Remarks

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National Highway Traffic Safety Administration

For

Consumer Electronics Show

In-Vehicle Technology Session: Smart Cars Talking to Each Other – New Applications Using Vehicle-to-X Technology

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Good morning. Thank you for the invitation to be here.

Thank you, Steve for your welcome. These are positive days in the traffic safety business. I am pleased to report that our latest data show that in 2010, roadway fatalities and injuries fell to their lowest rates ever – and to their lowest numbers since we started counting more than six decades ago. Highway deaths in 2010 fell to 32,885 for the year, the lowest level since 1949. The record-breaking decline in traffic fatalities occurred even as American drivers traveled nearly 46 billion more miles during the year, an increase of 1.6 percent over the 2009 level.

As encouraged as we are with this significant progress we cannot rest on past performance. Traffic fatalities are the leading cause of death for young people between the ages of 4-34 in the U.S.

So what can we do about this? After all, Americans are firmly tied to their cars and to driving. That's why the roster of traffic safety issues we work on is lengthy. Understanding driver behavior is a fundamental part of understanding how to address the safety risks. It is estimated that 90 percent of crashes are due to driver error.

Advances in vehicle sensing and computing provides opportunities to develop systems that can detect risks and assist the driver in significantly reducing crashes, injuries and fatalities on our

roadways. In fact, we believe we're on the threshold of a new safety era that will continue to lead to safer vehicle designs and the development of more active safety systems.

Vehicle-to-vehicle communications is one of the main focus areas of NHTSA's safety research program, and our plan is to have the research supply the data necessary to enable an agency regulatory decision in the 2013 timeframe.

Let me give you a quick overview. In November 2009, NHTSA published the Final Vehicle Safety Rulemaking and Research Priority Plan for 2009-2011. In this document we stated that by 2013, we would make an agency decision for vehicle safety communications. The agency agreed to assess the

research data, technologies, and potential countermeasures and decide on next steps.

In conjunction, with the Department of Transportation's Intelligent Transportation Systems Program, we have implemented a comprehensive research program that addresses both the technical and policy issues.

Based on the results of this research, we will decide whether to pursue a regulation for light vehicles, recognize vehicle-to-vehicle communications within our 5-star government rating program, or decide that further research is needed.

A major challenge is how we can encourage innovation by manufacturers while preserving

interoperability. We obviously want the best solutions to come forward, but if a solution from one company isn't compatible with another, then the public will not realize the full safety benefits that are possible through connected vehicles. Can you imagine how ineffective it would be for Ford cars only avoiding crashing into other Ford cars, but leaving drivers and passengers completely vulnerable to being hit by a vehicle from another manufacturer?

That is why NHTSA has entered into a cooperative agreement with an industry partnership that includes Ford, General Motors, Honda, Hyundai-Kia, Mercedes-Benz, Nissan, Toyota, and Volkswagen. Through cooperative efforts with this group we hope to develop and evaluate the effectiveness of safety

systems that use vehicle-to-vehicle communications. This project will help ensure that vehicle communications are interoperable across all vehicles regardless of make or model. The effort will also help us to determine the minimum performance levels and benefits of safety applications enabled by V2V. We believe this technology has the potential to save thousands of lives each year while at the same time offering the opportunity to reduce congestion and provide other services to vehicles owners.

We recently announced a safety pilot in Ann Arbor, Michigan, that will provide real world data on the effectiveness and practicality of vehicle communications technology. The Safety Pilot is an essential component for providing the necessary

field data that NHTSA needs in order to properly assess the feasibility of this technology.

The safety pilot consists of two parts. The first part is driver clinics, which will provide us with data on driver acceptance of these crash-warning applications.

The clinics allow us to assess driver acceptance of V2V Safety Applications. We will hold six (6) driver clinics around the country to collect data from over 100 drivers at each clinic as they experience crash warning systems for crash-imminent scenarios in a safe and controlled environment. The warning systems are enabled by connected vehicle technology.

