

Remarks for NHTSA Deputy Administrator David Friedman Alternative Energy and Transportation Expo Santa Monica Auditorium - Santa Monica, CA September 20, 2013

Good morning. Thank you, Supervisor (Mike) Antonovich for that kind introduction. I also want to thank AltCar and UCLA's Luskin Center for inviting me to be with you today. I appreciate the opportunity to speak with you, as well as the chance to check out some of the latest and greatest alternative fuel vehicle technology.

We are here at a time when the auto industry is surging back to life—a success story built on the strength of its workers, the innovation of its engineers and management, and the embrace of its consumers, who are adopting a whole new generation of technology that is making cars safer, cleaner, and more appealing than ever.

When it comes to safety, which is at the heart of NHTSA's mission, American's driveways are starting to fill up with cars that have electronic stability control (ESC), rear view cameras, and more airbags than cup holders. Advances in materials and design are making cars safer in the event of a crash, and technology is on the cusp of helping drivers avoid that crash in the first place. With more than 30,000 roadway deaths each year, these technologies represent enormous life-saving potential.

Technology, including the range of alternative fuel vehicles we're here to talk about today, is also enabling the automotive industry to deliver more options for consumers to help them save money at the pump, cut America's oil use, and address the disquieting reality of climate change.

Since we are here to see and discuss alternative fuel vehicles, some of you may be wondering why someone from a safety agency is talking to you today. This event was created to help people discover those alternatives, to help spur acceptance of new technologies. The baseline for consumer acceptance of these vehicles, of any new vehicle technology, is safety. Consumers won't buy cars unless they think they are safe.

Based on our work at NHTSA, we believe hybrids, plug-in hybrids, battery EVs, and other alternative fuel vehicles pose no greater risk to safety than gasoline vehicles. In fact, many alternative fuel vehicles

have achieved a NHTSA 5-star safety rating under our new car assessment program, including the Chevy Volt, Toyota Prius Plug-in and Nissan Leaf.

But the risks for these vehicles can be different. That is why NHTSA is pursuing a variety of efforts focused on ensuring the safety of these vehicles and helping consumers, industry, and first responders get the information they need to get comfortable with the technology.

Lithium-ion batteries have become the mainstay energy storage device in plug-in hybrid and battery electric vehicles. Safety issues associated with lithium-ion chemistries—like thermal runaway—are different from those associated with other batteries and other technologies. Because of this, NHTSA has put together a dedicated team of experts focused on battery safety research programs. Our battery team works with industry, academia and other government partners to evaluate several different aspects of lithium-ion battery safety, including detailed hazard analysis to identify gaps in battery safety knowledge that may remain.

For example, we are working with the SAE and industry partners to develop comprehensive and repeatable test procedures and safety performance criteria for batteries. We are also working with federal partners such as the Argonne and Sandia National Labs to develop a diagnostic tool to check a battery's health so we can understand the risks posed by a battery after a severe crash or during normal operation and develop appropriate performance requirements to mitigate those risks.

We have also partnered with intergovernmental groups to tackle a wide range of related issues. For example, many of our sister Federal agencies – NASA, the Department of Defense, the Department of Energy, the CIA, the FBI, the Consumer Product Safety Commission, and the Federal Aviation Administration—have partnered through the Lithium Battery Technical/Safety Group to explore some difficult battery applications from the International Space Station to deep sea submersible crafts and disaster relief tools such as water purification and communications. Now, the group is collaborating on battery applications in cars and trucks.

Our alternative fuel vehicle safety work has also expanded into the international community by working to develop Global Technical Regulations (GTR) for high voltage vehicles. NHTSA represents the US to chair these working groups, which will address occupant protection from high voltage electric shock,

potential hazards associated with Li-ion batteries during and after a crash, and protocols to ensure safety during recharging.

This international work also covers hydrogen fuel-cell vehicles. In June of this year and after a lot of work from our team at NHTSA, the World Forum for Harmonization of Vehicle Regulations' adopted the first GTR governing the safety of hydrogen and fuel cell powered vehicles.

