COLORADO
Department of Transportation

Triennial Highway Safety Plan

Federal Fiscal Years 2024 - 2026

The Triennial Highway Safety Plan (3HSP) includes the State's goals, objectives, and countermeasure strategies for improving traffic safety, as well as performance measures to evaluate progress. It outlines priority highway safety projects and respective funding for a three-year period, Fiscal Years (FYs)24-26, and reports on progress towards meeting the performance measures identified in the FY23 Highway Safety Plan (HSP).

TABLE OF CONTENTS

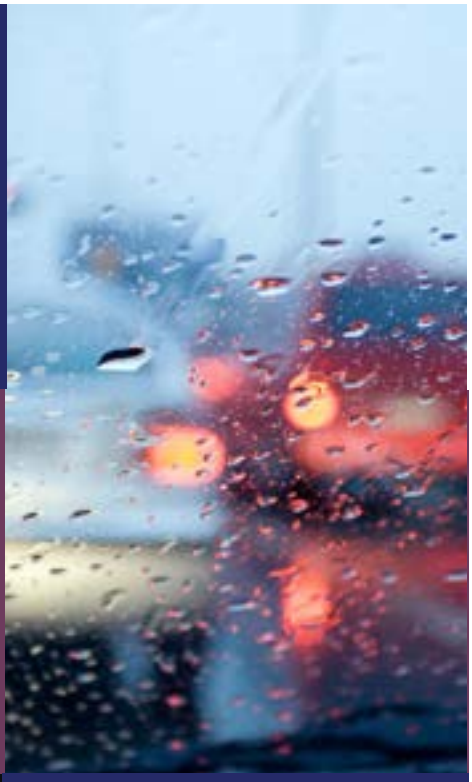


Table of Contents

Table of Contents

Table of Contents

Figures

Tables

Table of Contents

Acronyms/Abbreviations

3HSP	Triennial Highway Safety Plan
AAA	American Automobile Association
ACS	American Community Survey
ATS	Advancing Transportation Safety
BAC	Blood Alcohol Content
BASE	Booster and Seatbelt Engagement
BIL	Bipartisan Infrastructure Law
BIPOC	Black, Indigenous and People of Color
CBG(s)	Census Block Groups(s)
CDOR	Colorado Department of Revenue
CDOT	Colorado Department of Transportation
CDPHE	Colorado Department of Public Health and Environment
CPS	Child Passenger Safety
CPST(s)	Child Passenger Safety Technician(s)
CSP	Colorado State Patrol
CTFDID	Colorado Task Force on Drunk and Impaired Driving
CIOT	Click It or Ticket
CYDA	Colorado Young Driver's Alliance
DEC	Drug Evaluation and Classification
DI	Disproportionately Impacted
DIVO	Diverse and Inclusive Voices
DME	Denver Moves Everyone
DMV	Department of Motor Vehicles
DOTI	Department of Transportation and Infrastructure
DRE(s)	Drug Recognition Expert(s)
DSCO	Drive Smart Colorado
DWI	Driving While Impaired
FARS	Fatality Analysis Reporting System
FCCLA	Family, Career and Community Leaders of America
FDE	Fundamental Data Elements
FHWA	Federal Highway Administration

Acronyms/Abbreviations

FY(s)	Fiscal Year(s)
GCSAPP	Gunnison County Substance Abuse Prevention Project
GDL	Graduated Drivers Licensing
HKCS	Healthy Kids Colorado Survey
HSIP	Highway Safety Improvement Plan
HSO	Highway Safety Office
HSP	Highway Safety Plan
HVE	High Visibility Enforcement
IIJA	Infrastructure Investment and Jobs Act
LE	law enforcement
LEC	Law Enforcement Coordinator
LEL(s)	Local Law Enforcement Liaison(s)
LOESS	Locally Estimated Scatterplot Smoothing
LTAP	Local Technical Assistance Program
MADD	Mothers Against Drunk Driving
MIRE	Model Inventory of Roadway Elements
MOSAB	Motorcycle Operator Safety Advisory Board
MPO	Metropolitan Planning Organization
ng	nanograms
NHTSA	National Highway Traffic Safety Administration
OC	Office of Communications
OTS	Office of Transportation Safety
P&A	Planning & Administration
POC	People of Color
PPACG	Pikes Peak Area Council of Governments
P.R.O.M.	Prevention, Raising Awareness, Oath, Maintain the Community Safe
RETAC	Regional Emergency Trauma Advisory Council
RFA	Request for Applications
RFP	Request for Proposal
RTD(s)	Regional Transportation Director(s)
SADD	Students Against Destructive Decisions

Acronyms/Abbreviations

SCITT	Southern Colorado Institute of Transportation Technology
SFST	Standardized Field Sobriety Testing
SHO	Social Host Ordinance
SHSP	Strategic Highway Safety Plan
SLV	San Luis Valley
SMSA(s)	State Motorcycle Safety Administrator(s)
STRAC	State Traffic Records Advisory Committee
STSP	Strategic Transportation Safety Plan
THC	tetrahydrocannabinol
TIM	Traffic Incident Management
TSEP	Traffic Safety Enforcement Program
TSS	Teen Safe Streets
USDOT	U.S. Department of Transportation
VMT	Vehicle Miles Traveled

1. HIGHWAY SAFETY PLANNING PROCESS & PROBLEM IDENTIFICATION

The Highway Safety Office (HSO), within the Office of Transportation Safety (OTS) at the Colorado Department of Transportation (CDOT), is responsible for developing and administering behavioral programs that improve the traffic safety environment in Colorado by reducing the number and severity of traffic crashes. The HSO's programs target specific high-risk driving behaviors, such as passenger vehicle occupants who do not use proper restraint devices, impaired driving, speeding and distracted driving. Additionally, the HSO focuses on populations at high risk for serious crash involvement, such as young drivers, vulnerable roadway users, underserved communities and communities overrepresented in the crash data.

In addition to data analysis, the HSO relies on public participation and engagement to understand problems in focus communities, as detailed in **Chapter 2. Public Participation and Engagement**.

Motorist driving on State Highway.

PROCESSES PARTICIPANTS AND DATA SOURCES

Process Participants

The HSO engages with multiple groups and organizations that collaborate on various processes and programs that are designed to prevent and mitigate Colorado's roadway fatalities and serious injury crashes.

From the CDOT these include:

- Governor's Representative for Highway Safety
- Office of Communications (OC)
- Safety and Traffic Engineering Branch, OTS
- Regional Transportation Directors (RTDs)
- Other headquarters staff

Other groups and organizations that are involved include:

- Governor's office
- Colorado State Legislature
- Colorado State Patrol
- Colorado Department of Public Health and Environment (CDPHE)
- Federal and other State agencies
- Political subdivisions
- Community groups
- Nonprofits and the private sector

Stakeholder groups include various State mandated task forces including:

- Colorado Task Force on Drunk and Impaired Driving (CTFDID)
- State Traffic Records Advisory Committee
- Motorcycle Operator Safety Advisory Board (MOSAB)
- Emergency Medical Trauma Services Injury Prevention Group
- Colorado Young Driver's Alliance (CYDA)
- Persistent Drunk Driver Committee
- Marijuana Education Oversight Committee
- Occupant Protection Task Force
- Members from the Strategic Transportation Safety Plan (STSP)

All of these entities are vital in the ongoing mission to reduce crashes resulting in fatalities or serious injury on Colorado roadways.

Data Sources

The HSO uses diverse data sources in problem identification, including but not limited to:

- National Highway Traffic Safety Administration (NHTSA) *Traffic Safety Facts*
- Fatality Analysis Reporting System (FARS) Data
- Crash Data
- Judicial Impaired Driving Data
- Citation and Arrest Data
- Annual Seat Belt Survey
- CDPHE Blood Alcohol Content (BAC) Data
- Blood Analysis Data
- Previous Program Performance
- Census Bureau and Colorado Department of Local Affairs (including demographic, economic and population data)
- Vehicle Miles Traveled (VMT)
- Vehicle Registration Data
- Motorcycle Safety Training Data
- Colorado Hospital Discharge Data

DESCRIPTION OF HIGHWAY SAFETY PROBLEMS

Colorado has experienced yearly increases in traffic fatalities beginning in 2019. Fatalities have increased from 597 in 2019, to 622 in 2020 and to 691 in 2021. Preliminary data in 2022 indicates another increase to 761. Traffic safety has been affected by a multitude of factors including decreased enforcement on roadways and riskier driving behavior including excessive speed, a lack of appropriate restraint use, impaired driving and increased in-vehicle technology causing distractions. Colorado continues to experience increases in population growth, which causes stress on the transportation environment. This coupled with a State that has no primary seat belt law for adults or helmet law for adult motorcyclists, and a distracted driving law, which is difficult to enforce, poses numerous safety challenges.

Common themes emerge annually from the traffic data. Unrestrained motorists typically make up around half of all motor vehicle deaths. Distraction, speeding, alcohol and motorcycles are all major contributors to traffic deaths. Additionally, males aged 21-44 typically make up a disproportionately large proportion of traffic fatalities. These contributing factors often overlap, creating a complex tapestry of causation for motor vehicle crashes.

- The total number of motor vehicle fatalities in Colorado increased in 2021. There were 691 fatalities, an increase of 11% from the previous year. Preliminary data indicates another 11% increase, with 761 traffic fatalities in 2022.
- The rate of fatalities per VMT in Colorado was stable at 1.28 in 2020 and 2021, preliminary VMT for 2022 increased to 1.40.
- The total number of serious injuries resulting from motor vehicle accidents in Colorado in 2021 was 3,694 and decreased to 3,593 in 2022 (preliminary).
- Speeding-related fatalities decreased 30% from 2020 and was a factor in 29% of all fatalities in 2021. There were 202 speeding-related motor vehicle fatalities in 2021 compared to 287 in 2020. However, preliminary data in 2022 shows an increase in speeding-related fatalities to 289.
- Among the people who died in an occupant motor vehicle crash, 49% were not wearing a seat belt. Preliminary data shows there were 226 unrestrained vehicle occupant fatalities in 2022.
- Alcohol-impaired drivers were involved in 31% of all fatalities. In 2021, 216 motor vehicle deaths resulted from crashes involving an alcohol-impaired driver, a 14% increase from 2020.
- In 2022, preliminary data shows there were 148 motorcyclist fatalities, an increase of 9% from 2021. 51% of motorcyclists who died in 2022 were not wearing a helmet.
- More males than females were killed and injured in motor vehicle crashes 2022. However, national data supports that males also drive more than females.

While Colorado experienced an increase in fatalities last year, the HSO continues to work with its safety partners to promote and educate about a safer driving environment. To effectively address the various highway safety challenges, CDPHE and CDOT coordinated analysis of the fatality and crash data in conjunction with other traffic data sources including citation data, the Public Safety's Lab data for blood analysis, CDPHE BAC data and judicial data, as the basis for setting performance targets, selecting countermeasure strategies and developing projects.

METHODS FOR PROJECT SELECTION

In order to address the traffic safety challenges identified, the HSO solicits applications and projects that are data driven, evidence-based, and employ countermeasure strategies through a statewide Request for Proposal (RFP) to achieve performance targets. Extensive outreach efforts to the State and local traffic safety communities are utilized in order to target areas with persistent traffic safety issues. Applications are reviewed by panels of subject matter experts including representatives from the CDPHE, traffic stakeholders and partners and HSO staff. Applications are evaluated on their ability to impact statewide and local problem areas (identified in the Problem Identification report and supported by local data), meet goals and proposed program activities and satisfy evaluation measures. Applications are also evaluated on their ability to impact performance measures and performance targets. For FY24, the HSO released an RFP and solicited projects for a three-year funding cycle and a new slate of diverse, upstream approach projects were funded for a three-year funding cycle.

DESCRIPTION OF OUTCOMES REGARDING STRATEGIC HIGHWAY SAFETY PLAN (SHSP) AND HIGHWAY SAFETY PLAN (HSP) COORDINATION

In 2020, an update to the STSP was completed. The newest version provides guidance and resources to all safety stakeholders in Colorado to reduce the incidence and severity of motor vehicle crashes and the human and economic losses that are associated with them. The STSP sets specific visionary goals for reducing fatality and serious injury rates, as well as the total number of crashes overall as compared to previous years. The CDOT also identified and funded a position dedicated to championing the STSP.

Of the five measures, three must be identically set for the NHTSA Highway Safety Plan and the Federal Highway Administration (FHWA) Highway Safety Improvement Plan (HSIP): number of fatalities, fatality rate per 100 million VMT and number of serious injuries. However, for FY24 the requirement for the three HSIP and HSP safety targets to be identical was waived. The HSO is required to set targets that show constant or improved performance.

Table 1-1: Colorado 2024 Safety Targets

Fatalities	Fatality rate	Serious injuries
660	1.24	3,356

2. PUBLIC PARTICIPATION AND ENGAGEMENT

ENGAGEMENT PLANNING

Public participation and engagement planning efforts conducted in Colorado's highway safety planning process and programming.

Public Engagement Goals

Colorado is dedicated to the Safe System Approach to reducing serious injury and fatal crashes. This approach includes robust public engagement efforts that seek full representation from communities, considers public comments and feedback and incorporates that feedback into projects, programs and/or plans when possible. **Engagement efforts include direct outreach to affected and potentially affected communities, as well as collaboration with public and nonprofit agencies to achieve State goal to reduce total vehicle crashes by 2%**.

Additional goals include increasing the number of grant applications from under-served communities overrepresented in traffic crashes and fatalities year over year.

Although the HSO operates on a 3 year funding cycle, community engagement efforts to identified communities will continue and opportunities for funding outside of the 3 year cycle will be considered.

Identification of Affected Communities

The Highway Safety Office (HSO) identifies affected and potentially affected communities, including emphasis on underserved communities and communities overrepresented in the data, through the partnerships with the various program participants. A description of how the communities were identified and/or how the engagement efforts had widespread reach are described in the Engagement Outcomes.

CDOT roadway signage for Excellence in Safety in Work Zones.

Motorcyclists on the San Juan Skyway near Ridgway, C.

ENGAGEMENT OUTCOMES

Engagement Steps

The HSO has partnered with numerous organizations to produce meaningful engagement with affected communities.

Engagement Efforts Conducted

The following engagement efforts were designed and conducted to reach affected communities.

Colorado Department of Public Health and Environment (CDPHE) Collaboration

CDPHE has partnered with the HSO and local communities to increase understanding of traffic safety issues and improve capacity to implement prevention strategies to reduce crashes, serious injuries and fatalities through data analysis, education, communication and partnership development.

CDPHE staff develop the annual Colorado Problem Identification dashboard and statewide Perspective Report to educate community partners on trends and emerging issues in traffic safety. The Injury Epidemiologist facilitates training and presentations to task forces, coalitions and other professional groups to better understand how to use the data to inform prevention priorities and conducts ad hoc data requests for specialized analyses not provided by these data sources.

Colorado Task Force on Drunk and Impaired Driving (CTFDID)

The mission of the CTFDID is to support the prevention, awareness, enforcement and treatment of drunk and impaired driving in Colorado through strong partnerships with public, private and non-profit organizations.

The CTFDID creates a forum for victims and advocates to access and leverage experts and resources to combat drunk and impaired driving. The CTFDID also acts as a resource for the legislature, enabling it to consider more cohesive, well-thought-out proposals.

The CTFDID meets monthly and produces an Annual Report for the Colorado Legislature.

Occupant Protection Task Force

The statewide Occupant Protection Task Force mobilizes and engages partners and stakeholders in an effort to educate on challenges to the current traffic safety environment.

Motorcycle Operator Safety Advisory Board (MOSAB)

MOSAB was created through legislative action to:

- Recommend training methods to increase safety and reduce motorcycle crashes and injuries
- Recommend training methods to increase program effectiveness
- Recommend improvements to the program and training
- Make recommendations on expenditures of fund moneys

The Board is made up of motorcycle vendors, retail motorcycle dealers, third-party testers, instructor training specialists, riders, law enforcement (LE) and insurance providers.

2022 Driving Behavior Survey

CDOT conducts a yearly survey of Colorado residents to inform operations, assess trends, and better understand attitudes and behaviors of the State's drivers. The summary of results is shown in **Table 2-1: 2022 Driving Behavior Study Results**.

Table 2-1: 2022 Driving Behavior Study Results

Value	Survey Response
3/4	Colorado drivers said they used their phone (hands-free or handheld) while driving a moving vehicle.
1/5	Colorado drivers said they drove a motor vehicle within two hours of drinking alcoholic beverages.
9/10	Colorado drivers agreed it was their responsibility to ask others riding in their vehicle to wear a seat belt
3/4	Motorcycle riders in the State said they wear a helmet all of the time when they ride.
8%	Motorcycle riders said they never wear a helmet.
33%	Colorado drivers indicated that they never use their phone while driving.
82%	Drivers aged 24-34 were most likely to say they used their phone while driving.
9%	Colorado drivers said they use their phone all the time when their vehicle is fully stopped.
21%	Colorado drivers said they drove a motor vehicle within two hours of drinking alcoholic beverages.
3%	Colorado drivers said they drove within two hours of using prescription medications that might impair their driving or within two hours of using alcohol and another drug together.

Source: www.codot.gov/safety/assets/surveys/2022-driving-behavior-survey.pdf

Strategic Transportation Safety Plan (STSP)

Colorado's STSP 2020-2023 establishes a collaborative and shared vision for transportation safety across the State. The plan was led collaboratively by CDOT, CDPHE, Colorado State Patrol (CSP) and Colorado Department of Revenue (CDOR). Regional stakeholders were integral to identifying focus areas and corresponding strategies.

The agreed upon vision is zero deaths and serious injuries so all people using any transportation mode arrive at their destination safely. The mission is for Colorado agencies and partners to cooperatively implement strategies that eliminate transportation system fatalities and serious injuries.

The plan identified 15 high priority strategies to achieve set targets to reduce serious injuries and fatalities. Several key strategies call for the development of a safety coalition to pursue legislative and policy changes, formalizing roles and responsibilities and coordinating across different safety programs. To achieve these top strategies, CDOT's Traffic Safety and Engineering Branch is leading the development of a new initiative called Advancing Transportation Safety (ATS). The initiative brings together State and local agencies and advocacy organizations to improve collaboration across sectors, enhance existing safety programs and develop innovative approaches to reaching vision zero. The intent is to create an umbrella program that aligns all transportation safety work across the State. Ultimately, the STSP is a guiding document for the initiative while specific safety plans developed under CDOT, or partner agencies, are components of the larger statewide effort.

The ATS is organized around the Safe Systems Approach which was adopted by the U.S. Department of Transportation (USDOT) as a guiding framework to address transportation safety.

The Safe System Approach is a holistic approach to safety through five complementary components:

1. **Safe Roads**: Design roadways to promote safe driving behaviors and mitigate human error.
2. **Safe Vehicles**: Employ innovative vehicle technology to help to prevent crashes and reduce the severity of crashes.
3. **Safe People**: Enable people to make safer decisions when behind the wheel or using alternative transportation modes.
4. **Safe Speeds**: Promote safer speeds in all roadway environments through a combination of thoughtful, equitable, context-appropriate roadway design, targeted education, outreach campaigns and enforcement.
5. **Post Crash Care**: Increase survivability of crashes through swift access to appropriate medical care and preventing secondary crashes through well-orchestrated traffic incident management.

Figure 2-1: ATS Emphasis Areas

Each component works together to prevent crashes from occurring and to minimize the severity of crashes that do occur. ATS adopted the following Emphasis Areas that integrate the Safe Systems Approach and the STSP focus areas:

Safe Roads: Enhances design of the built environment to facilitate safe trips for all modes and roadway users. Design features should mitigate human mistakes, reduce crash severity, encourage safe driving behaviors and create safe space for vulnerable users.

Safe People: Improves safety for vulnerable roadway users (bicyclists, pedestrians, motorcyclists, young and elderly drivers, road crews and first responders) through roadway design, education and policy.

Safe Driving: Addresses the top contributing behaviors to fatal and severe crashes including impaired, distracted and reckless driving and speeding.

Post Crash Care: Identifies strategies to increase survivability of crashes through swift access to appropriate medical care and preventing secondary crashes through well orchestrated traffic incident management.

Safety Culture: Cultivates a social environment that prioritizes safety, values the goals of Vision Zero and embraces Safe System Approach principles.

HSO has been actively involved in the development of the ATS and is a key partner in standing up the Safe Driving and Safety Culture Emphasis Areas.

A goal of the ATS is to increase collaboration and cooperation across all sectors that work in the transportation safety space. To achieve this goal, there has been a concerted effort to expand outreach and partner with non-traditional groups to achieve vision zero through Emphasis Area workshops.

