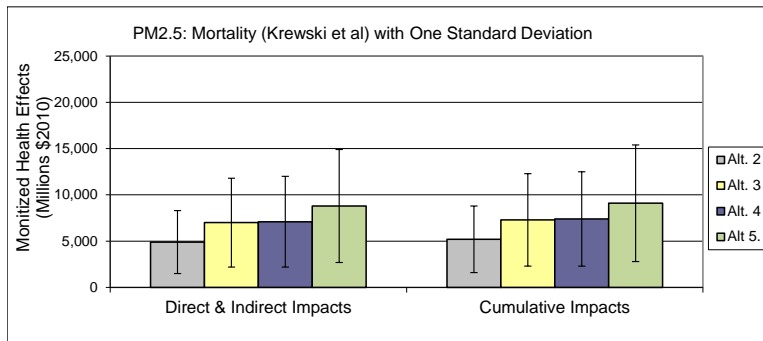
Figures D.4.3.4-2 (a)-(c) present the BenMAP-generated mean and standard deviations in monetized health-related benefits for mortality for ozone, as determined by Zanobetti and Schwartz (2008) in RTI (2015), and PM2.5, as determined by Krewski et al. (2009) in RTI (2015).

Figure D.4.3.4-2. BenMAP-derived Monetized Health-related Benefits for the Direct and Indirect Impacts and Cumulative Impact Analyses, with One Standard Deviation (Reduction in Millions of 2010 U.S. Dollars/Year)

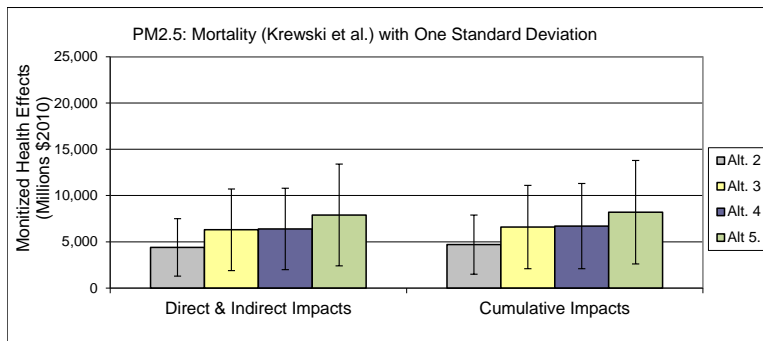
(a) Ozone Mortality



(b) PM2.5 Mortality with 3 Percent Discount



(c) PM2.5 Mortality with 7 Percent Discount



The standard deviation values indicate considerable variability in the distributions, leading to uncertainty in the results. For example, for the DII Analysis, the results under Alternative 2 for PM2.5 with a 7 percent discount rate indicate that the mean value is 4.4 billion dollars and the standard deviation is 3.1 billion.

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D.5.1 References

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