Remarks Prepared for

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Thank you for that kind and generous introduction. I am truly honored to join all of you today. It's an exciting time to focus on naturalistic driving research and to recognize the immense potential of the new data we're seeing. Today I want to speak broadly about the implications and applications of our evolving data culture and the important role of naturalistic data.

- **NHTSA's intense interest in data supports the Agency's mission to reduce deaths and injuries on America's roads.**

- **Changes in data and technology go hand-in-hand.**

- **In the 1970s, vehicle safety was mostly focused on crashworthiness—how to best protect the occupants when a crash occurs.**

- **As such NHTSA developed and still maintains some of the best crash databases in world—they are used by researchers around the globe.**

- **For example, our National Automotive Sampling System provides over 1,000 variables describing crashes and the injuries to the victims.**

- **The greatest gains in highway safety in the future, however, are likely to result from crash avoidance technologies—technologies that prevent crashes**

from ever occurring—which requires an understanding of the causes of crashes.

- While crash data remain useful for furthering our understanding of crashworthiness and injury mechanisms, it can only look at unwanted results and work backward to causation.

- Naturalistic data provides a valuable complement to crash data.

- It allows us to see firsthand the behaviors that may lead to crashes and avoidance of crashes, which gives us some insights on possible remedies that post-crash analysis can't provide.

- Naturalistic studies provide us with new views of driving in progress, before unwanted results occur.

At a fundamental level, our research community is making significant new investments in expanding the tools of our trade—data collection, analysis, and

dissemination. As a result, our community is gaining a unique and detailed perspective on the complex interface between driver behavior and crash causation.

Without question, we're crossing a new threshold in our capacity to generate and analyze data that improves highway safety. We're embracing new possibilities in human factors research and establishing foundational datasets that are historically significant.

- Instrumentation suites that capture naturalistic driving behavior allow us to examine problems related to transportation and driving behavior in a way that was not previously possible.
- This in-vehicle method allows for the observation of drivers in their own environment and can provide deeper insight into the factors affecting driving safety.

- In recent years, capturing "naturalistic" driving behavior has become more feasible and cost effective.

- One such study is the Strategic Highway Research Program (SHRP) 2 Naturalistic Driving Study conducted by the Transportation Research Board (TRB).

- SHRP 2 is the largest ever naturalistic driving study to better understand the interaction among various factors involved in highway crashes—driver, vehicle, and infrastructure.

- The data collected under SHRP 2 will provide a wealth of information regarding driving behavior, lane departures, and intersection activities.

- The data are anticipated to be of interest to transportation safety researchers and others for at least 20 years.

SHRP 2, with its mandate for fast-track applied research, is a powerful catalyst in areas that already engage DOT directly:

- **Safety: Significantly improve highway safety by understanding driving behavior in a study of unprecedented scale.**
- **Renewal: Develop design and construction methods that cause minimal disruption and produce long-lived facilities to renew the aging highway infrastructure.**
- **Reliability: Reduce congestion and improve travel time reliability through incident management, response, and mitigation.**
- **Capacity: Integrate mobility, economic, environmental, and community needs in the planning and designing of new transportation capacity.**

At NHTSA we have a single-minded focus on highway safety, saving lives, and preventing injuries. Our programs and initiatives emerge from data-driven research activities that include roads and infrastructure, vehicle design and testing, and driver behavior. Our work has been and will continue to be based on sound data.

And we see SHRP2 as providing strong support for our important mission in many areas.

- We propose to use this database to further our understanding of the relative risks of various types of driver distraction including manual, visual, and cognitive sources.

- We propose using SHRP2 to expand our knowledge of the risks associated with aggressive driving, drowsy driving, and speeding.

- Information in SHRP 2 will be valuable for the development of advanced crash avoidance safety systems.

- It can provide data on steering, throttle, and braking during normal driving as well as during near-crashes and crashes.

- It will also provide data on driver attention levels that are critical for the functioning of many crash avoidance technologies.

- Such analyses would help the agency estimate the potential effectiveness of crash avoidance warning systems as well as those that include active safety components, such as braking.

It is gratifying for me to acknowledge the high value of naturalistic driving studies for all of us at NHTSA. This work provides an invaluable complement to the

limitations of crash data. We are now moving beyond the old limitations of examining unwanted results—and working backward to causation. Naturalistic studies allow us to see firsthand the behaviors that may lead to crashes and the avoidance of crashes, and to pursue insights regarding possible remedies that post-crash analysis simply can't provide.

As you know, at NHTSA we are fully engaged with highway safety issues each and every day. For us, the 100-Car Study has been an invaluable resource. The immense variety of environmental and contextual information, combined with extensive data on driver performance, is a game-changing development; and even more so with SHRP2.

Naturalistic data profoundly enriches our understanding of the driver-vehicle interface, and I believe it will

remain a powerful tool for shaping policy and saving lives for years to come.