The intent of the workshops was to learn about existing safety initiatives and brainstorm new actions and priorities to pursue based on the latest crash data. **Table 2-3: Organizations Involved in ATS**, lists all the entities participating in ATS.

Table 2-2: Emphasis Area Workshop Data

Emphasis Area Workshops hosted by ATS	Participants	Agencies and organizations
9	82	15

Table 2-2: Emphasis Area Workshop Data, summarizes number of workshops, participants and agencies/organizations involved. **The workshops resulted in 50 high priority actions to be pursued by partner agencies.** The next steps are to identify which actions and activities are eligible for National Highway Traffic Safety Administration (NHTSA) funding and expand upon the priority actions.

Table 2-3: Organizations Involved in ATS

Organization	Executive Committee	Steering Committee	Emphasis Areas
• CDOT	✓	✓	✓
• CSP	✓	✓	✓
• CDPHE	✓	✓	✓
• CDOR	✓	✓	✓
• Colorado Department of Education	✓	✓	✓
• Colorado Department of Public Safety	✓	✓	✓
• Federal Highway Administration (FHWA)	✓	✓	✓
• NHTSA	✓	✓	✓
• American Automobile Association (AAA)	✓	✓	
• Colorado Local Technical Assistance Program (LTAP)	✓	✓	
• Colorado Judicial Branch	✓	✓	✓
• Western Colorado Contractors Association	✓	✓	
• Colorado Motor Carriers Association	✓	✓	
• Bicycle Colorado	✓	✓	
• Southern Ute Indian Tribe	✓	✓	
• Mothers Against Drunk Driving (MADD)	✓	✓	
• Students Against Destructive Decisions (SADD)	✓	✓	
• Southern Colorado Institute of Transportation Technology (SCITT)	✓	✓	

Source: CDOT Strategic Highway Safety Plan (SHSP)

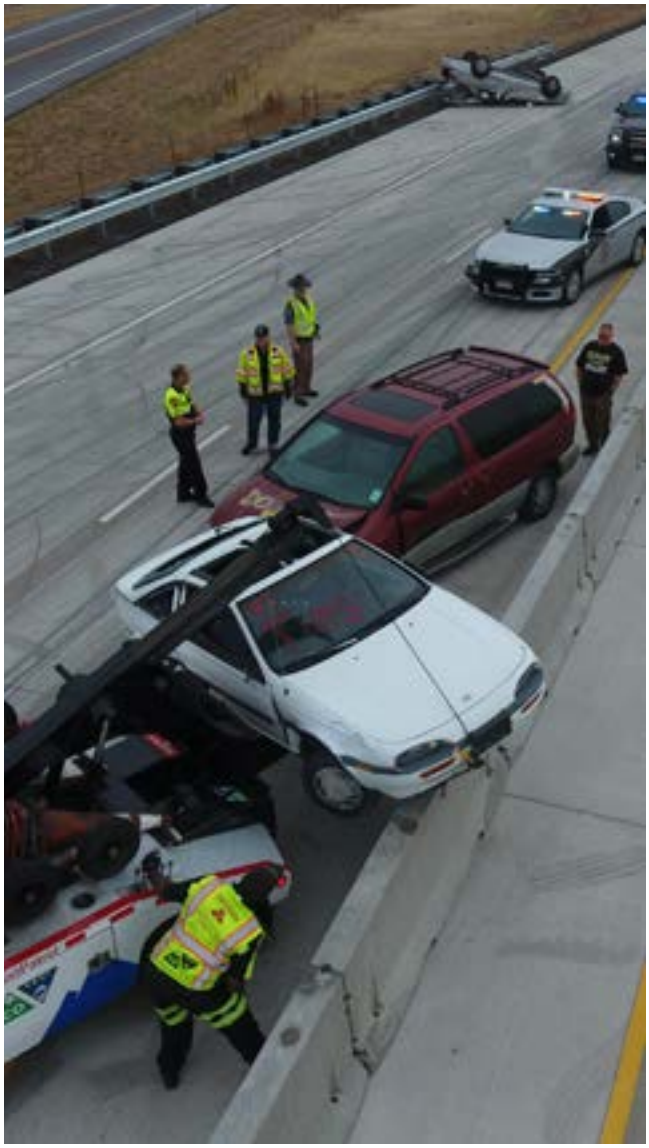
Traffic Safety Summit

HSO and the Traffic Safety and Engineering Branch have partnered to host the annual Traffic Safety Summit which brings together safety practitioners across all disciplines to discuss key safety issues across Colorado and to present innovative approaches and best practices to improve safety on all roadways for all users. In 2022, the summit welcomed roughly 150 participants. In 2023, CDOT is expecting upwards of 250 participants across the State.

The theme of the 2023 Summit is Safety Culture. Safety Culture is foundational to shifting the trend in severe roadway crashes by targeting the underlying causes of traffic violence. Safety Culture is defined by USDOT as "the shared values, actions, and behaviors that demonstrate a commitment to safety over competing goals and demands." CDOT has partnered with Montana State University's Center for Health and Safety Culture to evaluate Colorado's Safety Culture and identify actions and strategies that will cultivate the shared values around safety.

HSO Funded Entities

The HSO has engaged with and funded entities throughout Colorado in community level projects. These projects engage with and seek feedback from stakeholders and incorporate that feedback into activities that best serve the needs identified by the communities. These engagement efforts are funded through the HSO, who has input in the action planning and deliverables for these projects. These projects were funded for the past three-year funding cycle and efforts will continue in the new funding cycle.



Traffic Incident Management (TIM) training facility.

Task Number: 22-01-09

- **Program Name**: Chaffee County Youth Impaired Driving Prevention Project
- **Contractor**: Chaffee County Human Services - Family and Youth Initiatives

This project addressed performance measures: C-5. Reduce the number of fatalities in crashes involving a driver or motorcycle operator with a Blood Alcohol Content (BAC) of .08 and above.

The project impacted the performance measure and the results were:

- **The Listen Longer media campaign throughout Chaffee County reached a minimum of 5,000 residents** through the development of an interactive art display and saturation of messaging through consistent and dynamic social media posts, youth and community member participation in radio ads, enhancement of website content, and relevant printed materials and newspaper ads addressing timely issues and data. Youth involvement has been critical to the success of the campaign as well as the consistent effort and passion of community members on the work group.
- **1,200 youth participated in 19 pro-social activities that focused on substance free activities and sober driving**, which were planned, hosted and managed by 15 youth members of the two teen councils representing all of Chaffee County.
- **The Social Host Ordinance (SHO) language was edited, and intricacies were evaluated** by the work group members to determine effectiveness. The members, along with 40 community members' input, determined the SHO remains relevant to reduce youth impaired driving and to acquire a professional to finalize the ordinance.

Task Number: 22-03-05

- **Program Name**: Eagle River Valley Safe Driving Efforts
- **Contractor**: Eagle River Youth Coalition

This project addressed performance measures: C-2. Reduce the number of serious injuries in traffic crashes, C-5. Reduce the number of fatalities in crashes involving a driver or motorcycle operator with a BAC of .08 and above and C-9. Reduce the number of drivers age 20 or younger involved in fatal crashes.

The goal of this project is to prevent traffic crashes that cause serious injuries and fatalities among young drivers by increasing access to young driver education and safety messages, improving family communication and expectations related to young driver safety, conducting media campaigns, increasing diverse stakeholder engagement, examining system barriers and inequities that impact young drivers, and completing environmental scan of policies, enforcement and consequences related to young drivers and youth substance access and use.

The project impacted the performance measures and the results were:

- **Colorado's Graduated Drivers Licensing Program (GDL) Presentations reached 154 attendees, 133 youth and 11 adults.** From post surveys, 92% reported increased knowledge after the presentation. Youth survey respondents who recalled, correctly, GDL laws were 100% for underage substance use, 83% for State curfew, 66% for no cell phone use, 75% for passengers in the first six months and 58% for passengers in the second six months.
- **One driver's license workshop was held that reached 14 adults and two youth**, with almost all attendees leaving with the proper documents prepared and an already made appointment at a Department of Motor Vehicles (DMV).

- **Safe driving messages were maintained through the organization's website** (196 unique viewers), social media (six posts reached 330 accounts), eight external bus advertisements, 52 long-term signs, presence at four community events, a high school safe driving fair (750 youth attendees) and a youth produced Public Service Announcement (PSA) (68 viewers). 41% of post-GDL presentation survey respondents recalled seeing a cannabis focused message (posted primarily on buses), and 70% recalled a "sober & alert" message (posted primarily on long-term signs at school parking entrances).
- **Data assessment activities were completed that included the local Healthy Kids Colorado Survey (HKCS)** (3,332 youth in total, 1,961 9th-12th grade youth), Community Parent Survey (423 adults), and post-GDL presentation surveys (24 respondents). Results from 2019 to 2021 HKCS indicated fewer youth are driving impaired from alcohol, from 7.2% to 6.3% and from marijuana, from 21.8% to 6.7%. Youth reported decreased past thirty-day alcohol use from 33.4% to 32% and marijuana use from 19% to 14.6%. Youth reported increased perceptions of wrong/very wrong for peer alcohol use from 62.6% to 65.5% and peer marijuana use from 65% to 68.5%. From community parent survey respondents, 40% would be in support of a social host ordinance whereas 23.5% were not sure and 19% would need more information to decide.
- **Stakeholder engagement was maintained through two youth advisors that represented Hispanic and LGBTQ+ youth**. Two steering committee meetings were held with representatives from four agencies, parents and youth.
- **One compliance check was completed with four identified establishments of concern. None passed compliance**. All met with LE, the town clerk and an investigator from the CDOR, who were informed of zero tolerance for any more infractions and referred to training.
- **Responsible server training reached 163 servers** from local establishments.
- **Alternative transportation options were maintained with establishments** encouraging their patrons to use free bus passes and one event transportation option provided from an event producer.
- **Staff maintained involvement in the CO Young Driver's Alliance**, attending all the meetings, and served on a panel at the statewide conference.
- **A local policy review, as well as review of system inequities, has been conducted related to young driver safety and youth substance access and use**. Reviews have occurred around access to driver's license education and services, inconsistent local curfew laws, alternative transportation access and options and policies related to social and commercial access. A community champion has been identified to support policy development and education.

Task Number: 22-03-06

- **Program Name**: Denver Booster and Seatbelt Engagement (BASE) Program and Denver Teen Safe Streets (TSS) Program
- **Contractor**: City and County of Denver: Denver Department of Transportation and Infrastructure (DOTI)

BASE and TSS projects both addressed performance measures: C-1. Reduce the number of traffic fatalities, C-4. Reduce the number of unrestrained passenger vehicle occupant fatalities, all seat positions, C-5. Reduce the number of fatalities in crashes involving a driver or motorcycle operator with a BAC of .08 and above and C-9. Reduce the number of drivers age 20 or younger involved in fatal crashes.

The project impacted the performance measures and the results were:

- **The BASE Program participated in 26 community events promoting Child Passenger Safety (CPS) and adult seat belt use** with a Fiscal Year (FY) reach of 2,532 people, with a direct engagement count of 1,127 people.

- **The BASE bilingual Quarterly Newsletter was distributed to more than 15 community partners** and provided to parents/caregivers at community events.
- **The BASE team partnered with Swedish Medical and AAA to implement a CPS Education Program** to provide CPS education sessions (virtual and in-person), complimentary car/booster seats and hands-on CPS instruction to families vetted through community partners.
- **Additional funding was secured from AAA to provide CPS devices to families** within the City and County of Denver.
- **The CPS Education Program sponsored 11 events offering CPS education to 128 families**, provided 135 CPS devices and completed 167 car seat checks for families.
- **The CPS Education Program administered pre- and post-surveys to capture participant change in knowledge and program effectiveness**. For parents and caregivers that attended educational sessions between May and September 2022, there was a 45% increase in identifying correct tightness of a five-point harness, 34% increase in identifying when a child can safely use a seat belt only and 11% increase in identifying how long a child should remain rear-facing.
- **The BASE Program staff along with their Swedish Medical partner helped create The Car/Booster Seat Voucher Program for Child Passenger Safety Technicians** (CPSTs). Six CPSTs received 43 CPS devices to distribute to families.
- **During FY22, TSS Program participated in four community events** with a total outreach of 823 youth and direct engagement count of 301.
- **TSS Youth Advisors presented at Denver's 2022 Safe City Youth Summit** where they hosted a session engaging with 58 youth to increase youth's knowledge on GDL and promoted transportation safety.
- **TSS Youth Advisors interacted with 225 teens** at a Denver West High School event to promote young driver and multimodal transportation safety and educate teens on the GDL Program.
- **The TSS Team hosted a youth focus group in partnership with DOTI's Vision Zero Program** to engage with youth and gain feedback on their GDL knowledge, young driver behaviors, and transportation safety concerns within the City and County of Denver.
- **The TSS Program used the social media platform Instagram to increase awareness for young drivers** and multimodal transportation safety and increased following from 125 to 149 followers.

Task Number: 22-03-12

- **Program Name**: Vision Zero Motorcycle, Pedestrian, & Bicycle Safety Awareness Program
- **Contractor**: City and County of Denver: DOTI

This project addressed performance measures: C-6. Reduce the number of speeding-related fatalities and C-7. Reduce the number of motorcyclist fatalities.

The goal of the Denver Vision Zero Speed Safety Program is to increase the number of people by 50% in Denver who are exposed to Vision Zero speed messaging as it relates to bicycle, pedestrian and motorcycle safety.

The project impacted the performance measures and the results were:

- **3,872 direct total community engagement through 30 in-person or virtual events** (through an engagement tracker). Approximately half of in-person events were located in DOTI Equity areas.
- **Nine social media marketing campaigns/ posts were conducted** throughout the year with a total reach of 111,682.
- **The Safe Travels survey was administered with 426 responses collected**. Results showed

56% of survey takers felt unsafe when traveling Denver roads, 36% felt it was safe to drive whatever speed allowed them to go with the flow of traffic, 39% said they were involved or knew of someone involved in a traffic crash and those involved experienced no or mild injuries and 90% said they frequently saw people speeding through their neighborhood or in other neighborhoods. The Safe Travels Survey was also translated into Spanish.

- **Two focus groups were held, one partnered with the TSS Program to hold a youth-based focus group with 13 attendees**. No attendees knew what Vision Zero was, but none were surprised about the high number of deaths. Teens expressed sadness about the number of deaths due to "very simple tasks like scanning" or "seat belts." At this focus group, teens discussed how comfortable they were to tell their friends or family that their driving habits are unsafe. When asked what the most common way of getting into a car crash was, teens said drinking and smoking, being on a phone or being distracted.
- **The Safe Travels focus group had nine participants made up of community members**. Participants commonly shared concerns as pedestrians and cyclists due to drivers being distracted, the desire for better designed streets and better access to both public and active modes of transportation. When asked about speeding and behavior many participants said impatience, lack of consequences/LE and street design as the biggest contributing factors. Participants also stated that they went above the speed limit because it felt dangerous to go slower than the speed of traffic due to other drivers' inattention and aggressiveness.
- **The Safe Speeds Coalition was created with five members** who met twice during the year to create questions for the focus group to learn and understand behaviors.
- **Event activities were developed and implemented to educate and engage with the community** such as spin wheel questions, How Did You Get Here? Poster and "Pinky Promise" Vision Zero pledge.

Additionally, new materials were developed that have yet to be deployed, including:

- **Vision Zero educational poster** focused on facts and tips related to impaired driving, distracted driving, seat belt use and speeding. This messaging was informed by survey results and focus group participant answers, and talking points that were most effective during in-person engagements.
- **Social media graphics and templates that will be used for promoting safe travel behaviors** like seat belt use and slowing down.
- **Safe Routes to School safety coloring pages** that include multimodal safety topics around seat belt safety, safety around school zones and helmet fit.

Denver Vision Zero Action Plan (2022)
Building on Denver's Vision Zero efforts, the Denver Vision Zero Action Plan (2022) is embracing the Safe System Approach and Mobility Justice.

"The Safe System Approach is founded on the principles that humans make mistakes. In a Safe System, those mistakes should never lead to death. Applying the Safe System Approach involves anticipating human mistakes by designing and managing road infrastructure to keep the risk of a mistake low; and when a mistake leads to a crash, the impact on the human body doesn't result in a fatality or serious injury." (FHWA)

Mobility Justice is "a vision for a world rooted in social justice where people feel safe existing on the streets and can build lives experiencing the full joy of movement regardless of their race, gender, religion, background or physical ability." Mobility Justice is a recognition that privileged groups have benefited from our primarily car-based transportation system at the expense of marginalized communities. It is an acknowledgment that transportation decisions have created winners and losers along race and class lines.

Formation of an Equity in Transportation Safety Advisory Committee, which would complement the current Vision Zero Technical Advisory Committee. This committee will build upon the Diverse and Inclusive Voices (DIVO) Committee that was upheld through the development of the Denver Moves Everyone (DME) plan.

The committee will be comprised of people of color, people that speak a language other than English as their first language, people who live in areas of high inequity as defined by the City and County of Denver and those that are low-income and those that are local leaders in the fields of social inequity, environmental justice and mobility justice. Building off the success of DIVO voices through DME, participants should be paid for their time.

Task Number: 22-03-13

- **Program Name**: Gunnison County Substance Abuse Prevention Project (GCSAPP)
- **Contractor**: Gunnison County

This project addressed performance: C-5. Reduce the number of fatalities in crashes involving a driver or a motorcycle operator with a BAC of .08 and above.

The goal of this project is to increase safety by addressing the root causes of alcohol-impaired driving through the implementation of population-level primary prevention strategies that reduce excessive alcohol use.

The project impacted the performance measure and the results were:

- **Leveraged the social hosting ordinance created in 2021** and disseminated information in online social media campaign, through Choice Pass youth and parent platforms and in newspaper ads.
- **Collected data through youth and parent survey and Healthy Kids Colorado Survey**, shared data presentation on youth impaired driving rates, youth perception of harm and youth past thirty-day binge drinking rates with stakeholders.
- **Organized community discussions in Crested Butte/Gunnison on impaired driving and other high-risk behaviors** using the socioecological model with coalition members to gain qualitative data and discuss solution focused concerns. Created presentations/ materials to share with stakeholders.
- **Conducted hot spot mapping of Driving Under the Influence (DUI) charges across the county and overlaid data on a heat map**. This data will be used to conduct focus groups/ one-on-one interviews with those who were ticketed to understand why individuals are choosing to drink and drive to help with solutions such as more transportation, more food services, weather, lack of understanding of buzzed driving, etc.
- **Implemented two drivers education courses for Gunnison High school students** with a total number of 43 students successfully completing the program.
- **Worked with Crested Butte Community school to build support for Driver Education classes** for Spring of 2023 and classes in conjunction with the Crested Butte Community School starting January 2023.
- **Increased awareness of impaired driving through Don't Blow it Campaign** through Crested Butte and Gunnison Newspapers, Travel CB and on social media.
- **Two university youth worked with GCSAPP to help with social norming messaging**, hotspot mapping and hosting substance free events for youth.

Accessibility Measures

The following accessibility measures are implemented by the State in its outreach efforts and in conducting engagement opportunities:

- **Section 508 of the Rehabilitation Act**: All State agencies in Colorado are required to comply with HB21-1110 Colorado Laws For Persons With Disabilities (oit.colorado.gov/accessibility-law). This Plan will be Section 508 compliant when published.
- **Meetings**: Meetings are conducted virtually and in-person. In-person meetings are rotated around the State.
- **Translation Services**: Translation services are offered for webinars and CPS materials are available in Spanish and English, and Car Seats Colorado has educational materials available in 15 languages. An English and Spanish video series is available, as well: How to Install a Car Seat Right — in 15 Languages (www.codot.gov/safety/carseats/for-technicians/installing-car-seats)

Driver in the process of installing car seat.

ENGAGEMENT RESULTS

Engagement Participants

On January 18, 2023, CDOT hosted an informational webinar on the HSO Grant Program. Leading up to the webinar, the Project Team utilized the STSP email list to promote the event, invitations about the event were sent out on December 22, 2022, and January 9, 2023, to over 500 people resulting in 147 people attending the webinar from 101 unique organizations across the State. See **Appendix A: Request for Applications (RFA) Webinar Attendee Summary** for full list of organizations that registered.

After the event, a follow-up email was sent on January 27, 2023, to the entire contact list with a link to watch the recorded webinar, three-page PDF document providing general information about the grant program, and a link to sign up for office hours and/or technical assistance with the grant application. 11 organizations signed up for office hours assistance.

This RFA outreach leveraging the STSP contact list resulted in 13 new applications for HSO funding. Three new community projects were a direct result of outreach and engagement efforts conducted through the HSO. These projects are located in rural, underserved sectors of Colorado that are overrepresented in serious injury and fatalities. This included listening and technical assistance sessions, data gathering and assistance with project development. Five new LE agencies were also funded.

