

**Remarks Delivered by
David Strickland, Administrator
National Highway Traffic Safety Administration
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Thank you, Randall [Randall Scheps, Chair of the Aluminum Transportation Group and Automotive Marketing Director at Alcoa] for that generous introduction.

Good morning. I am honored to speak to you today during Aluminum Week. These are truly dynamic times for vehicle manufacturers and for all of us at the Department of Transportation.

As NHTSA's Administrator, I'm optimistic about the positive safety impacts of several emerging technologies. Evolving vehicle designs have already made cars safer and more crashworthy than ever before.

And those very standards were based on technology pipelines and materials that would provide our dynamic manufacturing innovative solutions to meet those goals.

I am very bullish about the capacity of the U.S. science, engineering, technology, industry, and government to develop innovative solutions to reach these important objectives.

FUEL EFFICIENCY

As you know, the Administration's new standards for fuel economy were finalized in late August. We have now set a course to achieve the equivalent of 54.5 mpg for cars and light-duty trucks by Model Year 2025. This represents the first meaningful update to fuel efficiency standards in decades, almost doubling the average mileage of today's vehicles.

The Department of Transportation and Environmental Protection Agency worked closely with auto manufacturers, the state of California, environmental groups, and other stakeholders to help ensure that the standards we proposed are achievable, cost-effective, and preserve consumer choice.

Together, these standards will save American families more than \$1.7 trillion dollars in fuel costs, resulting in an average fuel savings of more than \$8,000 over the lifetime of the vehicle. In addition, the standards will dramatically cut the oil we consume, saving a total of 12 billion barrels of oil and reducing oil consumption by more than two million barrels per day by 2025—as much as half of the oil we import from OPEC each day.

Last year, we were gratified to see that 13 major automakers, which collectively account for more than 90 percent of all vehicles sold in the United States, announced their support for the new standards. By aligning Federal and state requirements and providing manufacturers with long-term regulatory certainty and compliance flexibility, the standards encourage investments in clean, innovative technologies that will

benefit families, promote U.S. leadership in the automotive sector, and curb pollution.

In order to achieve the new fuel efficiency standards, vehicle manufacturers will be challenged to innovate and invest in advanced technologies. I believe this will not only support high-quality domestic jobs in the auto industry, but also contribute to our overall economic competitiveness.

Major auto manufacturers are already developing the technologies to significantly reduce fuel use and greenhouse gas emissions beyond the existing model year 2012-2016 standards. In addition, there is a wide range of technologies available to meet the new standards, including: advanced gasoline engines and

transmissions, vehicle weight reduction, lower tire rolling resistance, improvements in aerodynamics, diesel engines, more efficient accessories, and improvements in air conditioning systems.

The program also includes targeted incentives to encourage early adoption of advanced technologies to dramatically improve vehicle performance, including incentives for:

- Electric vehicles, plug-in hybrids, and fuel cell cars.**
- Technologies that achieve high fuel economy levels for large pickups.**
- Incentives for natural gas vehicles.**
- Credits for technologies with the potential to achieve real-world greenhouse gas reductions.**

NHTSA's LIGHT WEIGHTED VEHICLE PROJECT

As you know, NHTSA is a data-driven organization.

Data helps us define and advance our safety agenda: By describing problems, revealing new opportunities, and focusing our efforts to support innovation. At NHTSA we constantly collect and leverage data to make driving safer—by analyzing and understanding crashes and injuries, influencing driver behavior, and exploring effectiveness of advanced automotive technology.

NHTSA's work on the new CAFÉ standards has tremendous implications for the design and performance of future vehicles. Assessing the effects of vehicle mass reduction and size is a complex endeavor, and our approach has been to ensure that safety is the centerpiece of our research on this issue.

In 2011, NHTSA initiated a project with Electricore (with EDAG and George Washington University as subcontractors) to study the maximum feasible mass reduction for a mid-size car. Part of the contractor's task was to use advanced computer-aided engineering methods to demonstrate the vehicle's performance in a variety of crash test scenarios.

The objective was to reduce the mass of a baseline vehicle, in this case a 2011 Honda Accord, while maintaining vehicle performance and functionalities, and observing key boundary conditions, including:

- **Safety: Appropriate crash simulations for NHTSA's New Car Assessment Program (NCAP) and roof crush tests, as well as Insurance Institute for**

Highway Safety's (IIHS) offset and side impact test programs.

- **Powertrain: Alternate powertrain configurations (such as hybrid electric, battery electric, and diesel) were not to be considered, but the powertrain could be downsized.**
- **Timeframe and production: All advanced design, material, technologies, and manufacturing processes had to be realistically projected to be available for fleet-wide production within the timeframe of model years 2017-2025 and capable of high-volume production (200,000 units per year) that was within 10 percent of the estimated 2025 baseline vehicle's budget.**

The goal was to achieve the maximum amount of mass reduction within these constraints. As you may know,

the results to date have been encouraging: The overall vehicle mass was reduced by up to 24 percent using a combination of materials including high-strength steel, plastics, composites, and stamped and forged aluminum as the total mass of the vehicle. Vehicle mass was decreased overall by up to 24 percent. You'll be interested to know that the aluminum content of the reduced mass vehicle, as a percent of its total mass, went from 13 percent aluminum to 24 percent aluminum.

In addition, the computer simulations of the NCAP and other crash performance were not significantly changed by the mass reduction achieved by the use of these alternative materials. We were pleased by these outcomes and intend to pursue additional research in

this area as materials are developed and computer models are validated.

As you can imagine, I have a passionate interest in keeping abreast with what every sector of the automobile industry is doing to meet the technical and safety challenges presented by the new fuel standards. I know that transportation is the largest market for aluminum in North America, and that your industry has already begun to realize the significant potential for both weight reduction and crash protection. It is going to be exciting for all of us to see how these innovations evolve.

The work on CAFÉ and my expectations for the future of transportation not only highlights the promise of

technology to move us forward to a cleaner and safer tomorrow. It also speaks to the best in bipartisanship and how collectively we can work to make every American's life better. I began working on CAFÉ the first day I started on the Senate Commerce Committee on August 13, 2001. There were decades of counsels that came before me who served the committee that also worked on CAFÉ, and beyond those folks that worked on the original statute in the 70s, there was either no ability, or on occasion, no political will to revisit the standards.

So I find this moment speaking before this audience to be not only an honor, but a privilege to have been a small part of working on the standards in 2007 as part of the Energy Independence and Security Act, and now to be one of the agency heads to implement the

President's vision for a future that will protect individual mobility.

Thank you very much.