This data will help us understand how a demographically diverse population of drivers uses this technology to help them avoid crashes.

The second part of the safety pilot is led by the University of Michigan Transportation Research Institute (UMTRI) in Ann Arbor. This is the model deployment part of the safety pilot. It will establish a real world, multimodal test site for enabling wireless communications among vehicles and roadside equipment for use in generating data to enable safety applications.

Passenger cars, commercial trucks, and transit buses will be equipped with a mix of integrated, retrofit, and aftermarket V2V and V2I-based safety systems. We will collect a year's worth of data that will then

be used to evaluate the safety benefits and guide the development of future policy decisions by the Department. This data would also be useful for the broader transportation industry in developing additional safety, mobility, and environmental applications utilizing wireless technologies. The testing phase will last twelve (12) months, and include approximately 2,850 vehicles. It will feature light and heavy vehicles equipped with integrated crash warning applications, aftermarket safety devices, and, a large fleet of vehicles equipped with Vehicle Awareness Devices. There will also be 21 signalized intersections, 3 curve locations, and 5 freeway sites.

Another aspect of the Safety Pilot is to evaluate feasibility, scalability, security and interoperability of Dedicated Short Range Communications (DSRC) technology. The FCC established DSRC 5.9 GHz band specifically for V2X use. Similar radio spectrum has since been assigned in Japan, across Europe, and in other countries. The DSRC spectrum is a critical component of the Department of Transportation's vision for advancing transportation safety, mobility and sustainability.

The DSRC spectrum is critical because it provides very low network access times; low latency; high reliability and availability; and limited range (~1000 m) to allow spectrum reuse and limit interference. It can replace expensive line-of-sight vehicle sensors such as radar or laser-based systems.

However, there appears to be some in industry interested in having DOT share this spectrum. We are concerned that additional use of the same band may interfere with V2X applications. The DSRC radio service in the 5.9 GHz band will play an essential role in enabling V2Z and reducing highway fatalities. The system will grow to include hundreds of millions of actively transmitting vehicles, and adequate spectrum must be available to meet the need.

Another issue I want to highlight is driver distraction. In 2010 an estimated 3,092 fatalities happened in distraction-affected crashes.

We will not take a back seat while new dashboard or handheld *infotainment* systems are introduced. These have too great a potential to create more and more distraction for the driver. As part of our NHTSA Distraction Plan we are developing safety guidelines for these systems. We have challenged the auto industry and the cell phone industry to work collaboratively with us to keep the driver safe and focused on their required task: driving.

We will work to harness technology to keep drivers safe – for example, crash avoidance systems, distraction monitoring systems, and cell phone filter or blocking systems. We will continue to work on increasing public awareness to recognize the risks and consequences of distracted driving.

Our initial focus is on developing guidelines for visual-manual interfaces and those will be available for public comment in the near future. From there, we will tackle guidelines for portable devices by 2013, and guidelines for voice interfaces by 2014.

Ultimately, it is up to the driver to make safe choices when getting behind the wheel of a vehicle, but manufacturers can help the driver by designing products with safety in mind. One outcome of our Human Factors for Connected Vehicles program will be to develop driver-vehicle interface guidelines that the industry can use. These driver-interface guidelines will ensure that applications are developed in the safest, non-distracting manner possible.

We are extremely encouraged by the research, analysis of the safety data, and the ongoing human factors work that all point to Connected Vehicle Technology as the next major safety breakthrough. In fact, vehicle-to-vehicle safety applications could potentially address up to 80 percent of vehicle crash scenarios involving non-impaired drivers.

As you can see, we are supporting a variety of efforts to bring V2X into fruition and to improve highway safety through advanced technology. This effort absolutely would not be possible without our equal partnership with industry, and so I am certain we can maintain this mutually beneficial relationship.

Thank you.

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