Engagement Summary

The grant funds for the HSO program are made available through the Bipartisan Infrastructure Law (BIL) and are awarded to projects that have the ability to reduce the number of deaths and serious injuries resulting from traffic crashes on Colorado roads. Applications must be able to identify a highway safety issue supported by data, establish baseline and performance measures and detail how the project will impact one or more of the 14 core performance measures, as shown in **Table 2-4: List of Performance Measures**.

Applications are for projects that begin October 1, 2023 and run through September 30, 2024. This application will be for a three-year grant period. The first year grant cycle will begin on or after October 1, 2023. The application will require a three-year long term goal and a one-year objective and work plan with a one-year budget. Funding for the second and third years in the three-year funding cycle will be based on satisfactory performance, adherence to the program specifications, the availability of funding and the submission of required second and third year application and budget updates.

This funding cycle, three new applications were funded:

- Family, Career and Community Leaders of America (FCCLA)
- Pikes Peak Area Council of Governments (PPACG)
- San Luis Valley (SLV) P.R.O.M. (Prevention, Raising Awareness, Oath, Maintain the Community Safe)

Table 2-4: List of Performance Measures

ID	Performance Measure Name
C-1	Reduce the number of traffic fatalities
C-2	Reduce the number of serious injuries in traffic crashes
C-3	Reduce the fatalities per Vehicle Miles Traveled (VMT)
C-4	Reduce the number of unrestrained passenger vehicle occupant fatalities, all seat positions
C-5	Reduce the number of fatalities in crashes involving a driver or motorcycle operator with a BAC of .08 and above
C-6	Reduce the number of speeding-related fatalities
C-7	Reduce the number of motorcyclist fatalities
C-8	Reduce the number of unhelmeted motorcyclist fatalities
C-9	Reduce the number of drivers aged 20 or younger involved in fatal crashes
C-10	Reduce the number of pedestrian fatalities
C-11	Reduce the number of bicyclist fatalities
C-12	Reduce the number of distracted drivers involved in fatal crashes
C-13	Reduce the number of drivers aged 65 and older involved in fatal crashes
C-14	Fatalities involving a driver or motorcycle operator testing positive for equal or greater than nanograms (ng) of Delta 9 tetrahydrocannabinol (THC)
C-15	Percentage of Model Inventory of Roadway Elements (MIRE) Fundamental Data Elements (FDE) intersection data collected
C-16	Reduce the number of fatalities involving a worker in Work Zones
B-1	Observed seat belt use for passenger vehicles, front seat outboard occupants (survey)

Family, Career and Community Leaders of America (FCCLA)

Colorado FCCLA has a strong presence in the State, with a total membership of 1,931 student members across 100 chapters located in 36 different counties. These counties include Adams, Arapahoe, Baca, Boulder, Broomfield, Conejos, Costilla, Delta, Denver, Douglas, Eagle, El Paso, Elbert, Fremont, Grand, Jefferson, La Plata, Larimer, Las Animas, Logan, Mesa, Moffat, Montezuma, Montrose, Morgan, Otero, Phillips, Pitkin, Prowers, Pueblo, Rio Blanco, Summit, Teller, Washington, Weld and Yuma.

FCCLA's project will focus on implementing peer-to-peer traffic safety projects in schools across Colorado, with a specific emphasis on these counties. By utilizing the FCCLA Families Acting for Community Traffic Safety (FACTS) program, students will conduct a comprehensive community assessment to identify the most pressing traffic safety concerns in their respective areas. They will gather data on local traffic crash statistics, road conditions, driver behaviors and other relevant factors. With this information, they will develop and implement evidence-based projects and interventions to address these concerns, engaging and empowering young people to take an active role in promoting traffic safety.

Pikes Peak Area Council of Governments (PPACG)

PPACG has compiled and mapped crash data for the member area, which includes El Paso, Teller and Park Counties, and has made that data publicly available at Regional GIS & Planning Data (www.arcgis.com). Data from 2015 to 2019 show that there were 65,791 known vehicle crashes. About 69% of these resulted only in property damage. However, there were 337 fatalities and 1,337 serious injury crashes during that period. Within PPACG's three-county boundary, 70.14% of all crashes reported from 2015 to 2020 occurred within Disproportionately Impacted (DI) Communities, as defined by the CDPHE. In addition, 64.56% of fatal and serious injury (KSI) crashes took place within DI Communities. There were 277 fatal crashes in DI Communities from 2015 to 2020, accounting for 64.87% of fatal crashes in the region.

Recognizing worsening trends in traffic safety, in 2022 PPACG launched a Community Traffic Safety Education Review project. The goal of the review was to identify existing traffic safety education efforts in the Pikes Peak region as well as challenges, opportunities and gaps. This review, conducted by Tetra Tech, revealed that the Pikes Peak Region is suffering from a lack of coordination in safety activities. The traffic safety ecosystem in the local region is fragmented. Distracted driving, aggressive driving and excessive speed were brought up by nearly all stakeholders as major concerns. Though many of the top traffic issues are being addressed by LE agencies and nonprofits, stakeholders felt that the lapse in activity from Drive Smart Colorado (DSCO) caused a loss of momentum in terms of getting organizations to work together cohesively. El Paso, Teller and Park counties span a large geographic region and contain both rural and urban communities with a wide variety of drivers and road conditions.

This project will fund a DSCO Safety Champion. DCSO is a community-based traffic safety program with an active Board of Directors and established by-laws. The steering committee it founded was comprised of partners from various cross sections of the community, including area LE agencies, traffic engineering, public health, education, insurance agencies, military installations, local businesses, hospitals, emergency medical services, non-profit community coalitions (Colorado Springs SAFE KIDS, MADD, Think First) and concerned citizens. DSCO has also been active in State-wide programs such as the Teen Motor Vehicle Leadership Alliance and the Injury Community Planning Group and Child Fatality Review Committee. DSCO was a co-founder of the Pikes Peak Region DUI Task Force, a multi-agency LE task force comprised of representatives from each of the region's 10 LE agencies within the 4th Judicial District, including the District Attorney's Office, Metro Crime Lab and Memorial Health System.

PPACG and DSCO understand that typical messaging and traditional means of communication may not be the most appropriate for certain communities. The Safety Champion will be tasked to reach out to established organizations to partner with them to craft appropriate safety education messages and communication platforms, as well as engaging teens in disproportionally impacted communities to help craft teen driving messages to incorporate into the previously mentioned resource guide.

Established organizations include, but are not limited to:

- RISE Coalition
- El Paso County Health Department
- Solid Rock Community Development Corporation
- Colorado Springs Black Chamber of Commerce
- Thrive
- Colorado Springs Hispanic Chamber of Commerce
- Transforming Safety, SE Colorado Springs

As the designated Metropolitan Planning Organization (MPO) for the region, PPACG is guided by federal Title VI and environmental justice mandates. PPACG strives to not only meet these mandates, but to create an overall transparent and inclusive planning process. PPACG has a specific Title VI and Environmental Justice Plan as well as a Limited English Proficiency Plan, which details PPACGs actions to address the needs of minority populations so the benefits and burdens of transportation are fairly distributed and ensures the public involvement process has no barriers that would prevent successfully engaging minority populations in regional decision-making. This effort would integrate and align with these established plans and comply with the 49 Code of Federal Regulations 27.

San Luis Valley (SLV) P.R.O.M. (Prevention, Raising Awareness, Oath, Maintain the Community Safe)

SLV is an underserved population, due to geographical isolation, educational levels, poverty levels and substance abuse issues. The economic profile of the region mainly consists of agriculture, tourism and an active regional governmental center. Three of the six counties are designated as frontiers, with fewer than a population average of six people per square mile. About half of SLV residents are Hispanic. The estimated median annual household income in the region is $33,660, compared to the Colorado median of $55,735. The percent of children living in poverty is extremely high, ranging from 29% to 45%, in five of six counties. Approximately, 27% of residents are uninsured and many rely on Medicaid for access to health care or other government assistance in order to provide food and/or shelter for their families.

Young children are behind the wheel at a very early age in order to help in the ranch and fields. These vehicles can be trackers, trucks and old vehicles that may not be safe for a small child. Road rage is well known within the community and accounts for one of the highest 911 calls reported within the valley. Aggressive driving has increased throughout the years and especially through backroads and smaller towns, which have led to serious injuries, vehicular homicide and other vehicular victimizations. These are cultural behaviors that characterize the community within SLV, and a problematic issue seen in community youth. This project will target high school-age students between the ages of 13-20, in addition to individuals that will receive education during community events and through social media.

Through the SLV Regional Emergency Trauma Advisory Council (RETAC) and the SLV Special Response Unit, the project will create a collaboration and unite agencies and communities within their county in order to provide injury prevention, safety and awareness to the high school students prior to P.R.O.M. and through community events.

ONGOING ENGAGEMENT PLANNING

State's Goals for the Public Engagement Efforts

To identify and to partner with disadvantaged and overrepresented communities experiencing serious injury and fatal crashes to implement safety countermeasures.

Identification of Affected and Potentially Affected Communities

Disproportionately Impacted (DI) Communities

The HSO conducted an extensive process of identifying overrepresented groups in the 2017-2021 fatal crash data and to identify DI Communities that are exposed to high frequency of KSI crashes.

Four data sources were used to identify DI Communities that are exposed to high crash frequency:

1. **To evaluate crash frequency, KSI crash data listings provided by CDPHE were used**. The most recent five years of data were considered, i.e., 2017 to 2021 data. Statewide crash data listings are also provided from 2007 to 2020 at the CDOT website.
2. **To evaluate more detailed information on the profile of victims of fatal crashes, the Fatality Analysis Reporting System (FARS) data from NHTSA was used**. The most recent five years of data were considered, i.e., 2017 to 2021 data.
3. **The data on DI Communities was provided as a shapefile from the CDPHE**. The proposed DI Community definition takes into account share of low-income population, housing cost-burdened share of the population, share of people of color, share of linguistic isolation, communities with a history of environmental racism (self-reported by the communities), results from the EnviroScreen3 tool (developed by CDPHE), and from the Justice40 tool (developed by the National Council on Environmental Quality). The EnviroScreen tool and the Justice40 tool currently evaluates geographies using data from the 2015-2019 American Community Survey (ACS) five year estimates. Therefore, the DI Community designation is based on 2019 census data. The 2015-2019 ACS five-year estimates use 2010 geographies, which corresponds to 3,532 Census Block Groups (CBGs) and is also used on the proposed definition of DI Communities.
4. **To be consistent with the DI Communities evaluation census data, this analysis also uses the 2019 ACS five-year estimates for population references**. The 2019 ACS data also represents the midpoint of the crash data evaluation period and provides a good reference point for population estimates. Census data was obtained from the Census data explorer website. In particular, tables *B01001 Sex by Age, S0101 Age snd Sex,* and *DP05 ACS Demographic and Housing Estimates* were used to obtain 2019 ACS five-year estimates cited in this technical memorandum.

A three-step methodology was used to identify DI Communities that are exposed to high crash frequency. The steps and the results are as follows:

Step 1: Identify the profile of traffic fatalities

- Hispanic people represent a larger share of the traffic fatalities sample, when compared to the general population.
- When comparing those distributions with the general State population, results indicate an over-representation of men and individuals between 20 and 39 years old among the traffic fatalities.

Step 2: Identify DI Communities

The methodology proposed by CDPHE identifies 1,571 CBGs that are DI Communities. Those areas represent 41.8% of the State's population. A comparison of the crash distribution and population distribution across areas of DI Communities indicate that a larger share of the KSI crashes occur in CBGs identified as having more than one DI Community category (32.4%) compared to the population living in those areas (26.2%).

Step 3: Spatially identify DI Communities exposed to high KSI crash frequency

The comparison of the share of census block groups in each crash frequency category (quartile) in DI Communities and non-DI Communities shows that while DI Communities represent only 36.7% of the CBGs with low crash frequency (1st quartile), they represent more than half of the CBGs with high crash frequency (4th quartile), indicating that DI Communities are more likely to be exposed to high crash frequencies, when compared to non-DI Communities. 566,635 people (10.1% of Colorado's population) live in DI Communities that are exposed to high KSI/population crash frequencies.

Overall crashes in DI Communities exposed to high frequency of KSI/population crashes show similar patterns to crashes in other parts of the State. As the quartiles were defined at the CBG level, the number of crashes in the first quartile was very low (113 crashes), due to many CBGs experiencing no KSI crashes at all. 9,524 crashes (65% of all KSI crashes) were identified in CBGs in the 4th quartile (25% of CBGs with highest KSI/population). Of the 4th quartile crashes, 4,740 crashes (32% of all KSI crashes) occurred at DI Communities. Noticeably, crashes involving non-motorized vehicles (bicyclists and pedestrians) represent a larger share of crashes in high frequency DI Communities (19%) when compared to crashes at other locations (14%). Crash distributions across years, and contributing human factors are very similar. The share of DUI and speeding in both groups were also within 2% of each other. Motorcycles were present in 18% of crashes in high frequency DI Communities and in 22% of crashes in other locations. 56% of crashes in high frequency DI Communities occurred in urban settings, while that share is 46% in the rest of the State. No significant difference was observed regarding the age of the first driver.

See **Appendix B: DI Communities Evaluation** for the detailed identification process, maps, figures and references.

Colorado Department of Public Health and Environment (CDPHE) Priority Populations

Through extensive research, CDPHE staff identified three priority populations for engagement in the planning, implementation and evaluation of motor vehicle safety initiatives.

The three priority populations include:

1. Colorado young drivers
2. Communities of color
3. Rural and frontier communities across the State

These three priority populations were identified through literature reviews and use of secondary data sources such as the HKCS, FARS and various case studies involving the priority populations noted. From the available data and research, CDPHE recognized that young drivers, communities of color, and rural and frontier populations across Colorado are all disproportionately impacted by motor vehicle crashes and fatalities compared to other populations across the State. While the three priority populations help narrow the scope of which communities experience a higher burden of crashes and fatalities, CDPHE staff seek to further narrow the scope of these priority populations by identifying specific communities in Colorado to engage with first, such as those that correlate with a specific identity or set of identities, those who are a part of a single organization or institution or those who live in a specific region, county or city.

From the insight gained through data and research, CDPHE staff began to piece together what information they had regarding the three priority populations as well as what information was still missing. In conversations with established community partners across the State, it became clear that community voices, the value of lived-experience and qualitative data are largely absent in existing motor vehicle-related research and data sources. Much of the existing data and research related to young driver safety and motor vehicle safety among communities of color and rural and frontier populations focuses on quantitative data that concentrates solutions that operate downstream. Not only does this create silos across existing traffic safety efforts, but also dictates the narrative of those experiencing disproportionate rates of crashes and fatalities in their communities.

The lack of community voice and lack of representation of those with lived experience in traffic safety data, research and ongoing efforts is a missing piece to reaching zero deaths and serious crashes on our roadways. CDPHE staff aim to address this gap by building trust and lasting relationships with community members through equitable practices such as sharing ownership and power over traffic safety initiatives, working with community members to make meaning of traffic safety data and engaging communities in ways that are authentic, meaningful and relevant for them.

Community Outreach and Engagement Steps

Disproportionately Impacted (DI) Communities

The next steps in identifying affected and potentially affected communities include:

1. A maintenance of the crash dataset
2. Frequent re-evaluation of crash
3. Demographic patterns

New census data from 2020 and later can shed light on how DI Communities have shifted during and after the pandemic. Updated crash data will also reflect new traffic patterns in recent years and potential effects of the policies implemented since the data in this analysis was collected.

Potential adjustments to the methodology include incorporating additional data sets to enhance understanding of the profile of the persons involved in KSI crashes. Trauma and hospital data, for example, have the potential to uncover more details of those communities that are disproportionately affected by traffic incidents. Traffic volumes and travel behavior data, such as household travel surveys, can shed light on the exposure level of different communities in terms of vehicle miles traveled. Additionally, further evaluation into the highest crash frequency locations could be an option to help prioritize communities. For example, instead of the fourth quartile, the 85th percentile could be used to address the 15% highest crash frequency communities.

Additionally, next steps in identifying DI Communities affected by high exposure to fatal and severe crashes should acknowledge the heterogeneity of the groups identified in this step. Many of the communities identified in the presented preliminary step have unique crash patterns and are exposed to unique behaviors that should be addressed carefully.

The identification of these locations is the first step of engagement, and it should be followed with community involvement in both identifying the local specific problems, as well as potential solutions that are appropriate and pertinent to each of those communities.

To begin to reach and to partner with these communities, the HSO plans to identify champions in five of the identified DI Communities to initiate engagement, using accessible measures and to schedule listening sessions in order to understand the issues potentially impacting behaviors resulting in higher crash frequencies experienced by those communities.

Colorado Department of Public Health and Environment (CDPHE) Priority Populations

Over the next three years, CDPHE staff intend to authentically connect with community members that identify as young drivers, Black, Indigenous and People of Color (BIPOC) and those living in rural and frontier areas of the State. Methods of connecting with community members in these populations will include hosting focus groups and listening sessions, attending community-driven events and conducting direct outreach with community leaders and members in ways that they identify as meaningful and relevant for them.

Incorporation of Community Input

The affected communities' comments and views will be incorporated into the decision-making process.

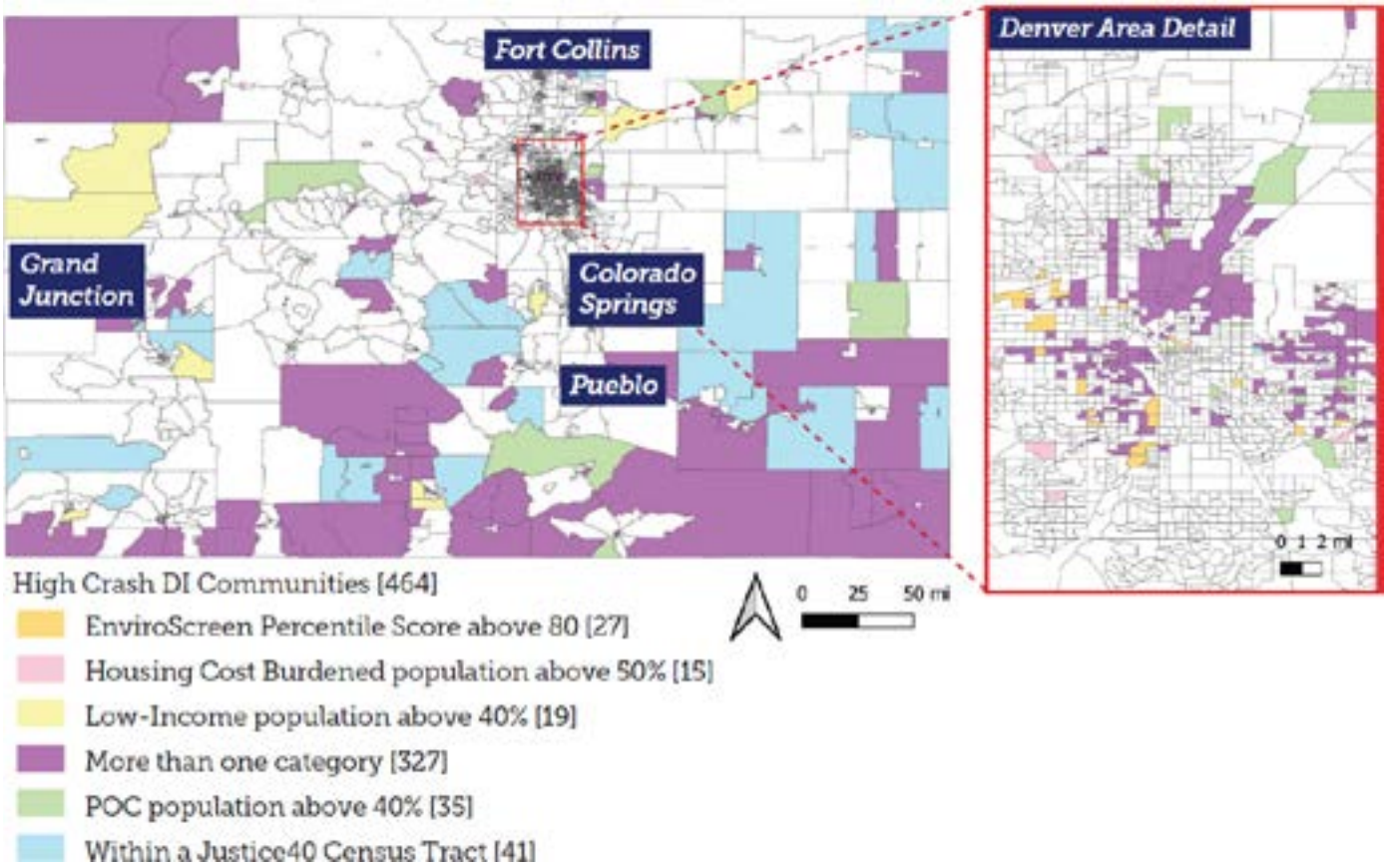
Disproportionately Impacted (DI) Communities

Lessons learned from listening sessions with the focus DI Communities will inform potential countermeasure strategies and organizations that can be resources for implementation. HSO will also reflect on these efforts to improve the engagement and reach more DI Communities in the following years.

