

SAVING LIVES ON OUR NATION'S HIGHWAYS

HEARING
BEFORE THE
COMMITTEE ON
ENVIRONMENT AND PUBLIC WORKS
UNITED STATES SENATE
ONE HUNDRED TENTH CONGRESS
SECOND SESSION

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JULY 17, 2008
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Printed for the use of the Committee on Environment and Public Works



Available via the World Wide Web: <http://www.access.gpo.gov/congress.senate>

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U.S. GOVERNMENT PUBLISHING OFFICE

88-901 PDF

WASHINGTON : 2015

For sale by the Superintendent of Documents, U.S. Government Publishing Office
Internet: bookstore.gpo.gov Phone: toll free (866) 512-1800; DC area (202) 512-1800
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ONE HUNDRED TENTH CONGRESS
SECOND SESSION

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SAVING LIVES ON OUR NATION'S HIGHWAYS

THURSDAY, JULY 17, 2008

U.S. SENATE,
COMMITTEE ON ENVIRONMENT AND PUBLIC WORKS,
Washington, DC.

The full committee met, pursuant to notice, at 10:03 a.m. in room 406, Dirksen Senate Office Building, Hon. Frank Lautenberg presiding.

Present: Senators Lautenberg, Inhofe.

OPENING STATEMENT OF HON. FRANK LAUTENBERG, U.S. SENATOR FROM THE STATE OF NEW JERSEY

Senator LAUTENBERG. Good morning, everyone. We will call this hearing of the Environment Committee to order.

Welcome, everyone, to today's hearing on highway safety. In 2001, when President Bush took office, more than 40,000 Americans died on our roads. Eight years later, more than 40,000 Americans are still dying on America's roads each year. Highway crashes continue to be a leading cause of death in our Country. And these aren't just numbers, they are fathers, mothers, brothers, sisters, children, you name it. Families torn apart, parents stolen from their family by crashes, children whose futures are stolen from them.

The fact that we have failed to reduce crashes and deaths on our highways is frankly, a failure of leadership. There have been opportunities for the Administration to strengthen the frames of cars and trucks to protect those inside during an accident, and limiting the hours that truck drivers can be behind the wheel to reduce fatigue. But these opportunities for safety have not been acted upon.

Some of America's most successful actions to improve highway safety have come when the Federal Government leads the way, encourages the States to act. That is what we did by enacting a law that induced States to set a minimum drinking age of 21. Today is the 24th anniversary of this law, a thousand lives saved each and every year, have been saved because of that. And I was proud to be the author of that legislation.

And that is what the Government did also when it passed a law to set the maximum blood alcohol content levels at .08. I was proud to author that law as well. And just last month, the President signed legislation that required ignition interlocks on the cars or trucks of repeated drunk drivers. These devices will not let a vehicle start if the driver's blood alcohol content is too high. These actions focus on the drivers because fatal crashes are all too often caused by driver error.

But we also have to make sure that our vehicles, our cars and trucks, are as safe as they can be, our roads and bridges are structurally sound and inspected regularly. As we saw last year in Minnesota with the bridge collapse, there is no question that we need to upgrade and repair our infrastructure. More than 25 percent of our Nation's bridges are deficient. State bridge safety inspection programs must be adequate to find the problems and to fix them.

Second, to make a real difference in reducing highway deaths, we have to increase seat belt usage. Twenty-six States and the District of Columbia have primary seat belt laws. These laws work. We also need to decrease the number of distracted driving incidents. We all see it, telephones, lots of States now have laws against using a hand phone when driving. But I have seen it, and I am sure that many of you or all of you have also seen it, reading behind the wheel, pet on lap, children on laps, bad for the child, certainly terrible for the family. So we have to work to decrease these distractions.

Even the wonderful device like GPS can be distracting if that particular model car has a GPS that you can adjust while driving. Many of them you can't make changes with. But that doesn't mean people don't try.

And finally, the safety of large trucks. By the way, the motorcycle helmet law, which I wrote some years ago, substantially reduced the head and neck injuries. I was taken on by the U.S. Senate some years later, because it was felt to be an infraction of right. But what right did we have to ignore the fact that this is a very serious cause, being helmet-less is a serious cause for death and injury.

And finally, the safety of large trucks and buses cannot be ignored by Federal and State safety regulators. Each year, 5,000 people die in large truck crashes. It is unacceptable. This Committee is going to take the lead in passing the next highway bill. And I look forward to helping craft that important piece of legislation, that important bill. And I will do my part to make up for the 8 years of neglected opportunities.

With that, I welcome my colleague, Senator Inhofe.

**OPENING STATEMENT OF HON. JAMES M. INHOFE,
U.S. SENATOR FROM THE STATE OF OKLAHOMA**

Senator INHOFE. Thank you, Mr. Chairman.

Let me just do this. I agree with most of what you are saying in this hearing, and it is quite unusual, but we do seem to agree on many of these things.

Senator LAUTENBERG. Well, we like each other, that is an overpowering thing.