This effort could not have been finalized soon enough. Toyota, which has been collaborating with BMW on fuel cells, has announced that they will offer the company's first fuel cell vehicle in 2015. Hyundai is expected to release a fuel cell car based on its Tuscon crossover in a similar time window. Renault, Nissan, Daimler and Ford are partnering on fuel-cell technology as are GM and Honda.

With all of these automakers moving forward on fuel cells, the GTR we helped develop will be crucial to ensure safety and support consumer acceptance of this new technology. We will be working over the next months and years towards adoption of these regulations here in the US.

We also have work to do to increase the safety of electric vehicles for pedestrians. The nearly inaudible hum of an electric car is music to the ears of EV enthusiasts. But it also represents a safety challenge. So, this January, NHTSA proposed that hybrid and electric vehicles meet minimum sound standards in order to help make all pedestrians more aware of approaching vehicles.

NHTSA estimates that if this proposal were implemented there would be 2,800 fewer pedestrian and cyclist injuries over the life of each model year of hybrid cars, trucks and vans and low speed vehicles, as compared to vehicles with sound. Right now, we are pouring through the comments, doing additional research, and working towards completion of a final rule in 2015. We also chair an international working group to develop a GTR for pedestrian alert sound requirements for these quieter cars.

As you can see, we are doing a lot to ensure the safety of alternative fuel vehicles in a crash. But sometimes, no matter how hard we work, some crashes will be severe enough to harm those involved. To address that reality, we worked with the National Fire Protection Association and the Energy Department in 2012 to develop interim guidance for consumers, emergency responders, and tow truck operators to help them identify Li-ion powered vehicles, to know what unique safety risks they may pose, and to understand appropriate safety and handling measures to be used in the event of a crash. We

want to help make sure all those involved, especially those who rush in to help others, are safe in the event of an EV crash.

I cannot leave today without talking about the other side of NHTSA that also deals with alternative fuel vehicles. In addition to our safety mission, NHTSA has been tasked with reducing America's oil use and helping to address the threat posed by climate change.

That's why we worked with the Environmental Protection Agency, California, and other stakeholders to deliver on President Obama's call to take an historic step forward on addressing the climate crisis.

This partnership led to a series of new standards that will nearly double new vehicle fuel economy and cut their greenhouse emissions in half by 2025. With Americans paying \$3.50 per gallon for gasoline and spending about \$2 billion a day to purchase oil and other petroleum products, this will bring much needed relief. The standards will also reduce emissions by 6 billion metric tons over the life of the program – more than the total amount of carbon dioxide emitted by the U.S. in 2011.

Automakers will not have to produce plug-in electric, fuel cell, or other alternative fuel vehicles in order to meet these standards. But they are performance-based standards with significant incentives to encourage the industry to consider putting alternative fuel vehicles in Americans' driveways as part of meeting the requirements.

The new and prospective leaps forward in automotive technology we're seeing at AltCar represent great change—change that some may find uncomfortable. But Americans are embracing that change. They are recognizing the challenge posed by greenhouse gas emissions and by the pain everyone feels at the pump. By putting better technology to work, whether through efficiency or alternative fuels, Americans can now see a better future, a future that all of you are working to build.

It is a future that must be built on safety as the baseline for consumer acceptance. And it is also a future built on alternatives, options consumers need to save money on gas and cut back on emissions.

Americans can see the potential in those options. They are beginning to embrace hybrids and plug-ins. Plug-in electric sales in the U.S. tripled in 2012. In August, we saw a 35 percent increase in PEV sales—and a new monthly record.

New models are being announced every day. At the Munich Auto Show, Volkswagen and BMW made a big splash with the introduction of new EVs. Here at home, General Motors just said they've got a plug-in with a range of 200 miles in the works, adding to their lineup that already includes the Volt and the Spark. And we can see that fuel-cell vehicles are getting close to market readiness.

Clearly, Americans want cars that are lighter on their wallet and the planet. That future is within our grasp. NHTSA understands that. The industry understands it. When we deliver safe and innovative new vehicles, we'll have done more than just weather these dynamic times. We'll have done a great deal to combat climate change, to save drivers money at the pump, and to offer consumers exciting choices when they shop for a new car.

It's been a pleasure to be here with you today. Thank you.