Colorado Department of Public Health and Environment (CDPHE) Priority Populations

Input from community members impacted by disproportionate rates of motor vehicle crashes and fatalities is already something that CDPHE staff have incorporated into existing motor vehicle safety efforts involving young drivers, communities of color and rural and frontier populations. In coalition spaces such as the Colorado Young Driver's Alliance (CYDA), community members are not only a part of any project or initiative from start to finish, but are consulted as experts on the challenges, issues and successes of their communities. CDPHE staff plan to continue the practice of engaging community members as partners in the work through sharing power in decision-making processes, sharing ownership over development, implementation and evaluation of motor vehicle safety projects and initiatives and regarding community voices and those with lived-experience as subject matter experts in this work.

Figure 2-2: Denver Area Detail of High Crash DI Communities



3. PERFORMANCE PLAN

DATA-DRIVEN, QUANTIFIABLE AND MEASURABLE HIGHWAY SAFETY PERFORMANCE TARGETS

In order for the Highway Safety Office (HSO) to direct funds to the highest and best use, the HSO relies on the results of the annual Problem Identification report and the following data sources including: Fatality Analysis Reporting System (FARS) Data, crash data, judicial impaired driving data, citation data, arrest data, annual seat belt survey, Colorado Department of Public Health and Environment (CDPHE) Blood Alcohol Content (BAC) Data, blood analysis data, previous program performance data, population data, vehicle miles traveled (VMT), vehicle registration data, the behavioral risk surveys (Healthy Kids Colorado, Youth Risk Behavior Survey), the Colorado Health Information Dataset and the motorcycle safety training data.

addition, the HSO recognizes the need to further engage with the traveling public and roadway users to better understand the impact of serious injury crashes and traffic fatalities in their local communities. The HSO will involve community partners and stakeholders through public participation, including listening sessions, engagement opportunities and the annual traffic safety summit. The HSO will conduct outreach efforts to underserved communities and communities overrepresented in the crash data.

Office of Communications (OC) Motorcycle Awareness campaign asking drivers to look twice to save a life.

The HSO uses data gleaned from these engagements to answer the following key questions: Where are the State's most urgent behavioral traffic safety challenges? Which roadway users are most likely to be involved in a crash? Are there particular segments of the roadway user population that are overrepresented in crashes? Where should the HSO direct crash and fatality prevention funds and for what types of activities? The HSO also utilizes the expertise of various State mandated task forces including the Colorado Task Force on Drunk and Impaired Driving (CTFDID), State Traffic Records Advisory Committee, the Motorcycle Operator Safety Advisory Board (MOSAB), the Emergency Medical Trauma Services Injury Prevention Group, the Colorado Young Driver's Alliance (CYDA), the Persistent Drunk Driver Committee and the Marijuana Education Oversight Committee. The HSO has also convened an Occupant Protection Task Force.

To establish the targets for the following performance measures, the CDPHE and HSO coordinated analysis of the crash data through various methods including Locally Estimated Scatterplot Smoothing (LOESS) regression and a polynomial regression line to create best fit curves. These analyses assisted CDOT in establishing five-year performance measure targets for the three common performance measures and one year targets for the remaining performance measures. As part of CDOT's safety initiative, "Whole System, Whole Safety", which focuses on three safety pillars (Behavior – Organization – Built), CDOT has set an aggressive goal to reduce total vehicle crashes by 2%. While the HSO does not submit a total vehicle crashes performance target to National Highway Traffic Safety Administration (NHTSA), CDOT believes this new effort will contribute to overall traffic safety improvement.

TRAFFIC SAFETY PERFORMANCE MEASURES FOR STATES AND FEDERAL AGENCIES

Data-Driven Performance Measure and Performance Target

At least one performance measure and performance target that is data-driven is provided for each program area identified by the State during the planning process that enables the State to track progress toward meeting the quantifiable annual target. **Table 3-1: Performance Measure and Performance Target** provides a performance measure and a data-driven performance target for each program area (shown on the following page).

Performance Area Measures

For each program area performance measure, the State provides the current safety levels, based on the most currently available data and quantifiable performance targets.

Highway Safety Plan (HSP) and Strategic Transportation Safety Plan (STSP) Performance Target Concurrence

State HSP performance targets are identical to the State DOT targets for common performance measures (fatal and serious injury (KSI) crashes) reported in the Highway Safety Improvement Plan (HSIP) annual report, as coordinated through the State Strategic Highway Safety Plan (SHSP).

Table 3-1: Performance Measure and Performance Targets

ID	Performance Measure Name	Period	Start Year	End Year	Value	2024-2026
C-1	Total traffic fatalities*	Annual	2023	2024	660	660
C-2	Serious injuries in traffic crashes (State)	Annual	2023	2024	3,356	3,200
C-3	Rate of fatalities by VMT (State)	Annual	2023	2024	1.24	1.1
C-4	Unrestrained passenger vehicle occupant fatalities, all seat positions*	Annual	2023	2024	Maintain at 226	210
C-5	Fatalities in crashes involving a driver or motorcycle operator with a BAC of .08 and above*	Annual	2023	2024	Maintain at 216	200
C-6	Number of speeding-related fatalities*	Annual	2023	2024	Maintain at 289	254
C-7	Number of motorcyclist fatalities*	Annual	2023	2024	Maintain at 148	130
C-8	Number of unhelmeted motorcyclist fatalities*	Annual	2023	2024	Reduce to 71	69
C-9	Number of drivers aged 20 or younger involved in fatal crashes*	Annual	2023	2024	Reduce to 100	90
C-10	Number of pedestrian fatalities*	Annual	2023	2024	Maintain at 94	94
C-11	Number of bicyclists fatalities*	Annual	2023	2024	Maintain at 15	12
C-12	Fatalities involving a distracted driver*	Annual	2023	2024	Reduce to 68	65
C-13	Drivers 65 or older involved in fatal crashes* (at fault)	Annual	2023	2024	Reduce to 100	95
C-14	Fatalities involving a driver or motorcycle operator testing positive for equal or greater than 5 nanograms (ng) of Delta 9 tetrahydrocannabinol (THC)*	Annual	2023	2024	Reduce to 90	85
C-15	Increase percente of records, transferred from Colorado State Patrol (CSP) to Colorado Department of Revenue (CDOR), without errors in five critical data elements	Annual	2023	2024	10%	20%
C-16	Number of fatalities involving a worker in Work Zones	Annual	2023	2024	Maintain at 10	8
B-1	Observed seat belt use for passenger vehicles, front seat outboard occupants (survey)	Annual	2023	2024	89%	92%

**FARS Data*

ADDITIONAL PERFORMANCE MEASURES

Table 3-2: Evidence-Based Traffic Safety Enforcement Program (TSEP)

Unique Identifier	Planned Activity Name
Fiscal Year (FY)24 Public Relations	Communications and Outreach
FY24 Impaired Driving High Visibility Enforcement (HVE)	Impaired Driving HVE
FY24 Occupant Protection HVE	Sustained Occupant Protection HVE

Analysis of Crashes

Analysis of crashes, crash fatalities and injuries in areas of highest risk and deployment of resources

Motor vehicle crashes remain a leading cause of death in Colorado, the total number of motor vehicle fatalities increased by 10% from the previous year, from 691 deaths in 2022 to 761 (preliminary) deaths in 2022. A similar pattern occurred for fatalities related to young drivers involved in fatal crashes and pedestrian fatalities. Speed-related fatalities increased significantly from 202 in 2021 to 289 (preliminary) in 2022, a 31% increase. This increase mirrors a nationwide trend of increased traffic fatalities.

Motor vehicle fatality data:

- **Among the people who died in an occupant motor vehicle crash, 49% were not wearing a seat belt**. There were 226 (preliminary) unrestrained motor vehicle occupant fatalities in 2022, up from 222 in 2021.
- **Alcohol-impaired driving fatalities were involved in 31% of all fatalities**. In 2021 (best data available), 216 motor vehicle deaths resulted from crashes involving an alcohol-impaired driver, a 13% increase from 2020.
- **The number of speed-related fatalities in 2022 (preliminary) was 289**, a 31% increase from the 2021 speed-related fatalities of 202.
- **Fatalities in rural areas increased in 2022 (preliminary) to 301, from 295 in 2021, a 2% increase**. Urban fatalities in urban areas increased from 396 in 2021 to 460 in 2022 (preliminary), a 14% increase.
- The counties with the highest number of traffic fatalities in 2021 (best data available) were: **El Paso (77), Denver (68), Adams (65), Jefferson (52) and Arapahoe (51).**

The HSO's TSEP for Occupant Protection, Impaired Driving and Speed is based on a problem identification analysis that identifies areas of the State that are overrepresented in crashes and fatalities involving impaired driving, unrestrained occupants and excessive speed. The HSO sets targets in the HSP every year to reduce the number of fatalities and serious injuries from motor vehicle crashes in Colorado.

Based on the fatality crashes that took place on Colorado public roadways during 2022, **Table 3-3: Fatal Crash Factors** comprised most fatalities (preliminary):

Table 3-3: Fatal Crash Factors

Speeding fatalities	Unrestrained fatalities	Alcohol-impaired driver fatalities (2021 data)
289	226	193

When locations are identified that are overrepresented in these areas, the HSO, through the Law Enforcement Coordinator (LEC), the Local Law Enforcement Liaisons (LEL) and the HVE Coordinator contact law enforcement (LE) in the identified areas to form enforcement partnerships. The LEC and LEL monitor performance on all HVE grants including data entry that includes number of citations/arrests. Regular monitoring of all HVE activities, including cost per ticket, overtime activity and monitoring of agency policies and procedures to ensure compliance with federal regulations. This is completed by the LEC and LEL and recommendations for continued funding are based on these factors. Working with the enforcement partners the OC develops outreach and awareness programs to make the public aware of the enforcement.

As part of a comprehensive public outreach effort to foster effective community collaboration, ensure transparency and identify traffic enforcement disparities, the HSO will:

- **Encourage agencies participating in HVE events provide education to the affected community** regarding the type of enforcement, the data supporting the need for the enforcement and provide a feedback loop for public comment.
- **CTFDID will host public task force meetings in four areas of the State** to solicit feedback and increase community engagement.
- **The Occupant Protection Task Force will continue to solicit new members, stakeholders and community partners** with a focus on underserved and overrepresented communities.
- **The HSO will apply for the Racial Profiling Data Collection Grant**. If awarded the HSO will have data analysis to identify and address disparities in traffic enforcement.

Measures and Outcomes

- A-1. Number of seat belt citations issued during grant-funded enforcement activities (grant activity reporting)

  Number of seat belt citations issued in 2022: 2,593

- A-2. Number of impaired driving arrests made during grant-funded enforcement activities (grant activity reporting)

  Number of impaired driving arrests made in 2022: 3,354

- A-3. Number of speeding citations issued during grant-funded enforcement activities (grant activity reporting)

  Number of speeding citations issued in 2022: 11,038

Occupant Protection Enforcement

- **In 2022 (preliminary) among the people who died in an occupant motor vehicle crash, 226**, or 49%, were not wearing a seat belt.
- **The estimate of overall statewide seat belt usage for all vehicle types in 2022 was to 87%**, which remains below the national average of greater than 90%.
- **Of particular interest, 11 counties demonstrated a usage rate of at least 90%**, with another twelve counties in the 80% to 90% range. The five counties with the highest usage rates were Grand (96%), Garfield (96%), and Arapahoe, Denver and Eagle each at 93%.
- The five counties rated the lowest in seat belt compliance, **Jefferson, and Weld at 80%, Fremont (78%), Chaffee (69%) and Pueblo (67%)**.

The HSO supports the click-it-or-ticket May Mobilization and Child Passenger Safety (CPS) Week national mobilizations. The Colorado State Patrol (CSP) provides statewide enforcement year-round, in addition to the two weeks of enforcement during May. In addition to the CSP, local LE agencies are recruited and provided with overtime funding for May

Mobilization. While all local LE agencies are encouraged to apply for overtime enforcement funding, allocations are made through problem identification with consideration to the number of unrestrained fatalities, serious injuries and the seat belt compliance rate of an area, along with the past performance of the agency during the campaign.

In addition to May Mobilization, the HSO supports an additional two weeks of occupant protection enforcement statewide during March and July. Further details and locations for these events are detailed in Section S405B of the Annual Application.

Impaired Driving Enforcement

- **In 2021, alcohol-impaired driving fatalities were involved in 31% of all fatalities**. In 2021 (best data available), 1,893 motor vehicle deaths resulted from crashes involving an alcohol-impaired driver.
- **In 2021, the five counties with the highest number of fatalities in crashes involving a driver or motorcycle operator with a BAC above 0.08 were: Denver (24), Adams (22), Weld (22), El Paso (20) and Jefferson**. Colorado LE agencies participate in all seven national HVE campaigns as well as five other statewide HVE campaigns during the year. These HVE enforcement campaigns have been created to address events in the State that have an impact on impaired driving-related motor vehicle crashes and fatalities.

LE agencies apply for HVE funding and are selected using FARS and other data sources to identify the areas with a high number of impaired driving-related crashes and fatalities. Agencies deploy their resources at their discretion during the enforcement periods, using local data to determine enforcement strategies as to location, day of week, time of day, etc. LE agencies report their activity through narrative reports and report arrest and citation data on the readily available CDOT "Heat Is On!" website.

Further details and locations for these events are detailed in the Annual Application S405D section.

Speed Enforcement

- **In 2022 (preliminary) there were 289 speeding-related fatalities**, corresponding to a 31% increase in speeding-related fatalities from 2021.
- In 2021, the counties with the highest number of speeding-related fatalities were: **Denver (20), Jefferson (19), Adams (17), Larimer (16) and Weld (15).**

LE agencies participating in Colorado's HSO Speed Enforcement Programs are identified through a problem identification analysis. LE agencies in the Speed Enforcement Program work closely with the HVE Coordinator to create enforcement plans that include officer performance standards, project baselines and goals, an evaluation plan and a night-time speed enforcement element.

Effectiveness of Monitoring

The LEC, LELs and HVE Coordinator monitor performance on all HVE grants including data entry that includes number of citations/arrests. Regular monitoring of all HVE activities, including cost per ticket, overtime activity, etc. is completed by the LEC and LEL and recommendations for continued funding are based on these factors. Adjustments to funding are made after examination of each HVE event to ensure funds are utilized in a cost-efficient manner. If agencies are not meeting specified expected performance targets the LEC and LELs work with the local agencies to make adjustments to and provide suggestions on how to improve performance. Working with the enforcement partners, the OC develops outreach and awareness programs to make the public aware of the enforcement and to track effectiveness of the outreach (media impressions, surveys, etc.).

High-Visibility Enforcement (HVE) Strategies

Planned HVE strategies to support national mobilizations:

Table 3-4: Countermeasure Strategy

Countermeasure Strategy
Communication Campaign
Impaired Driving HVE
Short-Term, HVE Seat Belt LE

HVE planned activities that demonstrate the State's support and participation in the National HVE mobilizations to reduce alcohol-impaired or drug impaired operation of motor vehicles and increase use of seat belts by occupants of motor vehicles:

Table 3-5: HVE Planned Activities

Unique Identifier	Planned Activity Name
FY24 Impaired Driving HVE	Impaired Driving HVE
FY24 Occupant Protection HVE	Sustained Occupant Protection HVE
FY24 Speed Enforcement	Sustained Speed Enforcement

HVE events are designed to deploy LE resources in areas identified through problem identification as having high incidents of impaired driving, speeding and low seat belt compliance. These HVE events are designed to deter these driving behaviors by increasing the perceived risk of arrest or citation on Colorado roadways. HVE events are highly publicized prior, during and after the event. This strategy is part of a comprehensive, evidence-based effort to reduce the prevalence of high risk behaviors on Colorado roadways.

In 2024, the Impaired Driving HVE includes the participation of multiple Colorado LE agencies, both State and local, in 12 HVE campaigns that are conducted through the HSO. These HVE events include media campaigns prior, during and after the enforcement events to inform the public regarding the upcoming enforcement activities as well as inform them of the outcomes.

The enforcement activities are designed by the participating agencies using problem identification, approved by the HSO, and include strategies such as saturation patrols, increased patrols and multi-jurisdictional task forces for activities and checkpoints.

Recipients

- Local LE
- CSP

4. COUNTERMEASURE STRATEGY FOR PROGRAMMING FUNDS

PROBLEM IDENTIFICATION AND COUNTERMEASURE STRATEGY

To address the traffic safety challenges on Colorado's roadways, the Highway Safety Office (HSO) completes a robust problem identification process and solicits input and feedback through a series of public engagements. Extensive outreach efforts to the State and local traffic safety communities are utilized to target areas with persistent traffic safety issues. This includes outreach through various task force meetings, strategic planning listening and planning sessions as coordinated through the Advancing Transportation Safety (ATS) and other HSO engagements.

Solicitation of applications and projects is completed through a statewide Request for Proposal (RFP), to identify projects that are data driven, evidence based and employ countermeasure strategies. Applications are reviewed by panels of subject matter experts including representatives from the Colorado Department of Public Health and Environment (CDPHE), traffic stakeholders and partners and HSO staff. Applications are evaluated on their ability to impact statewide and local problem areas, as identified in the Problem Identification report and also supported by local data and their ability to impact performance measures and performance targets.

Glenn Davis, CDOT Highway Safety Manager, talks about the training law enforcement (LE) officers must undergo to become Drug Recognition Experts (DREs) during a panel presentation at the Fort Collins Community Town Hall.

For Fiscal Year (FY)24, the HSO released an RFP and solicited projects for a three-year funding cycle. For FY24 a new slate of diverse, upstream approach projects were funded, in addition to continuation projects that are impacting communities most impacted by traffic safety challenges.

COUNTERMEASURES LIST

The following Program Areas address countermeasure citations as well as:

- Performance target(s) identification by countermeasure strategy
- Federal funds allocated for countermeasure strategy
- Project funding considerations to implement the countermeasure strategy
- Uniform guideline consideration in the countermeasure strategy

Program Area: Impaired Driving

Table 4-1: Description of Highway Safety Problems, 2021

Traffic fatalities	Fatalities involving a vehicle operator with a blood alcohol content (BAC) of .08 and above	Fatalities involving a vehicle operator testing positive for 5 nanograms (ng) Delta 9 tetrahydrocannabinol (THC) and above
691	216	92

Source: Most recent data available.

Table 4-2: Performance Measures Associated with Impaired Driving

Performance Measure
C-5. Number of fatalities in crashes involving a driver or motorcycle operator with a BAC of .08 and above
C-14. Fatalities involving a driver or motorcycle operator testing positive for equal to or greater than 5ng of Delta 9 THC

Countermeasure Strategy: Impaired Driving High Visibility Enforcement (HVE)

Project Safety Impacts and Linkage Between Program Areas

HVE events are designed to deploy LE resources in areas identified through problem identification as having high incidents of impaired driving. These events are designed to deter impaired driving by increasing the perceived risk of arrest on Colorado roadways. HVE events are highly publicized prior, during and after the event. Colorado's impaired driving-related fatalities (alcohol and cannabis) are consistently 30% and above of the total fatality number. This strategy is part of a comprehensive, evidence-based effort to reduce the prevalence of impaired driving-related injuries and fatalities.

Traffic fatalities involving an impaired driver represent a significant portion of Colorado's total traffic fatalities. HVE events are vital to roadway safety by publicizing the enforcement prior, during and after the event and vigorously enforcing impaired driving laws. Funding for this and all other strategies are distributed based on problem identification and agency capacity.

Rationale

- The rationale for selecting this countermeasure strategy is that it is an evidence-based countermeasure as identified in *National Highway Traffic Safety Administration (NHTSA) Countermeasures That Work, 10th Edition, 2020*.

Chapter 1. Alcohol- and Drug-Impaired Driving

- 2. Deterrence: Enforcement
- 2.2 HVE Saturation Patrols

The *NHTSA Uniform Guidelines for State Highway Safety Programs, Highway Safety Program* includes impaired driving and states that highway safety program should include an impaired driving component that addresses highway safety activities related to impaired driving. HVE events address this guideline.

Planned Activity: Impaired Driving HVE

Planned Activity Description
2023, impaired driving prevention activities include HVE in cities, counties and highways identified by problem identification as having a high propensity for impaired driving crashes and fatalities.