Our latest data tells us that NHTSA is on target with our programs. U.S. traffic fatalities have been steadily declining over the last five years since reaching a near-term peak in 2005. We are moving aggressively to keep them headed in that direction.

NHTSA is working to create a new safety era that will feature safer vehicle designs and apply emerging technologies. For example, we have partnered with the Research and Innovative Technologies Administration (RITA) Intelligent Transportation Systems Joint Program Office in testing the next generation of vehicle-to-vehicle communications (V2V) that may soon prevent many crashes from occurring.

V2V technologies enable cars to automatically send and receive warnings about impending crashes so that drivers can take action to avoid a collision. This technology has the potential to address approximately 80 percent of the vehicle crash scenarios involving unimpaired drivers.

Since 2011, NHTSA and our research partners have been conducting Safety Pilot driver clinics that measure how drivers respond to in-car collision warnings: "Do not pass" alerts, warnings that a vehicle ahead has stopped suddenly, and similar safety messages. An overwhelming majority of drivers who have experienced these safety features (9 out of 10) have a highly favorable opinion of their safety benefits and would like to have them on their personal vehicle.

Last week Secretary LaHood launched the second phase of our V2V and V2I research—a real-world field test that will continue through the summer of 2013. This effort is based in Ann Arbor, Michigan, and includes nearly 3,000 cars, trucks, and buses equipped with vehicle-to-vehicle communications technology.

The second phase of our research has a naturalistic component that will be particularly useful to NHTSA in understanding human factors related to connected vehicles.

The prospect of integrating V2V communications with increasing levels of vehicle automation could result in the most dramatic safety improvements in our nation's driving history. The information collected from both phases of the Safety Pilot, and other key research projects, will be used by NHTSA to determine by 2013

whether to proceed with additional activities involving connected vehicle technology, including possible rulemaking.

NHTSA appreciates the amazing opportunities provided by naturalistic data, which is a welcome addition to the tool kit. We are interested in ensuring that all of the tools at our disposal are of the highest quality possible and appropriate for the jobs at hand.

Through our participation in the UN Decade of Road Safety, NHTSA has been supporting data modernization efforts internationally. We have focused on best practices that can be offered to nations looking for evidence-based strategies to improve highway safety. We have also fostered the development of international standards to ensure a common level of vehicle and equipment safety performance.

We're putting a special emphasis on traffic safety data system development. The experience of the U.S. and many other nations has shown that the best way to approach traffic safety is through a systematic, science-based approach similar to the public health model of injury prevention:

- Collecting/analyzing data to determine the nature and scope of the problem.

- Developing and testing approaches to address the problems.

- Delivering interventions.

- Evaluating the implemented programs.

Data collection and analysis are fundamental to understanding and addressing a diverse set of traffic safety problems in countries around the world.

In 2009, NHTSA conducted a pilot training program to help nations implement the types of data systems described in the new Data System manual developed in partnership with the WHO, CDC, and other international partners. Representatives of Argentina, India, Indonesia, Jordan, Kenya, and Vietnam participated in the pilot. Last year, Secretary LaHood made a commitment to the Asian Pacific Economic Cooperation in San Francisco to move forward with this initiative. Next week, NHTSA will conduct a regional data conference in Vietnam for representatives of a dozen nations.

The purpose of the workshop will be to increase understanding of road traffic data systems and evaluation, and to impart the value of reliable and up-to-date data for policymakers. Participants will learn to improve and strengthen the collection and evaluation of traffic and road safety data systems in their own countries. They will also learn how to leverage data to create, develop, and implement effective traffic safety policies.

I want to conclude with a brief overview of NHTSA's own Data Modernization (DataMod) Project. Our goal is to affirm NHTSA's position as the leader in motor vehicle crash data collection and analysis, by collecting quality data to keep pace with emerging technologies and policy needs.

Congress appropriated $25 million to fund modernization of the National Automotive Sampling System (NASS) data collection system, which was originally designed in the 1970s. Congress was specific in what they would like NHTSA to consider when updating the system:

- Enlarge the sample size.

- Expand the scope of data collection to possibly include large trucks, motorcycles, and pedestrians.

- Assess the need for more data from the pre-crash, crash, and post-crash phases.

- Review the crash data elements to be collected.

The DataMod project, launched in January 2012, is focused on three main components:

- Survey Modernization of the sample design.

- **Modernization and Consolidation of the Information Technology.**

- **Operations and Implementation.**

Individuals and offices across NHTSA are working on this very important multi-year project. The target for implementation is January 1, 2016.

We're currently conducting a comprehensive review of the data elements collected from each crash, including analyzing comments received through a Federal Register Notice from suppliers, automakers, safety advocates, the medical community, and research organizations. NHTSA is also researching new data collection methods using new technologies.

We're living and working in a rapidly evolving, dynamic era that calls for flexibility, imagination, and collaboration. Through our collective efforts, we have the ability to influence data for the next 20 to 30 years. And that's game-changing!

Thank you.