2023, the planned activities include:
The HSO will address impaired driving-related crashes and fatalities through HVE, on targeted roadways identified in the 2023 CDOT Problem Identification Report. The HSO has developed a project with an educational approach to combat impaired driving in the deadliest county in Colorado, El Paso County.

Table 4-3: Funding Sources for Impaired Driving HVE Planned Activity

FY24-26 Funding Source ID	Eligible Use of Funds	Estimated Funding Amount
164 Transfer Funds	Alcohol Enforcement	$2,805,000
NHTSA40d	Mid HVE	$825,000

Training, Judicial Support and Community Outreach

Project Safety Impacts and Linkage Between Program Areas

Training and Judicial Support are critical to Colorado's changing and complex impaired driving environment. These strategies are designed to train and support Colorado LE, prosecutors, the Colorado Judicial System and specialty courts. This strategy is part of a comprehensive, evidence-based effort to reduce the prevalence of impaired driving-related injuries and fatalities.

Impaired driving-related fatalities represent a significant portion of Colorado's total traffic fatalities. Training and judicial support are vital to roadway safety by providing tools and resources to LE and the judicial system to impact impaired driving in Colorado.

Rationale

The rationale for selecting these countermeasure strategies is its inclusion in the *NHTSA Uniform Guidelines for State Highway Safety Programs, Highway Safety Program Guideline No. 8 Impaired Driving*.

I. Program Management and Strategic Planning
Each State should include the following as part of its impaired driving program:

Task Forces or Commissions: Convene Driving While Impaired (DWI) task forces or commissions to foster leadership, commitment and coordination among all parties interested in impaired driving issues, including both traditional and non-traditional parties, such as highway safety enforcement, criminal justice, driver licensing, treatment, liquor law enforcement (LE), business, medical, health care, advocacy and multicultural groups, the media, institutions of higher education and the military.

B. Enforcement
To increase the probability of detection, arrest and prosecution, participating officers should receive training in the latest LE techniques, including Standardized Field Sobriety Testing (SFST) and selected officers should receive training in media relations and Drug Evaluation and Classification (DEC).

D. Prosecution
States should implement a comprehensive program to visibly, aggressively and effectively prosecute and publicize impaired-driving-related efforts, including use of experienced prosecutors (e.g., traffic safety resource prosecutors), to help coordinate and deliver training and technical assistance to prosecutors handling impaired driving cases throughout the State.

Planned Activity: LE/Judicial Training and/or Education

Planned Activity Description:

- **Support for the prevention, awareness, enforcement and treatment** of drunk and impaired driving in Colorado through strong partnerships with public, private and non-profit organizations.
- **Support to LE, prosecutors and other traffic safety professionals** throughout Colorado through a subject matter expert on traffic safety matters with a specific emphasis on impaired driving. This includes providing training and education, legal research, motions and trial support and direct assistance in the form of special prosecutor appointments.
- **Drug Recognition Expert (DRE) and SFST updates and instructor training** to LE in basic and advanced NHTSA Impaired Driving training programs.
- **Court monitoring will collect data to assist prosecutors, judges and LE** in identifying systematic strengths and weaknesses and assist in the development of community standards for Driving Under the Influence (DUI) adjudication in each judicial district.
- **Engage community and youth in developing positive social norming media campaigns**, facilitate youth councils engaged in substance use prevention advocacy and facilitate healthy pro-social events planned by and at no cost for teens of driving age and their parents.
- **Education and awareness of impaired driving by engaging in youth education and awareness** and providing alternative transportation options during specific festivals and events to reduce impaired driving.
- **Community-wide marketing campaigns and strategies to influence local policy**. Work with substance retailers to aid them with training in prevention best practices and accountability. Work with youth/young adults ages 14-25 through curriculum-based prevention education groups, teaching life skills to support positive decision-making and reduce impaired driving.

- **The HSO has applied for the S1906 Prohibiting Racial Profiling Data Collection funding.** If awarded, the HSO will develop a performance measure, a countermeasure strategy and activities for FY25. This will be provided as an update to the Triennial Highway Safety Plan through the Annual Grant Application.

Table 4-4: Funding Sources for LE/Judicial Planned Activity

FY24-26 Funding Source ID	Eligible Use of Funds	Estimated Funding Amount
405d Impaired Driving Mid	Mid Training	$2,256,360
405d Impaired Driving Mid	Mid Other	$1,675,308

Program Area: Traffic Enforcement Services

Description of Highway Safety Problems:
In 2022 (preliminary) there were 761 traffic fatalities in Colorado of those 289 involved speed, 226 involved an unrestrained occupant and 69 involved a distracted driver.

Table 4-5: Performance Measures Associated with Traffic Enforcement Services

ID	Performance Measure Name
C-1	Number of traffic fatalities
C-2	Number of serious injuries in traffic crashes
C-3	Rate of fatalities by Vehicle Miles Traveled (VMT)
C-4	Number of unrestrained passenger vehicle occupant fatalities, all seat positions
C-6	Number of speeding-related fatalities
C-12	Fatalities involving a distracted driver

Countermeasure Strategy: Sustained HVE

Project Safety Impacts and Linkage Between Program Areas

HVE events are designed to deploy LE resources in areas identified through problem identification as having high incidents of serious injury crashes and fatalities. This strategy is part of a comprehensive, evidence-based effort to reduce the number of serious injuries and fatalities on Colorado roadways involving drivers using excessive speed, unrestrained occupants and distracted drivers. These events are designed to deter dangerous driving behavior by increasing the perceived risk of citations on Colorado roadways.

Speed-related fatalities represent a significant portion of Colorado's total traffic fatalities. Sustained speed enforcement coupled with roadway engineers setting appropriate speed limits, are integral to reducing speed-related crashes and fatalities.

Unrestrained passenger vehicle occupant fatalities represent a significant portion of Colorado's total traffic fatalities. HVE events are vital to roadway safety by vigorously enforcing passenger restraint laws.

Distracted driving targeted enforcement and education directed to distracted drivers are designed to deploy LE and other educational resources in areas identified through problem identification as having high incidents of fatalities and serious injuries involving distracted driving. These education and enforcement events are designed to deter behavioral traffic violations committed by distracted drivers.

Rationale

The rationale for selecting this countermeasure strategy is that it is an evidence-based countermeasure as identified in the *NHTSA Countermeasures That Work, 10th Edition, 2020*.

Chapter 2. Seat Belts and Child Restraints

- Seat Belt Law LE
- Short-Term, HVE Seat Belt LE
- Sustained Enforcement

Chapter 3. Speeding and Speed Management

- Enforcement
- HVE

Chapter 4. Distracted Driving

- Laws and LE
- HVE for Cell Phone and Text Messaging

The *NHTSA Uniform Guidelines for State Highway Safety Programs, Highway Safety Program* includes Traffic Enforcement Services and states the highway safety program should include a traffic enforcement services program designed to enforce traffic laws and regulations and reduce traffic crashes and resulting fatalities and injuries. HVE events address this guideline.

Planned Activity: Occupant Protection HVE

Planned Activity Description:
In 2023 the Occupant Protection (Adult) HVE activities include: HVE, occupant protection enforcement activities in areas of the State identified as having a high propensity for traffic crashes and fatalities of unrestrained passenger vehicle occupants. This enforcement will coincide with statewide click-it-or-ticket events.

Planned Activity: Speed HVE

Planned Activity Description:
In 2023, the Speed Management Sustained Speed Enforcement activities include: HVE, speed enforcement activities in areas of the State identified as having a high propensity for speed-related crashes and fatalities and selected night-time enforcement episodes.

Planned Activity: Distracted Driving HVE

Planned Activity Description:
In 2023, the Distracted Driving HVE/Education planned activities include: HVE, distracted driving enforcement activities in areas of the State identified as having a high propensity for traffic crashes and fatalities involving a distracted vehicle operator. Multiple agencies involved will add an education element on the dangers of distracted driving.

Table 4-6: Funding Sources for HVE Planned Activity

FY24-26 Funding Source ID	Eligible Use of Funds	Estimated Funding Amount
NHTSA 402	Traffic Enforcement Services	$6,132,000
NHTSA 402	Safety Belts	$1,425,000

Program Area: Community Traffic Safety

Description of Highway Safety Problem:

In Colorado in 2022 preliminary data indicates there were 761 traffic fatalities. Those fatalities involved:

Table 4-7: Community Traffic Safety Data

Unrestrained passenger vehicle occupant	Driver aged 20 or younger	Distracted driver	Drivers 65 or older that were at fault in a fatal crash
226	105	69	103

Table 4-8: Performance Measures Associated with Community Traffic Safety

ID	Performance Measure Name
C-4	Number of unrestrained passenger vehicle occupant fatalities, all seat positions
C-9	Number of drivers aged 20 or younger involved in fatal crashes
C-13	Drivers 65 or older involved in fatal crashes (at fault)

Countermeasure Strategy: School and Community Based Programs

Project Safety Impacts and Linkage Between Program Areas

School- and community-based programs are designed to address challenges associated with novice drivers including impaired driving, distracted driving, seat belt use and Graduated Drivers Licensing (GDL). Other community challenges include efforts to address child passenger safety, booster seat and seat belt use in local communities and the special needs faced by older drivers. These strategies are part of comprehensive, evidence-based efforts to reduce the prevalence of drivers aged 20 or younger involved in fatal and serious injury crashes, reduce the number of unrestrained serious injury crashes and fatalities, and distracted driving and older driver-related fatalities.

Young drivers aged 20 or younger are overrepresented in Colorado's total traffic fatalities. Youth peer-to-peer programs are vital to protecting vulnerable young drivers by providing education and awareness. Lower than average seat belt use rates and high unbelted occupant fatality rates continue to be a challenge for many counties, both urban and rural, throughout Colorado. School-based programs are designed to help young drivers identify behaviors that cause them the greatest risk on the road and recognize that they have the ability and power to act upon and address them.

Child passenger safety, booster seat and seat belt education and awareness are part of a comprehensive, evidence-based effort to improve occupant protection statewide to reduce the prevalence of unrestrained injuries and fatalities.

Older Driver Education is designed to evaluate and adjust older driver training as necessary for the safe operation of their motor vehicles. LE agencies are provided training to properly identify circumstances and situations in which it is appropriate for an older driver to retest through the Colorado Department of Revenue (CDOR).

Drivers 65 years and older represent a significant portion of Colorado's total traffic fatalities. Older driver education is vital to providing information on safe driving practices, identifying and making proper adjustments for the operator, as well as providing transportation alternatives and the information to older drivers, caregivers, family members and LE. Funding for this and all other strategies are distributed based on problem ID.

Rationale

The rationale for selecting this countermeasure strategy is that it is an evidence-based countermeasure as identified in the *NHTSA Countermeasures That Work, 10th Edition, 2020.*

Chapter 1. Alcohol- and Drug-Impaired Driving

- 5. Prevention, Intervention, Communications and Outreach
- 6. Underage Drinking and Driving
- 6.5 Youth Programs

Chapter 2. Seat Belts and Child Restraints

- 3. Communications and Outreach
- 3.2 Strategies for Low Belt Use Groups
- 7. Other Strategies
- 7.1 School-Based Programs

Chapter 4. Distracted Driving

- 2. Communications and Outreach
- 2.1 Communications and Outreach on Distracted Driving

Chapter 6. Young Drivers

- 1. GDL
- 3. Parents

Chapter 7. Older Drivers

- 1. Communications and Outreach
- 1.1 Formal Courses for Older Drivers

The *NHTSA Uniform Guidelines for State Highway Safety Programs, Highway Safety Program* includes impaired driving, occupant protection, distracted driving, driver education and older drivers as components of a framework for developing a balanced highway safety program. The projects selected to address this countermeasure include these elements.

Planned Activity: Communications and Outreach

Planned Activity Description:
In 2024, communications and outreach activities will include education on occupant protection, child passenger safety, impaired driving and

distracted driver education, the GDL program and older driver education.

At the societal and systems level, programs providing education to the greater community and stakeholders about community risk factors that contribute to risky driving behaviors is a proven, effective strategy. Support will be provided to traffic safety partners through a variety of interventions including statistical data analyses, education and evaluation support, community engagement and partnership development and communication support and implementation of State traffic safety priorities.

Older driver programs include education awareness of alternate transportation options and car fit stations.

Table 4-9: Funding Sources for Community Traffic Safety Planned Activity

FY24-26 Funding Source ID	Eligible Use of Funds	Estimated Funding Amount
NHTSA 402	Teen Safety Program and Roadway Safety	$9,394,830

CDOT's Defeat Distracted Driving campaign sign asking drivers not to text while driving.

Program Area: Traffic Records

Description of Highway Safety Problems

The Colorado Traffic Records System continues to make improvements and is on par with many other states across the nation, but problems remain. Most databases still function as islands of information with limited data sharing and integration. Data remains inconsistent from one dataset to another, the quality of some data is questionable and accessibility to the data

is limited. The State Traffic Records Advisory Committee (STRAC) continues to work to solve these issues. Today more than ever, it remains vital for stakeholders to have reliable traffic records data upon which to make decisions concerning policy formulation and allocation of resources. Continuous improvements in data collection, accessibility and quality are required to keep pace with changing needs and technology.

Table 4-10: Performance Measures Associated with Traffic Records

ID	Performance Measure Name
C-15	Increase percentage of records, transferred from Colorado State Patrol (CSP) to Colorado Department of Revenue (CDOR), without errors in five critical data elements

Performance Measure FY 24+: Accuracy of Citation Data (year 1 + 2) followed by timeliness of Citation Data (year 3)

Performance Target details

Primary performance attribute: Accuracy

Core traffic records data system to be impacted: Citation/Adjudication

Countermeasure Strategy: Citation and Adjudication

Project Safety Impacts and Linkage Between Program Areas

The FY24 performance measure will measure accuracy of Citation data transferred from CSP to CDOR, measured as the percentage of citation records with no errors in 5 critical data elements. Citations are currently delivered manually by law enforcement agencies in Colorado. STRAC has established a task Force of Subject Matter Experts from state agencies involved in the citation/ adjudication process to modernize the transfer of information from officers to the systems for resolving the citation. Opportunities exist to improve not just the workflow of the initial data transfer, but also the accuracy and timeliness of the data. FY 24 will establish a baseline of records (by October 2023) followed by the development of a test environment to improve data accuracy. By 2026, data accuracy and timeliness will be the targets. Timeliness performance measure is the median or mean number of days from (a) the date of charge disposition to (b) the date the charge disposition is entered into the statewide adjudication database, or a first available repository.

The STRAC oversees the solicitation, application, review, approval, and recommendation of NHTSA 405c grant projects to improve traffic records. In past years, a request for project applications was sent to every police department throughout the state, as well as all STRAC members, who then passed on the request to any appropriate associates. There is a formal process which the STRAC undertakes annually to approve, conditionally approve, or reject projects and further provide rankings when projects exceed funding. The overall criteria is that proposed 405c projects must improve Colorado's traffic records systems. If they meet that criteria and meet the goals of this Strategic Plan, then the projects are usually accepted, if funding is available. If the STRAC review identifies that the project cost outweighs the return on the investment, or it solely benefits the sponsoring agency internally, then the proposed project is rejected and sent back to the applicant with guidance about the denial and a request for corrections or further clarification.

Rationale

The rationale for selecting this countermeasure strategy is the inclusion of the recommendation in the 2019 Traffic Records Assessment: Improve the data quality control program to reflect best practices identified in the Traffic Records Program Assessment Advisory.

Planned Activity: Traffic Records Improvements

Planned Activity Description:
For FY24 planned activities include continuation of a Traffic Records Coordinator, FARs Program Support, enhancements to crash data reporting systems and e-citation support.

Table 4-11: Traffic Records Performance Targets

E-Citation Test Environment followed by Citation Errors in CDOR database	E-Citations Timeliness
Annual	Three years
2024: Increase % of records without errors in five critical data elements by 10%	**2024**: 200 days
2025: Increase % of records without errors in five critical data elements by 20%	**2025**: 180 days

Table 4-12: Funding Sources for Traffic Records Planned Activity

FY24-26 Funding Source ID	Eligible Use of Funds	Estimated Funding Amount
NHTSA 405c	Traffic Records	$2,592,000

Program Area: Occupant Protection

Description of Highway Safety Problems:
In Colorado in 2022 preliminary data indicates there were 761 traffic fatalities of those 221 involved an unrestrained occupant and the 2022 seat belt survey estimated usage is 87%.

Table 4-13: Performance Measures Associated with Occupant Protection

ID	Performance Measure
C-4	Number of unrestrained passenger vehicle occupant fatalities, all seat positions

Countermeasure Strategy: Child Restraint System Inspection Station(s)

Project Safety Impacts and Linkage Between Program Area

Child Passenger Safety (CPS) inspection stations are designed to give parents and caregivers assistance from certified technicians on the proper fit of a child passenger restraint system. Certified Child Passenger Safety Technicians (CPSTs) and instructors provide information to the traveling public about proper seating positions for children and airbag equipped motor vehicles, the importance of restraint use and instruction on the proper use of child restraint systems. This strategy is part of a comprehensive, evidence-based effort to improve occupant protection statewide in order to reduce the prevalence of unrestrained injuries and fatalities.

Motor vehicle crashes are leading causes of death for children four years of age and older and for children under four. CPS inspection stations are vital to ensure the correct installation of child passenger seats to combat misuse of child restraint devices and to reduce serious injuries and fatalities among child motor vehicle passengers. Funding for this and all other strategies are distributed based on problem identification.

Rationale

The rationale for selecting this countermeasure strategy is that it is an evidence-based countermeasure as identified in the *NHTSA Countermeasures That Work, 10th Edition, 2020.*

Chapter 2. Seat Belts and Child Restraints
- 6. Communications and Outreach
- 6.2 Strategies for Child Restraint and Booster Seat Use

The *NHTSA Uniform Guidelines for State Highway Safety Programs, Highway Safety Program* includes Occupant Protection and encourages each State to have extensive statewide and community involvement in occupant protection education by involving individuals and organizations outside the traditional highway safety community. Representation from the health, business, and education sectors, and from diverse populations within the community, should be encouraged. Community involvement should broaden public support for the State's programs and increase a State's ability to deliver highway safety education programs. The projects selected to address this countermeasure include all these facets.

Planned Activity: CPS Inspection Stations

Planned Activity Description:
In 2023, CPS inspection station activities include increasing the number of child passenger safety technicians, child passenger safety inspections and increasing CPS awareness and education.

Table 4-14: Funding Sources for CPS Inspection Stations Planned Activity

FY24-26 Funding Source ID	Eligible Use of Funds	Estimated Funding Amount
NHTSA 402	Child Restraint	$2,636,400
405b	Community CPS	$1,100,000

Program Area: Motorcycle Safety

Description of Highway Safety Problems: In 2022, preliminary data indicates there were 761 traffic fatalities, of those, 148, or 19% were motorcyclist fatalities. Of those 148 fatalities, 75, or 50% were unhelmeted.

Colorado has a legislative mandated Motorcycle Operator Safety Advisory Board (MOSAB) which includes a HSO member. The member holds an executive leadership position and through this involvement provides input and direction on the Motorcycle Operator Safety Training (MOST), which is administered through the CSP. A member from the HSO management team represents Colorado motorcycle safety interests in an executive role on the State Motorcycle Safety Administrator(s) (SMSA) organization. The HSO utilizes funding to support media campaigns designed to increase motorist awareness of motorcycles on Colorado roadways and encourages motorcyclists to wear proper protective gear. The campaigns are developed through problem identification and disseminated to the public during peak motorcycle riding activity.

Table 4-15: Performance Measures Associated with Motorcycle Safety

ID	Performance Measure
C-5	Number of fatalities in crashes involving a driver or motorcycle operator with a BAC of .08 and above
C-7	Number of motorcyclist fatalities
C-8	Number of unhelmeted motorcyclist fatalities

Countermeasure Strategy: Communication Campaign

Project Safety Impacts

Communications and outreach campaigns for the general public are designed to educate, inform and provide resources to the public regarding the behavioral traffic safety challenges, related to motorcycle safety, on Colorado's roadways and efforts to address them. These campaigns also provide information regarding numerous HVE campaigns. These strategies are part of a comprehensive, overall traffic safety program and are designed to reduce fatalities and serious injuries on Colorado roadways. Communication and outreach campaigns are evidence-based activity countermeasures as identified in the *NHTSA Countermeasures That Work*.

Linkage Between Program Area

As Colorado motorcyclist fatalities continue to be a concern, a robust communication strategy is critical to create greater awareness among the traveling public. Communications campaigns are developed based on problem identification to address specific behavioral traffic safety challenges. Funding for this and all other strategies are distributed based on problem identification.

Rationale

The rationale for selecting this countermeasure strategy is that it is an evidence-based countermeasure as identified in the *NHTSA Countermeasures That Work, 10th Edition, 2020*.

Chapter 5. Motorcycle Safety

- 4. Communications and Outreach

The *NHTSA Uniform Guidelines for State Highway Safety Programs, Highway Safety Program* includes Motorcycle Safety and encourages each State address the use of helmets and other protective gear, proper licensing, impaired riding, rider training and motorist awareness. The outreach selected to address this countermeasure includes all these facets.

Planned Activity: Communications and Outreach

Planned Activity Description:
CDOT's Office of Communications (OC) supports the HSO and its grantees and partners with specialized assistance related to projects addressing motorcycle safety and motorist awareness of motorcycles.

Activities by the OC to address motorcycle traffic safety issues include:

- **Development and implementation of safety education campaigns for motorcycle safety** (including motorist awareness of motorcyclists and information/education on rider safety).
- Development and distribution of **news releases.**
- Development of relationships with statewide **media to encourage coverage of safety issues.**
- Execution of **newsworthy special events** and press conferences.
- Development of **materials for Hispanic audience** and Spanish language media.
- **Evaluation of campaign elements.**

Table 4-16: Funding Sources for Motorcycle Safety Planned Activity

FY24-26 Funding Source ID	Eligible Use of Funds	Estimated Funding Amount
405f Motorcycle Programs	Motorcyclist Awareness	$279,000
NHTSA 402	Paid Advertising	$420,000

Program Area: Media Communications

Description of Highway Safety Problems:
- Media Communications.
- Motor vehicle crashes are among the leading causes of death across the nation and in Colorado.

According to preliminary data, in 2022 there were:

- **226 unrestrained fatalities** (49% of all passenger vehicle occupant fatalities).
- **193 alcohol-impaired driver fatalities** (2021 data) (31% of all fatalities).
- **289 speed-related fatalities** (37% of all fatalities).
- **147 motorcyclist fatalities**, half of the motorcyclists who died in 2022 were not wearing a helmet.
- **105 drivers under the age of 21** were involved in fatal crashes.
- **115 pedestrian fatalities** (15% of all fatalities)
- **103 drivers aged 65 years** (at fault) were killed in crashes.
- The total number of motor vehicle fatalities in Colorado increased in 2022. There were **761 fatalities**, an increase of 10% from the previous year.
- The rate of fatalities per VMT in Colorado in 2022 increased to 1.40.
- **Fatalities in rural areas increased** in 2022 to 301 while fatalities in urban areas increased to 460.

The HSO incorporates data from the Fatality Analysis Reporting System (FARS), annual observed seat belt use survey results, the CDOR Crash Record file and VMT, in order to fund public relations campaigns that address the most serious behavioral traffic safety challenges.

Table 4-17: Performance Measures Associated with Highway Safety

ID	Performance Measure Name
C-1	Number of traffic fatalities
C-2	Number of serious injuries in traffic crashes
C-3	Rate of fatalities by VMT
C-4	Number of unrestrained passenger vehicle occupant fatalities, all seat positions
C-5	Number of fatalities in crashes involving a driver or motorcycle operator with a BAC of .08 and above
C-7	Number of motorcyclist fatalities
C-8	Number of unhelmeted motorcyclist fatalities
C-9	Number of drivers aged 20 or younger involved in fatal crashes
C-10	Number of pedestrian fatalities
C-12	Fatalities involving a distracted driver
C-14	Fatalities involving a driver or motorcycle operator testing positive for equal to or greater than 5ng of Delta 9 THC

Countermeasure Strategy: Communication Campaign

Project Safety Impacts

Communications and outreach campaigns for the public are designed to educate, inform and provide resources regarding the behavioral traffic safety challenges on Colorado's roadways and efforts to address them. These campaigns also provide information regarding numerous HVE campaigns. These strategies are part of a comprehensive, overall traffic safety program and are designed to reduce fatalities and serious injuries on Colorado roadways. Communication and outreach campaigns are evidence-based activity countermeasures as identified in the *NHTSA Countermeasures That Work*.

With several strong campaigns developed in 2021, the HSO will continue to focus heavily on media buys in 2023 to showcase the creative materials. In addition, media buys will be consolidated and reused to create additional efficiencies that will result in larger, public facing media campaigns. Finally, these campaigns will also continue to use earned media and stakeholder engagement to generate additional public awareness.

Linkage Between Program Areas

As Colorado fatalities continue to rise, a robust communication strategy is critical to create greater awareness among the traveling public. Communications campaigns are developed based on problem identification to address specific behavioral traffic safety challenges. Funding for this and all other strategies are distributed based on problem ID.

Rationale

The rationale for selecting this countermeasure strategy is that it is an evidence-based countermeasure as identified in the *NHTSA Countermeasures That Work*. All ten identified countermeasures include a Communications and Outreach element as an effective countermeasure.

Planned Activity: Communications and Outreach

Planned Activity Description:
The OC supports the Office of Transportation Safety (OTS), its grantees and partners with specialized assistance related to projects addressing occupant protection and impaired driving education and outreach. The OC conducts the high-visibility aspect of enforcement campaigns aimed at reducing fatalities, including the click-it-or-ticket seat

belt campaign and the "Heat Is On!" impaired driving campaign. Other major communications initiatives are teen driving, child passenger safety, motorcycle safety, distracted driving, and pedestrian safety. The projects included were chosen based on problem identification and requests from the OTS.

Activities by the OC to address occupant protection, impaired driving and other traffic safety issues include:

- **Development and implementation of ongoing media and public relations campaigns for HVE**, including Driving Under the Influence (DUI)/drugged driving and seat belt enforcement.
- **Development and implementation of safety education campaigns** for pedestrian safety and distracted driving and "Slow Down, Move Over" awareness.
- Development and distribution of **news releases.**
- **Development of relationships with statewide media** to encourage coverage of safety issues.
- **Development and implementation of a comprehensive social media strategy** through Facebook, Snapchat, Twitter and YouTube.
- **Execution of newsworthy special events** and press conferences.
- **Development of materials for Hispanic audience** and Spanish language media.
- **Execution of mass media messages** and campaigns which are culturally relevant for minority audiences.
- **Development and production of collateral materials,** including brochures, fact sheets, posters, flyers, print ads, radio spots and videos.
- **Fostering positive relationships with media**, grantees, task forces, coalitions and internal and external partners to expand safety education.
- **Development and maintenance** of campaign websites.
- **Placement of paid media** buys to reach campaign target audiences.
- **Evaluation of campaign elements**, including developing a methodology for evaluating increases in public awareness.

Table 4-18: Funding Sources for Media Communications Planned Activity

FY24-26 Funding Source ID	Eligible Use of Funds	Estimated Funding Amount
405d Impaired Driving Mid	Paid/Earned Media	$2,430,000
NHTSA 402	Paid Advertising	$3,975,000
405b Occupant Protection Low	Low HVE	$1,680,000
405h Preventing Roadside Deaths	Paid/Earned Media	TBD

Program Area: Pedestrians and Bicyclists

Description of Highway Safety Problems

In Colorado in 2022 preliminary data indicates there were 761 traffic fatalities.

Table 4-19: Pedestrian and Bicycle Fatalities

Pedestrians	Bicyclists
115	15

Table 4-20: Performance Measures Associated with Pedestrians and Bicyclists

ID	Performance Measure Name
C-10	Number of pedestrian fatalities
C-11	Number of bicyclists fatalities

Countermeasure Strategy: Pedestrian Enforcement and/or Education

Project Safety Impacts

Targeted enforcement and education are directed at drivers, pedestrians and bicyclists who are high risk for violations of traffic laws. Deploying LE and other educational resources in areas identified through problem identification as having high incidents of fatal and serious injury (KSI) crashes involving non-motorized roadway users is an effective strategy. These education and enforcement events are designed to deter behavioral traffic violations committed by all roadway users. Colorado's fatalities involving pedestrians and bicyclists are 165 of the total fatality number.

Linkage Between Program Areas

Fatalities involving a non-motorized roadway user represent a significant portion of Colorado's total traffic fatalities. Targeted enforcement and education is vital to protecting Colorado's most vulnerable roadway users. Funding for this and all other strategies are distributed based on problem ID.

Rationale

The rationale for selecting this countermeasure strategy is that it is an evidence-based countermeasure as identified in the *NHTSA Countermeasures That Work, 10th Edition, 2020.*

Chapter 8. Pedestrian Safety

- 4. All Pedestrians
- 4.4 Enforcement Strategies

Chapter 9. Bicycle Safety

- 1. Children
- 1.3 Bicycle Safety Education for Children

The *NHTSA Uniform Guidelines for State Highway Safety Programs, Highway Safety Program* includes Pedestrian and Bicycle Safety and encourages the highway safety program to include a comprehensive pedestrian and bicycle safety program that promotes safe pedestrian and bicycle practices, educates drivers to share the road safely with other road users and provides safe facilities for pedestrians and bicyclists through a combination of policy, enforcement, communication and education. The projects selected to address this countermeasure include these elements.

Planned Activity: Enforcement and/or Education

Planned Activity Description:
In 2022, non-motorized activities include enforcement of traffic safety laws committed by pedestrians, motorists or other roadway users that create a dangerous traffic situation. The enforcement in cities, counties and highways identified by problem identification as having a high propensity for crashes and fatalities involving pedestrians. LE will also educate on best practices for pedestrian safety. Other activities include training youth and adults in bicycle safety.

Table 4-21: Funding Sources for Pedestrian and Bicyclist Planned Activity

FY24-26 Funding Source ID	Eligible Use of Funds	Estimated Funding Amount
405h Non-Motorized Traffic Safety	Pedestrian Safety	$807,621
NHTSA 402	Pedestrian/ Bicycle Safety	$255,000

Program Area: Planning & Administration (P&A)

Description of Highway Safety Problems:
Colorado experienced an increase in traffic fatalities from 2019 to 2020, from 597 to 613, despite a pandemic year. Traffic safety was affected by less enforcement and riskier driving behavior including excessive speed. Colorado continues to experience increases in population growth, which causes stress on the transportation environment. This coupled with a State that has no primary seat belt law or helmet law for adults poses numerous safety challenges. After a short trend of decreasing traffic fatalities, they increased from 597 in 2019 to 613 in 2020, which constitutes a 3% increase. Challenges to the highway safety environment include impaired driving, excessive speeding, an increase in non-motorized fatalities and increased in-vehicle technology causing distractions. While Colorado experienced an increase in fatalities last year, the HSO continues to work with its safety partners to ensure a safer driving environment.

Planned Activity: Program Support

Planned Activity Description:
The designated State highway safety agency (Section 24-42-101, CRS) is responsible for the planning, coordinating, and administering of the State's highway safety program authorized by the Federal Highway Safety Act 23 USC 402.

P&A costs are those expenses that are related to the overall management of the State's highway safety programs. Costs include salaries and related personnel costs for the Governors' Representatives for Highway Safety and for other technical, administrative and clerical staff at the HSO. P&A costs also include other office costs, such as travel, equipment, supplies and utility expenses and costs associated with upgrades to the E-Grants System.

Program support tasks include establishing resource requirements, departmental roles and responsibilities, assignment of tasks and schedules and program management of the FY22 grants. Costs include external project audit costs, program-specific staff training and necessary operating expenses. Other support functions include support for the annual required observed seat belt usage surveys and any program assessment costs. The purpose of tech transfer funds is to provide training, community outreach and coalition building for traffic safety educational programs. The funds are also used to send HSO partners and stakeholders to train events and various conferences and for traffic safety recognition events.

Based on recommendations outlined in the *NHTSA Management Review Report, 2022* opportunities for CDOT to improve strategic planning were identified at the Strategic Highway Safety Plan (SHSP), Highway Safety Plan (HSP), and program planning levels. The HSO plans to contract out for a strategic planner to assist with Behavioral Traffic Safety coordination and strategic planning. This includes assistance with new guidance from NHTSA on the Infrastructure Investment and Jobs Act (IIJA) and the Bipartisan Infrastructure Law (BIL) that directs states to provide for a comprehensive, data driven traffic safety program that results from meaningful public participation and engagement from affected communities, particularly those most significantly impacted by traffic crashes resulting in injuries and fatalities.

Table 4-22: Funding Sources for Program Support Planned Activity

FY24-26 Funding Source ID	Eligible Use of Funds	Estimated Funding Amount
405d Impaired Driving Mid	Mid Impaired Driving	$1,050,000
NHTSA 402	P&A	$750,000
NHTSA 402	Safety Belts	$1,575,000

5. PERFORMANCE REPORT

PERFORMANCE TARGET PROGRESS

The following report details the State's progress towards meeting State performance targets from the most recently submitted Highway Safety Plan (HSP), based on the most currently available data. It is organized by Performance Target and includes:

- Performance Target Progress
- Triennial Highway Safety Plan (3HSP) Countermeasure Strategy Contribution to Performance Targets

Table 5-1: Performance Target Progress from Previous HSP Fiscal Year, provides a summary of the progress to meeting performance targets.

CDOT Safety Promotion asking motorists to watch for pedestrians.

Table 5-1: Performance Target Progress from Previous HSP Fiscal Year

ID	Performance Measure	Target Period	Target Start Year	Target Value FY23 HSP	Data Source /FY23 Progress Results 2022 Fatality Analysis Reporting System (FARS) (2022 FARS Preliminary)	On Track to Meet FY23 Target YES/ NO/In-Progress
C-1	**Total Traffic Fatalities**	5 Years	2019-2023	668	2018-2022 FARS 660	Yes
C-2	**Serious Injuries in Traffic Crashes**	5 Years	2019-2023	3,041	2018-2022 STATE 3,356	No
C-3	**Rate of fatalities by Vehicle Miles Traveled (VMT)**	5 Years	2019-2023	1.262	2018-2022 FARS 1.24	Yes
C-4	**Unrestrained Passenger Vehicle Occupant Fatalities, All Seat Positions**	Annual	2023	224	2022 FARS 226	No
C-5	**Alcohol-Impaired Driving Fatalities**	Annual	2023	186	2021 FARS 216	No
C-6	**Speeding-Related Fatalities**	Annual	2023	306	2022 FARS 289	Yes
C-7	**Motorcyclist Fatalities**	Annual	2023	137	2022 FARS 148	No
C-8	**Unhelmeted Motorcyclist Fatalities**	Annual	2023	79	2022 FARS 75	Yes
C-9	**Drivers Age 20 or Younger Involved in Fatal Crashes**	Annual	2023	99	2022 FARS 105	No

ID	Performance Measure	Target Period	Target Start Year	Target Value FY23 HSP	Data Source /FY23 Progress Results 2022 Fatality Analysis Reporting System (FARS) (2022 FARS Preliminary)	On Track to Meet FY23 Target YES/ NO/In-Progress
C-10	**Pedestrian Fatalities**	Annual	2023	94	2022 FARS 115	No
C-11	**Bicyclist Fatalities**	Annual	2023	15	2022 FARS 15	Yes
C-12	**Fatalities Involving a Distracted Driver (FARS)**	Annual	2023	72	2022 FARS 69	Yes
C-13	**Drivers 65 or Older Involved in Fatal Crashes (FARS) (at fault)**	Annual	2023	84	2022 FARS 103	No
C-14	**Fatalities involving a driver testing positive for equal to or greater than 5 nanograms (ng) of Delta 9 Tetrahydrocannabinol (THC) (FARS)**	Annual	2023	42	2021 FARS 92	No
C-15	**Percentage of Model Inventory of Roadway Elements (MIRE) Fundamental Data Elements (FDE) intersection data collected**	Annual	2023	100%	State 100%	Yes
B-1	**Observed Seat Belt Use for Passenger Vehicles, Front Seat Outboard Occupants (State Survey)**	Annual	2022	89%	State Survey 87%	No

COUNTERMEASURE STRATEGY CONTRIBUTION TO PERFORMANCE TARGETS

Table 5-2: List of Performance Measures

ID	Performance Measure Name	Progress	Program-Area-Level Report
C-1	**Total traffic fatalities (FARS)**	In Progress/ Met	• For the five-year average 2018-2022, the Colorado performance target for this performance measure was 668 traffic fatalities. • The preliminary five-year average for traffic fatalities totaled 660. • The HSO will continue to address this traffic safety challenge by aggressively seeking new and innovative projects and programs, utilizing problem identification to direct enforcement, education, and awareness efforts, engage with partners and stakeholders of underrepresented populations and high visibility enforcement (HVE) of multiple traffic challenges, including impaired driving, speed, distracted driving and unrestrained passenger vehicle occupants.
C-2	**Serious injuries in traffic crashes (State crash data files)**	In Progress/ Not Met	• For the five-year average 2018-2022, the Colorado performance target for this performance measure was 3,041 serious injury crashes. • The preliminary five-year average for this measure was 3,356. • The HSO will continue to aggressively seek new and innovative projects and programs, utilizing problem identification to direct enforcement efforts, engaging with partners and stakeholders of unrepresented populations and HVE in multiple traffic challenges.
C-3	**Rate of fatalities by VMT (FARS, Federal Highway Administration (FHWA))**	In Progress/ Met	• For the five-year average 2018-2022, the Colorado performance target for this performance measure was 1.26. • The preliminary five-year average for this measure was 1.24. • The HSO will continue to address this traffic safety challenge by aggressively seeking new and innovative projects and programs, utilizing problem identification to direct enforcement efforts, engage with partners and stakeholders of unrepresented populations and HVE in multiple traffic challenges.

ID	Performance Measure Name	Progress	Program-Area-Level Report
C-4	**Unrestrained passenger vehicle occupant fatalities, all seat positions (FARS)**	In Progress/ Not Met	• In FY23, the Colorado performance target for this performance measure was 224. • In 2022, preliminary data indicates there were 226 unrestrained passenger vehicle occupant fatalities. • The HSO will continue to address this performance measure by participating in the natinal Click It or Ticket (CIOT) mobilizations, supporting additional CIOT campaigns and supporting education about the importance of seat belt usage for all passenger vehicle occupants. The HSO regularly convenes the Occupant Protection Task Force, which includes partners and stakeholders in traffic safety. This task force develops and advocates for best practices in occupant protection safety.
C-5	**Fatalities in crashes involving a driver or motorcycle operator with a blood alcohol content (BAC) of .08 and above (FARS)**	In Progress/ Not Met	• In FY23, the Colorado performance target for this performance measure was 186. • In 2021 there were 216 alcohol-impaired fatalities with a driver or motorcycle operator having a BAC of .08 and above (2021 data not available). • The HSO will continue to address this challenge through aggressive HVE campaigns based on problem identification, high level engagement from the Colorado Task Force on Drunk and Impaired Driving (CTFDID) and innovative public awareness campaigns. The HSO also coordinates training for Law Enforcement (LE) in advance impaired driving detection techniques.
C-6	**Speeding-related fatalities (FARS)**	In Progress/ Met	• In FY23, the Colorado performance target for this performance measure was 306. • In 2022, preliminary data indicates there were 289 speed-related fatalities. • The HSO will continue to address this challenge through targeted speed enforcement, education and awareness activities, including night-time enforcement and in areas identified through the problem identification process. The HSO solicited and encouraged new agencies, including urban and rural, to participate in speed enforcement initiatives. The HSO, utilizing the Law Enforcement Coordinator (LEC), Local Law Enforcement Liaisons (LELs) and a data-driven approach, will continue to aggressively seek new LE agencies, in areas of speed-related fatalities and serious injury crashes, to participate in enhanced speed enforcement utilizing HSO funding.

ID	Performance Measure Name	Progress	Program-Area-Level Report
C-7	**Motorcyclist fatalities (FARS)**	In Progress/ Not Met	• In FY23, the Colorado performance target for this performance measure was 137. • In 2022, preliminary data indicates there were 148 motorcyclist fatalities. • The HSO will continue to address this challenge through high level involvement of the Motorcycle Operator Safety Advisory Board (MOSAB), aggressive public awareness campaigns directed to motorcyclists and motorist awareness of motorcyclists, and education regarding proper use of protective equipment. The HSO also assessed the State Motorcycle Program and will be reviewing the recommendations for implementation in the coming year
C-8	**Unhelmeted motorcyclist fatalities (FARS)**	In Progress/ Met	• In FY23, the Colorado performance target for this performance measure was 79. • In 2022, preliminary data indicates there were 75 unhelmeted motorcyclist fatalities. • The HSO will continue to address this challenge through high level engagement of MOSAB, aggressive public awareness campaigns directed to motorcyclists on utilizing proper motorcycle gear to include helmets and encouraging State-authorized basic motorcycle training.
C-9	**Drivers age 20 or younger involved in fatal crashes (FARS)**	In Progress/ Not Met	• In FY23, the Colorado performance target for this performance measure was 99. • In 2022 preliminary data indicates there were 105 drivers aged 20 or younger were involved in fatal crashes. • The HSO will continue to address this challenge through aggressive Graduated Driver License (GDL) Education campaigns and high-level engagement of the Colorado Young Driver's Alliance (CYDA).

ID	Performance Measure Name	Progress	Program-Area-Level Report
C-10	**Pedestrian fatalities (FARS)**	In Progress/ Not Met	• In FY23, the Colorado performance target for this performance measure was 94. • In 2022, preliminary data indicates there were 105 pedestrian fatalities. • The HSO will continue to address all aspects of the pedestrian safety challenge through targeted HVE of drivers and pedestrians that violate traffic safety laws, robust education of all roadway users, and involvement in Denver's Vision Zero Plan. The HSO, utilizing the LEC/LELs and a data-driven approach will continue to aggressively seek new LE agencies, in areas of pedestrian-related fatalities and serious injury crashes, to participate in enhanced enforcement of pedestrian laws. In addition, the HSO will seek new partners across the State to engage in pedestrian-related education.
C-11	**Bicyclists fatalities (FARS)**	In Progress/ Met	• In FY23, the Colorado performance target for this performance measure was 15. • In 2022, preliminary data indicates there were 15 bicyclist fatalities. • The HSO will continue to support a positive traffic safety culture on Colorado roadways, and support continued improvements made through the Denver and Boulder Vision Zero networks and partnerships.
C-12	**Fatalities involving a distracted driver (FARS)**	In Progress/ Met	• In FY23 the Colorado performance target for this performance measure was 72. • In 2022 preliminary data indicates there were 69 fatalities involving a distracted driver. • The HSO will continue to address this challenge through targeted, HVE and education and awareness campaigns. In part, the HSO attributes this increase to more accurate crash reporting.
C-13	**Drivers 65 or older involved in fatal crashes (at fault) (FARS)**	In Progress/ Not Met	In FY23, the Colorado performance target for this performance measure was 84. In 2022 preliminary data indicates there were 103 drivers 65 or older (plus at fault) involved in fatal crashes. The HSO will continue to address this challenge through enhanced educational and outreach efforts among this driving population, high level engagement of the Older Driver Coalition and education to families and caretakers of older drivers.

ID	Performance Measure Name	Progress	Program-Area-Level Report
C-14	**Fatalities involving a driver testing positive for equal to or greater than 5ng of Delta 9 THC (FARS)**	In Progress/ Not Met	In FY23, the Colorado performance target for this performance measure was 42. In 2021 (best data to date) there were 92 fatalities involving a driver or motorcycle operator testing positive with a Delta 9 THC level equal to or greater than 5ng. The HSO continues to address this challenge through HVE of impaired drivers, increased LE training in the detection of drugged drivers, robust partnerships with cannabis industries, increased educational outreach efforts and high-level involvement of the CTFDID.
C-15	**Percentage of MIRE FDE intersection data collection**	In Progress/ Met	The MIRE FDE intersection data collection project is complete and 100% of the qualifying intersections FDE's have been collected as of March 31, 2023.
B-1	**Observed seat belt use for passengers vehicles, front seat outboard occupants (Survey)**	In Progress/ Not Met	• In FY23, the Colorado performance target for this performance measure was 89%. • In 2022, the observed seat belt use rate was 87%. • The HSO will continue to address this performance measure by participating in the CTIO May Mobilizations, two additional statewide CTIO campaigns and supporting education about the importance of seat belt usage for all passenger vehicle occupants.

APPENDICES

- Appendix A: RFA Webinar Attendee Summary
- Appendix B: DI Communities Evaluation

Appendix A: RFA Webinar Attendee Summary

Organization	Number of Participants
911 Driving School	1
Adams County Public Works	1
Alamosa County Road & Bridge	1
Arapahoe County	1
Bicycle Colorado	2
Bike Fort Collins	1
Boulder County	4
Broomfield Police Department	1
Castle Rock Police Department	1
Colorado District Attorney's Council	2
CDOT	18
CDPHE	4
Chain Reaction Motorcycle School	1
City of Alamosa	2
City of Castle Pines	1
City of Cortez	1
City of Delta	1
City of Evans	2
City of Federal Heights	1
City of Fort Collins	2
City of Fruita	1
City of Glenwood Springs	1
City of Golden	1
City of Grand Junction	2
City of Greeley	2
City of Gunnison	1
City of Littleton	2
City of Longmont	2
City of Loveland	2
City of Monte Vista	1
City of Ouray	1
City of Pueblo	1
City of Thornton	1
City of Wheat Ridge	1
City of Woodland Park	1
City and County of Denver	2
Clear Creek County	2
Clutch Motorcycle School	1
Colorado Counties, Inc.	1
Colorado Department of Revenue	1
Colorado Snowmobile Association	1
Colorado State Patrol	1
Dolores County Public Health	1
Douglas County	2
East Central Council of Governments	1

Organization	Number of Participants
Fremont County Sheriff's Office	1
Grand County	1
Grand County Sheriff's Office	1
Grand Valley MPO	1
Gunnison County	1
Kit Carson County Sheriff's Office	1
La Plata County Public Works	1
Larimer County	3
City of Loveland - Police Department	1
Mesa County	1
Mesa County Engineering	1
Mesa County Regional Transportation Planning Office	1
Montezuma County	1
Montezuma County Road Department	1
Montezuma County Sheriff's Offixce	1
Montrose County	1
Mothers Against Drunk Driving (MADD)	2
Motorcycle Rider Training Center	1
Motorcycle Training Academy	1
Mountain Youth	2
NELE Consulting	1
NHTSA	3
North Front Range MPO	1
Operation Lifesaver INC	1
Pikes Peak Area Council of Governments	3
Pitkin County	1
Planning Unit	1
City of Pueblo - Police Department	1
Students Against Destructive Decisions (SADD)	2
San Luis Valley RETAC/RMD	1
San Miguel County	1
Sedgwick County OEM	1
City of Sterling - Policy Department	1
Southwest Regional Emergency and Trama Council, Inc.	1
Town of South Fork	1
Town of Avon	1
Town of Bayfield	1
Town of Castle Rock	1
Town of Estes Park	1
Town of Fraser	1
Town of Frederick	1
Town of Hayden	1
Town of Kersey	1
Town of Lake City	1
Town of Mead	1
Town of Milliken	2

Organization	Number of Participants
Town of Norwood	1
Town of Pagosa Springs	1
Town of Parachute	1
Town of Red Cliff	1
Town of Snowmass Village	1
Town of Superior	1
Upper Pine River Fire Protection District	1
Washington County Commissioner	1
Weld County	1
Weld County Department of Public Health and Environment	1

Y2K ENGINEERING

MEMORANDUM

TO: Yelena Onnen, HDR and Carol Gould, CDOT

FROM: Rae Stephani, PE, PTOE, RSP_1, and Denise Baker, PhD, EIT, Y2K Engineering

DATE: May 17, 2023

SUBJECT: CDOT 3HSP – DI Communities Exposed to High KSI Crash Frequencies

BACKGROUND AND GOAL

The Colorado Triennial Highway Safety Plan (3HSP) documents a three-year period of the State Highway Safety program. It is a data-driven evaluation that establishes performance practices and selects countermeasure strategies for programming funds. As part of the 3HSP, a public participation and engagement plan is developed, where the state is encouraged to identify affected and potentially affected communities. Particular emphasis is to be placed on underserved communities and communities that are overrepresented in the crash data. This technical memorandum describes the process of identifying overrepresented groups in the 2017-2021 fatal crash data, as well as a process to identify Disproportionately Impacted (DI) Communities that are exposed to high frequency of fatal and serious injury (KSI) crashes.

DATA

Sources

Four data sources were used to identify Disproportionately Impacted (DI) Communities that are exposed to high crash frequency.

1. To evaluate crash frequency, fatal and serious injury crash data listings provided the by the Colorado Department of Public Health and Environment (CDPHE) were used. The most recent five years of data were considered, i.e., 2017 to 2021 data. Statewide crash data listings are also provided from 2007 to 2020 at the Colorado Department of Transportation website[1].
2. To evaluate more detailed information on the profile of victims of fatal crashes, the FARS (Fatality Analysis Reporting System) data from NHTSA (National Highway Traffic Safety Administration) was used. The most recent five years of data were considered, i.e., 2017 to 2021 data.
3. The data on DI Communities was provided as a shapefile[2] from the Colorado Department of Public Health and Environment (CDPHE). The proposed DI definition takes into account share of low-income population, housing-cost-burdened share of the population, share of people of color, share of linguistic isolation, communities with a history of environmental racism (self-reported by the communities), results from the EnviroScreen[3] tool (developed by CDPHE), and from the Justice 40 tool[4] (developed by the National Council on Environmental Quality). The EnviroScreen tool and the Justice 40 tool currently evaluates geographies using data from the 2015-2019 American Community Survey (ACS) 5-year estimates. Therefore, the DI

[1] https://www.codot.gov/safety/traffic-safety/data-analysis/crash-data, accessed 2023-05-10.
[2] https://experience.arcgis.com/experience/48a86a0b54f340dc97d6295b9fe64700, accessed 2023-05-10.
[3] https://cdphe.colorado.gov/enviroscreen, accessed 2023-05-10
[4] https://screeningtool.geoplatform.gov/en/#3/33.47/-97.5, accessed 2023-05-10

Community designation is based on 2019 census data. The 2015-2019 ACS 5-year estimates use 2010 geographies, which corresponds to 3,532 Census Block Groups (CBGs) and is also used on the proposed definition of DI communities.

4. To be consistent with the DI evaluation census data, this analysis also uses the 2019 ACS 5-year estimates for population references. The 2019 ACS data also represents the mid-point of the crash data evaluation period and provides a good reference point for population estimates. Census data was obtained from the Census data explorer website[5]. In particular, tables B01001 SEX BY AGE, S0101 AGE AND SEX, and DP05 ACS DEMOGRAPHIC AND HOUSING ESTIMATES were used to obtain 2019 ACS 5-year estimates cited in this technical memorandum.

Crash Data Preparation

Due to a change in crash reporting format in 2021, the available crash data for 2017 to 2020 has a different format than what is currently in use. In order to evaluate the past 5 years of available crash data to identify trends, older data (2017 to 2020) had to be converted to the newer data format (2021 and newer). Data reconciliation was performed to key variables to allow for evaluation of general trends in the period. In several instances, similar variables with slightly different categories were combined.

Geocoding Crashes Without Coordinates

Latitude and longitude information was not provided for about one third (28.9%) of all the crash records. Noticeably, the share of provided coordinates data was much larger in 2021 when compared to previous years. In 2017-2019 about 60% of all crashes had provided coordinates, that share increased to 75% in 2020 and 99% in 2021. A geocoding process was used to identify the location (to the extent possible) of the crashes' nearest intersections based on the reference street names. For this evaluation the intersection offset was not considered on the geocoding process and crashes for which coordinates were not provided were considered at the nearest intersection provided in the record.

Prior to the geocoding process itself, the data was scrubbed to correct common misspellings of roadway names and organize the provided location fields into cleaner intersection names. A third-party software (geocod.io) was used to automate the batch geocoding. After the initial data processing and geocoding, the crashes were visually inspected for outliers. The final sample size of geocoded crashes considered is 14,601 crashes.

Of all 1,262 crashes (7.9%) that could not be geocoded and were not included in the evaluation, all were serious injury crashes. The missing location data was a larger share of the county crashes at the Bent County, where 6 out of 20 crashes (30%), Yuma County, where 10 of the 37 crashes (27%) of the crashes could not be evaluated, and at Pitkin County, where 13 of the 53 (25%) of the crashes could not be evaluated. The largest raw number of missed crashes was in Adams County, where 180 of 1502 crashes (12%) were not included due to missing location information, as well as Weld County (132 of 976/14% of the crashes missing) and Arapahoe County (131 of 1563/8% crashes missing).

METHODOLOGY

A three-step methodology was used to identify DI Communities that are exposed to high crash frequency. The steps are: one, identify the profile of traffic fatalities; two, identify DI Communities; and three, spatially identify DI Communities exposed to high frequency of fatal and serious injury (KSI) crashes. The methodology of each step is described below.

Step 1: Identify the Profile of Traffic Fatalities

Five most recent years of available FARS data (2017 to 2021) was obtained to identify disproportionately represented groups. Age, gender, and ethnicity distributions were evaluated within the FARS dataset and within the

[5] https://data.census.gov/, accessed 2023-05-10.

Colorado population through Census data. While age and gender are available for all persons involved in fatal crashes, race and ethnicity are only available for persons with fatal injuries.

Step 2: Identify DI Communities

The methodology for identifying DI Communities was developed by CDPHE. For the purposes of this evaluation the DI Census Block Groups was shared by CDPHE in a draft format and is subject to changes and updates by CDPHE. The proposed DI definition currently uses 2019 ACS 5-year estimates and 2010 Census Block Group Geographies. The DI evaluation used in this analysis represents the draft of currently proposed DI definition, which is defined by CDPHE as follows.

> *The proposed definition of DI definition community includes census block groups that meet one or more of the following criteria:*
>
> - *Low-income population > 40%*
> - *Housing-Cost Burden population > 50%*
> - *People of color population > 40%*
> - *Limited English Proficiency: Linguistic Isolation population > 20%*
> - *Cumulative Impacts: Colorado EnviroScreen Percentile Score > 80th percentile*
> - *Cumulative Impacts: Within a Census Tract that is identified by the federal government as being a disadvantaged community for purposes of the Justice 40 initiative under the Climate and Economic Justice Screening Tool, including all Census Block Groups under the jurisdiction of Tribal Governments*
> - *Communities with a history of environmental racism (would be identified through an opt-in approach by community members and not shown on map)*
>
> *All mobile home communities in Colorado, regardless of whether the census block group where they are located meets one of the other criteria. 1,571 of all 3,532 Census Block Groups (44.5%) meet the draft proposed definition of DI Community that would apply to all state agencies.*

Step 3: Spatially Identify DI Communities Exposed to High KSI Crash Frequency

In order to identify which DI Communities are exposed to high frequency of fatal and serious injury crashes, the combined crash data was overlaid with the DI shapefile provided by CDPHE. The following steps were performed.

A) Identify which census block group the crashes occurred

A census block group and DI category was assigned to the 14,601 crashes evaluated (coordinates were either provided or obtained through geocoding). A limitation of this approach is that many freeways and major roads are used as the boundary between census block groups. In some instances, the census block group assignment was not consistent at boundary roads.

B) Identify the crash frequency in all block groups

Once all crashes were assigned to the appropriate Census Block Group, the data set was aggregated to determine how many crashes occurred in each Census Block Group. Census block groups that were not in the crash data set were assigned a crash frequency of zero.

C) Calculate KSI crashes/population in each block group

The 2019 ACS 5-year estimates were used to identify the population in each block group. Eleven of the 3,532 Census Block Groups (<0.1%) had a population of zero, all of which were considered not disproportionately impacted. The number of crashes identified in Step B were then divided by the population in the block group to get a normalized crash frequency based on the Census Block Group population.

D) Identify above average block groups in terms of KSI/population (4th Quartile)

Once the number of KSI crashes divided by population was obtained for all Census Block Groups, the values were assigned to quartiles. The first quartile represents the 25% of census block groups with the lowers KSI/population value. The fourth quartile represents the 25% census block groups with the highest value of KSI/population.

E) Identify overlap of above average block groups and DI communities

Census block groups that are identified as DI communities and are exposed to high KSI/population crash frequency (in the 4th quartile), were flagged for further evaluation.

RESULTS

Step 1: Identify the Profile of Traffic Fatalities

Table 1 shows the comparison of the fatalities with the census population regarding race and **Table 2** shows the comparison regarding ethnicity. These results indicate Hispanic people represent a larger share of the traffic fatalities sample, when compared to the general population.

Table 1: Fatalities Race Distribution and Comparison to Colorado's Population

	Fatalities (2017-2021)	Fatalities%	Population (2019 ACS)	Population %
White	2798	87.8%	4,712,574	84.0%
Black of African American	184	5.8%	233,647	4.2%
North American Indian or Alaska Native	51	1.6%	54,847	1.0%
Chinese	9	0.3%	35,690	0.6%
Filipino	7	0.2%	17,942	0.3%
Japanese	6	0.2%	11,010	0.2%
Other Asian or Pacific Islander	43	1.3%	122,148	2.2%
Other race or two and more races	88	2.8%	422,491	7.5%
Fatalities with known race	3,186		5,610,349	

Table 2: Fatalities Ethnicity Distribution and Comparison to Colorado's Population

	Fatalities (2017-2021)	Fatalities%	Population (2019 ACS)	Population %
Hispanic	827	26.0%	1,208,172	21.5%
Non-Hispanic	2,358	74.0%	4,402,177	78.5%
Fatalities with known ethnicity	3,185		5,610,349	

Table 3 shows the age and gender of those involved in fatal crashes, as reported in the FARS data base. When comparing those distributions with the general state population, results indicate an over-representation of men and individuals between 20 and 39 years old among the traffic fatalities.

Table 3: Comparison of Age and Gender of Individuals Involved in Fatal Crashes and Colorado's Population

	Female in Fatal Crashes	Female Population	Male in Fatal Crashes	Male Population	Total Persons in Fatal Crashes	Total Population
0-9	2.3%	6.0%	2.3%	6.3%	4.6%	12.3%
10-19	4.8%	6.2%	7.8%	6.6%	12.6%	12.8%
20-29	6.6%	7.0%	15.1%	7.6%	21.8%	14.6%
30-39	5.5%	7.2%	12.2%	7.7%	17.7%	14.9%
40-49	4.1%	6.3%	9.2%	6.6%	13.2%	12.9%
50-59	3.4%	6.4%	9.0%	6.3%	12.4%	12.8%

	Female in Fatal Crashes	Female Population	Male in Fatal Crashes	Male Population	Total Persons in Fatal Crashes	Total Population
60-69	3.1%	5.7%	6.8%	5.3%	9.9%	11.0%
70-79	1.8%	3.1%	2.8%	2.7%	4.6%	5.8%
80+	1.2%	1.8%	1.9%	1.2%	3.1%	3.0%
Column total	32.7%	49.7%	67.3%	50.3%	100%	100.0%
Persons in Fatal Crashes with Known Age and Gender	2,365	2,787,148	4,873	2,823,201	7,238	5,610,349

Note: Crash columns represent all individuals involved in fatal crashes regardless of injury, as reported on the FARS database, from 2017 to 2021. Population columns represent the data obtained from the 2019 ACS 5-year estimates.

Step 2: Identify DI Communities

The methodology proposed by the Colorado Department of Public Health and Environment (CDPHE) identifies 1,571 Census Block Groups that are DI Communities. Those areas represent 41.8% of the state's population. **Table 4** shows the comparison of the crash distribution and population distribution across areas of DI Communities. Results indicate that a larger share of the KSI crashes occur in Census Block Groups identified as having more than one DI Community category (32.4%) compared to the population living in those areas (26.2%).

Table 4: Comparison of KSI Crash Frequency and Population Living in DI CommunitiesDI Communities

Disproportionately Impacted Group	KSI crashes	KSI crashes %	Population	Population%
Not Disproportionately Impacted	7,698	52.7%	3,266,335	58.2%
More than one category	4,738	32.4%	1,468,994	26.2%
People of Color (POC) population above 40%	950	6.5%	517,394	9.2%
Within a Justice 40 Census Tract	430	2.9%	88,875	1.6%
EnviroScreen Percentile Score above 80	363	2.5%	118,849	2.1%
Low-Income population above 40%	277	1.9%	90,113	1.6%
Housing Cost Burdened population above 50%	144	1.0%	58,844	1.0%
Limited English Proficiency (LEP) population above 20%	1	<0.1%	945	<0.1%
Grand Total	14,601	100.0%	5,610,349	100.0%

Figure 1 shows the DI Census Block Groups, as identified by CDPHE in the 2023 draft DI definition.

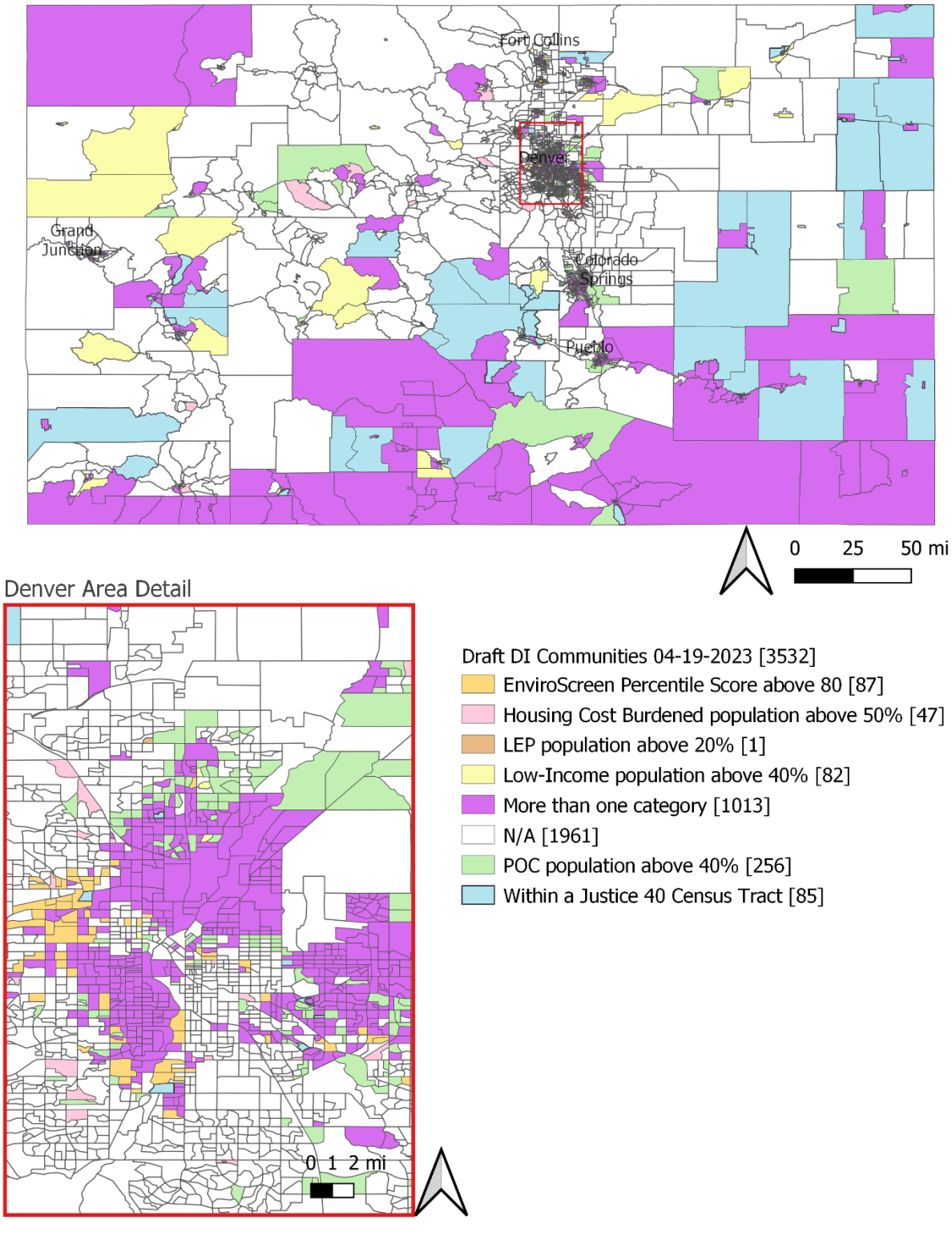


Figure 1: Disproportionately Impacted Census Block Groups (data provided by CDPHE)

Step 3: Spatially Identify DI Communities Exposed to High KSI Crash Frequency

Table 5 shows descriptive statistics for KSI crash frequency, population, and KSI/Population value. **Figure 2** shows the graphic distribution of the KSI/population values. The distribution displayed in **Figure 2** was used to classify the Census Block Groups into quartiles of crash frequency. The first quartile (KSI/population < 0.0005) represents the 25% of census block groups with the lowest KSI/population value. The 4th quartile (KSI/population > 0.0036) represents the 25% census block groups with the highest value of KSI/population.

Table 5: Description of KSI Frequency and Population at Census Block Groups

	#KSI crashes	Population	KSI/Population
Sample size (Census Block Groups)	3,532	3,532	3,532
Minimum	0	0	0
Median	2	1262	0.0015
Maximum	83	10138	0.5882
Average	4.1	1423.9	0.0033
Standard deviation	6.1	768.1	0.0113

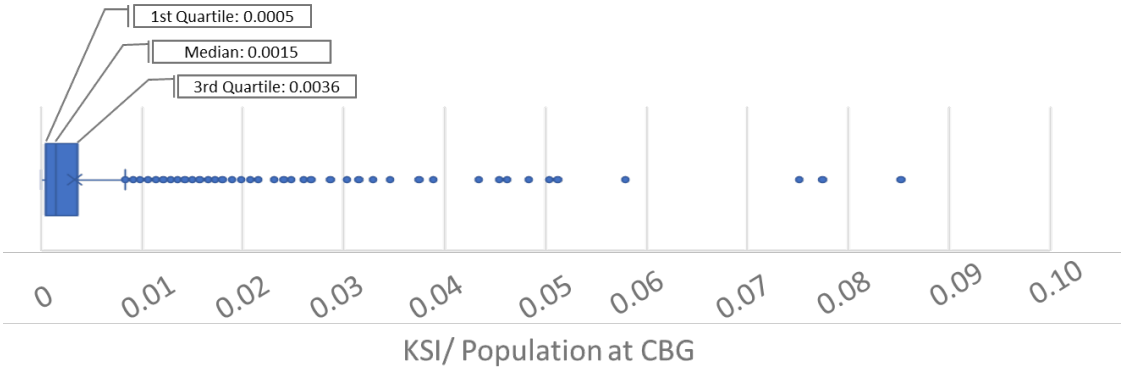


Figure 2: Distribution of KSI/Population at 3,532 Census Block Groups

Table 6 shows the comparison of the share of census block groups in each crash frequency category (quartile) in DI Communities and Non DI Communities. While DI communities represent only 36.7% of the Census Block Groups with low crash frequency (1st quartile), they represent more than half of the Census Block Groups with high crash frequency (4th quartile), indicating that DI communities are more likely to be exposed to high crash frequencies, when compared to non-DI communities. 566,635 people (10.1% of Colorado's population) live in DI communities that are exposed to high KSI/population crash frequencies. **Figure 3** shows a map of the DI Communities exposed to high KSI/population crash frequencies (4th quartile)

Table 6: Comparison of Census Block Groups in DI and Non DI Communities, by KSI/Population Frequency

Number of Counties/ Crash Frequency Quartile	Disproportionately Impacted	Not disproportionately impacted	Grand Total
1st Quartile (Low crash frequency)	323 (36.7%)	556 (63.3%)	879 (100%)
2nd Quartile	375 (42.6%)	506 (57.4%)	881 (100%)
3rd Quartile	409 (46.5%)	471 (53.5%)	880 (100%)
4th Quartile (High crash frequency)	464 (52.7%)	417 (47.3%)	881 (100%)
No Population Data available		11	11
Grand Total	**1571 (44.5%)**	**1961 (55.5%)**	**3532 (100%)**

Table 7:Comparison of Population in DI and Non DI Communities, by KSI/Population Frequency

Crash Frequency	Disproportionately Impacted	Not disproportionately impacted	Grand Total
1st Quartile	468,292 (20.0%)	910,165 (27.9%)	1,378,457 (24.6%)
2nd Quartile	672,828 (28.7%)	948,549 (29.0%)	1,621,377 (28.9%)
3rd Quartile	636,259 (27.1%)	804,498 (24.6%)	1,440,757 (25.7%)
4th Quartile	566,635 (24.2%)	603,123 (18.5%)	1,169,758 (20.9%)
Grand Total	2,344,014 (100%)	3,266,335 (100%)	5,610,349 (100%)

Crash Analysis of the DI Communities Exposed to High Crash Frequency

Overall crashes in DI Communities exposed to high frequency of KSI/population crashes show similar patterns to crashes in other parts of the state. As the quartiles were defined at the Census Block Group Level, the number of crashes in the first quartile was very low (113 crashes), due to many Census Block Groups experiencing no KSI crashes at all. 9,524 crashes (65% of all KSI crashes) were identified in Census Block Groups in the 4th Quartile (25% of Census Block Groups with highest KSI/population). Of the 4th Quartile crashes, 4,740 crashes (32% of all KSI crashes) occurred at DI communities. **Figure 4** shows a comparative overview of crash characteristics in high frequency DI Communities compared to the rest of the state. Noticeably, crashes involving non-motorized vehicles (bicyclists and pedestrians) represent a larger share of crashes in high frequency DI communities (19%) when compared to crashes at other locations (14%). Crash distributions across years, and contributing human factors are very similar. The share of DUI and Speeding in both groups were also within 2% of each other. Motorcycles were present in 18% of crashes in high frequency DI communities and in 22% of crashes in other locations. 56% of crashes in high frequency DI communities occurred in urban settings, while that share is 46% in the rest of the state. No significant difference was observed regarding the age of the first driver.

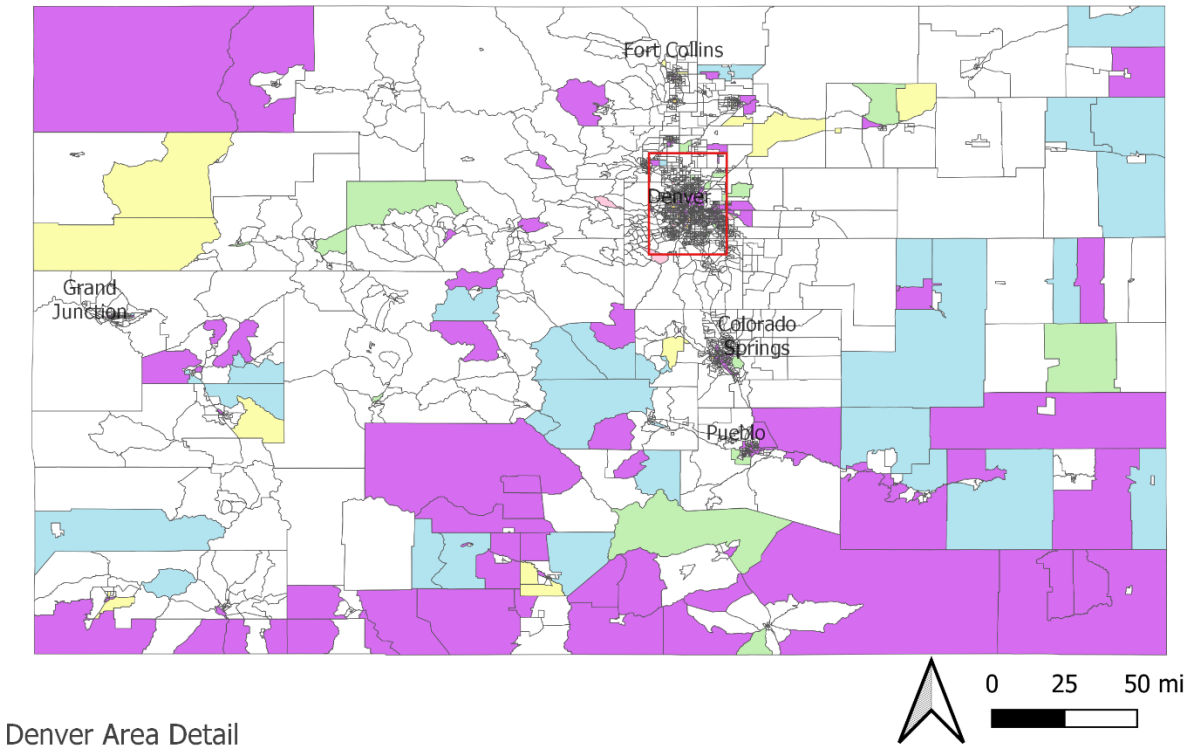


Figure 3: Location of DI Communities Exposed to High KSI/Population Crash Frequency

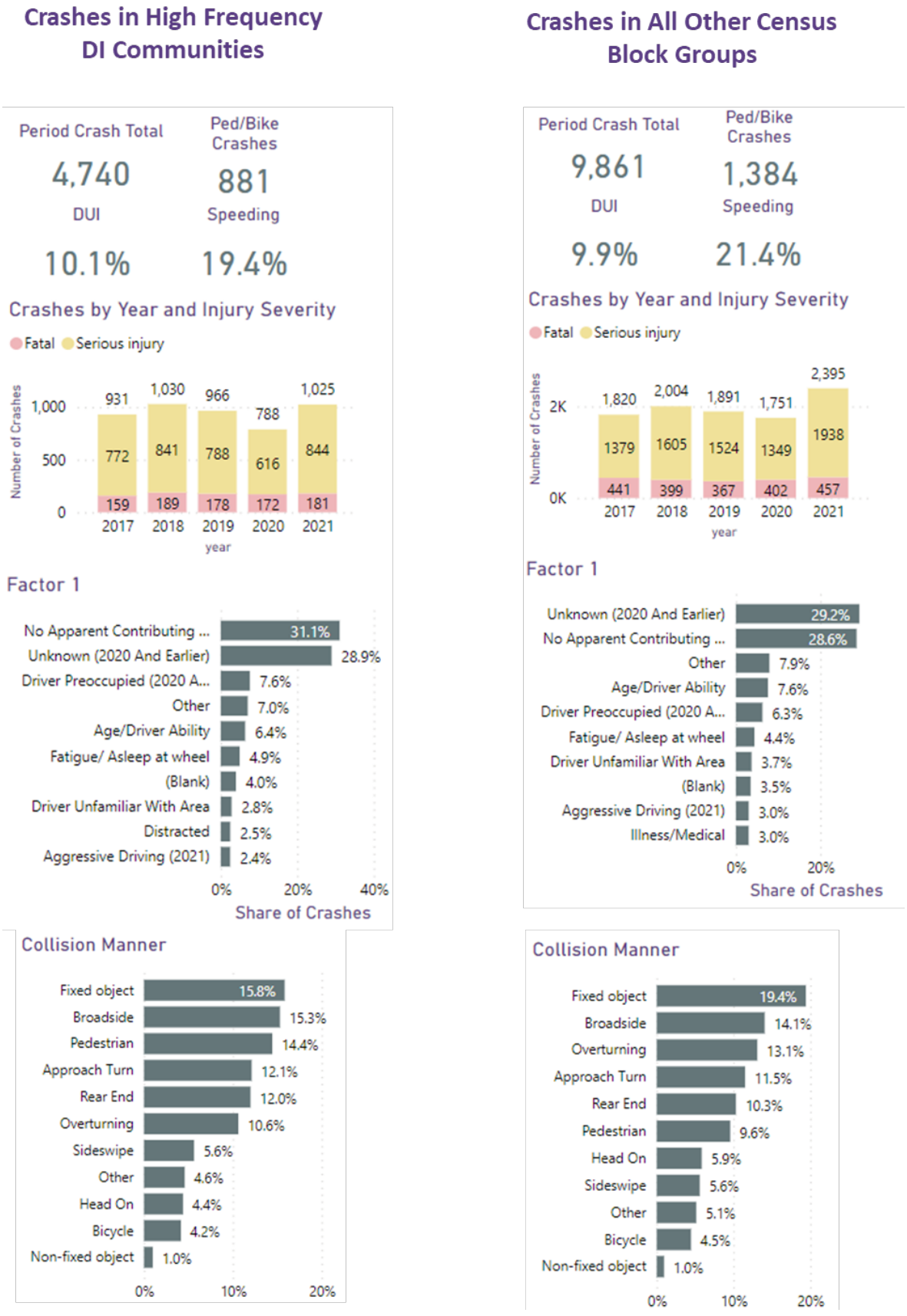


Figure 4: Crash Characteristics for High Frequency DI Communities Compared to other Census Block Groups

NEXT STEPS

The next steps in identifying affected and potentially affected communities include a maintenance of the crash dataset and frequent re-evaluation of crash and demographic patterns. New census data from 2020 and later can shed light on how DI Communities have shifted during and after the pandemic. Updated crash data will also reflect new traffic patterns in recent years and potential effects of the policies implemented since the data in this analysis was collected.

Potential adjustments to the methodology include incorporating additional data sets to enhance understanding of the profile of the persons involved in fatal and serious injury crashes. Trauma and hospital data, for example, have the potential to uncover more details of those communities that are disproportionately affected by traffic incidents. Traffic volumes and travel behavior data, such as household travel surveys, can shed light to the exposure level of different communities in terms of vehicle miles traveled. For example, it is known that men, on average, cover more miles during a typical day than women, which might be correlated with the higher frequency of males involved in traffic incidents. Additionally, further evaluation into the highest crash frequency locations could be an option to help prioritize communities. Instead of the fourth quartile, the 85th percentile could be used to address the 15% highest crash frequency communities, for example.

Additionally, next steps in identifying DI Communities affected by high exposure to fatal and severe crashes should acknowledge the heterogeneity of the groups identified in this step. Many of the communities identified in the presented preliminary step have unique crash patterns and are exposed to unique behaviors that should be addressed carefully. The identification of these locations is the first step of engagement, and it should be followed with community involvement in both identifying the local specific problems, as well as potential solutions that are appropriate and pertinent to each of those communities.

Colorado 3HSP Amendment

Additional Information requested:

Colorado's 2% reduction goal meets the requirement, but there is still no explanation of how engagement will contribute to their 3HSP/program (including countermeasure strategies for programming funds)

*Colorado still needs to describe how the engagement that **already** occurred was designed to reach affected communities (rather than approaches for future engagement in ongoing section). For example, how was the informational webinar designed to reach your affected communities that you identified at the onset of the process?*

However, it is still unclear if these are the same affected communities identified during the engagement planning phase as required by [23 CFR 1300.11(b)(2)(i)(B)]. Please clarify the affected communities the HSO sought to engage with at the onset of their engagement.

In the 3HSP, the HSO must clearly state who affected communities are, how engagement was meant to reach them, and the results of that engagement. Colorado presents a good amount of project-level information, but it is not linked to clearly showcase who affected communities are and if they were engaged. See 23 CFR 1300.11(b)(2)(ii)

Colorado HSO Response:

The Disproportionately Impacted (DI) Communities that were identified by the HSO and were prioritized for engagement in the development of the 3HSP were:

1. Colorado young drivers
2. Communities of color
3. Rural and frontier communities across the State

The HSO strove to engage these priority populations through direct outreach in the Occupant Protection Task Force, the Colorado Task Force on Drunk and Impaired Driving, the Colorado Young Drivers Alliance, the Advancing Transportation Safety Program (responsible for development of the SHSP), the Colorado Department of Public Health and Environment (CDPHE) through local public health departments and with existing grantees through their coalition and traffic safety work.

Before the issuance of the RFP the HSO conducted a grant funding webinar to inform prospective applicants of assistance available to develop projects for possible funding. This included listening sessions and technical assistance office hours, data mining and problem identification and proven countermeasures available to address traffics safety challenges.

Through the listening sessions/and technical assistance provided by the HSO and CDPHE, three engagement efforts were conducted.

1) The Pikes Peak Area Council of Governments (PPACG), after the webinar, reached out to the HSO to discuss the traffic safety challenges facing rural populations, including young drivers, in El Paso and Teller county. The HSO and CDPHE assisted with identification of possible countermeasures that could be funded, areas for program development and ultimately the PPACG was funded to establish a community based Traffic Safety Champion.

A coalition in the San Luis Valley, a rural, largely Hispanic community in Southwest Colorado, engaged with the HSO and CDPHE to identify countermeasures to address traffic safety concerns among high school students. The HSO and CDPHE worked with them to identify countermeasures and develop a program for students will offer education and awareness around safe driving and injury prevention.

The Colorado Family, Career and Community Leaders of America who has a strong presence in the State, with a total membership of 1,931 student members across 100 chapters located in 36 different, mostly rural counties, reached out to the HSO to assist with further implementation and development of their Community Traffic Safety (FACTS) program. This will include further engagement with rural communities to identify and address traffic safety challenges among young, rural drivers in communities across Colorado.

See 2-15 – 2-17 of the previously submitted plan for detailed information on how these new projects will impact the 3 priority communities identified.

The HSO and CDPHE have strived to implement additional traffic safety countermeasures into existing and motor vehicle safety efforts involving young drivers, communities of color and rural and frontier populations. The HSO, CDPHE and other traffic safety stakeholders will continue the practice of engaging community members as partners through sharing power in decision-making processes, sharing ownership over development, and implementation and evaluation of traffic safety projects.

These efforts have shaped the development of the 3HSP, informed how the HSO programmed funds into countermeasures strategies and identified and implemented new and continuation projects funded for the three year funding cycle. The Countermeasure Strategy associated with the new programs is School and Community Based Programs and the HSO, along with its traffic safety stakeholders will continue engagement efforts to further public participation, and identify new projects.

CONTACTS

For more information on the 3HSP or this report, please contact:

Darrell Lingk, Director
Office of Transportation
Safety & Risk Management
Phone: (303) 757-9465
Darrell.Lingk@state.co.us

Colorado Department of Transportation
2829 West Howard Place, Suite 555
Denver, CO 80204

COLORADO
Department of Transportation