[Laughter.]

Senator INHOFE. We are getting ready to, as we embark on our 2009 bill, the HSIP is something that needs to be improved upon and something we are concerned with. I have a rather lengthy statement, I would like to make it a part of the record and go right to our witnesses.

[The prepared statement of Senator Inhofe follows:]

STATEMENT OF HON. JAMES M. INHOFE, U.S. SENATOR
FROM THE STATE OF OKLAHOMA

One of the most important aspects of SAFETEA was the creation of a new core Safety program, called the Highway Safety Improvement Program or HSIP (READ: H-sip). Frequently when discussing transportation issues, much of the focus is on problems with funding, congestion and the physical State of our infrastructure; but sufficient attention must be paid to ensuring our nation's roads are as safe as possible. Injuries and fatalities on our nation's roads place enormous economic and non-economic costs on our society. We can do better. As we work to increase the performance of our transportation network, we must also continue to make safety our priority.

Following enactment of SAFETEA, I asked GAO to conduct reviews of many aspects of the highway program. HSIP was one of the areas they have been looking into for me. The HSIP work will not be published until September, but they will be able to give us their main findings today.

The most important part of HSIP is the strategic highway safety plan, where States create a data driven plan to address their most pressing safety problems. Anything on this plan is eligible for Federal HSIP funding. I really like this approach. Let the states determine their greatest needs and determine how funds can be best spent.

These strategic plans are one of the primary areas I asked GAO to focus their efforts to ensure the program was operating as we hoped and planned. Early reports are fairly positive, but as always, there is room for improvements, especially on the data front. I hope all of today's witnesses can give us their thoughts on this issue.

Recently I was made aware of a growing concern by State Departments of Transportation regarding the ability to use proprietary products in Federal-Aid projects. I am continually amazed at how quickly technology changes and how what may have been "state-of-the-art" is quickly overshadowed by new and innovative products. We want our States to have the ability to use the product best suited for the job, but at the same time we need to make sure that scarce taxpayer dollars are used wisely. Thus, the Federal Highway Administration has regulations requiring open and competitive bidding for vendors doing work or providing materials for Federal-Aid projects. I support that process, but would like to hear from our witnesses whether or not the existing regulations need to be examined to make sure that they are not inhibiting States from choosing the right product for the job.

One of our witnesses will discuss performance measures. Currently, the highway program provides states over \$40 billion a year. This money comes with far too many bureaucratic strings attached. That said, an important area is currently ignored: what are we getting for our money after the project is constructed. How states choose to spend limited State and Federal resources obviously has an enormous impact on the performance of the system. Performance measures can focus on individual aspects of the system such as congestion, the physical condition of roads or bridges, or safety. I am interested to see if HSIP is an area where performance measures can play a role. The use of performance measures is complicated otherwise they would already be more widely used.

This hearing is being held as we prepare to write the next highway bill; so I'm looking forward to hearing concrete suggestions from our witnesses on how to improve the current HSIP program. This is a critical program and I know that everybody wants to make the improvements necessary to help make our nation's roads safer.

Senator LAUTENBERG. Without objection, a good idea, and I appreciate it.

Mr. Paniati, we welcome you and invite you to give your testimony. Please try to keep within the 5-minute limit. We are tolerant, but that may be a minute.

[Laughter.]

**STATEMENT OF JEFFREY F. PANIATI, EXECUTIVE DIRECTOR,
FEDERAL HIGHWAY ADMINISTRATION**

Mr. PANIATI. Senator Lautenberg, Senator Inhofe, thank you for the opportunity to discuss the Federal Highway Administration's efforts to reduce the number of crashes, injuries and fatalities on our Nation's highways.

In 2006, the number of people who lost their lives on the Nation's roadways fell by 868 deaths from 2005. This translates to a fatality rate of 1.41 per 100 million vehicle miles traveled, the lowest rate ever recorded. The number of fatalities in 2006 represents the largest drop in total deaths in 15 years.

Despite the gains we have made in improving highway safety, over 42,000 people lost their lives in motor vehicle crashes in 2006. These numbers are clearly unacceptable. That is why DOT considers safety its top priority and remains committed to the goal of reducing highway fatalities to a rate of 1.0 per 100 million vehicle miles traveled by 2011.

As you well know, improving highway safety requires a multi-agency and multi-disciplinary effort. While the National Highway Traffic Safety Administration and the Federal Motor Carrier Safety Administration focus on vehicle and behavioral safety, FHWA concentrates primarily in infrastructure, including the safety of roadway design, safe operation of the highway system and elimination of roadway hazards. We are also working to advance high quality safety data collection and analysis. We use a data-driven approach to target four areas that offer the highest returns from infrastructure-based solutions: roadway departure, intersections, pedestrian-related crashes and speeding.

Since SAFETEA-LU was enacted, FHWA has worked aggressively to make authorized funds available and to issue guidance and regulations as necessary to carry out the authorized programs. Through the Highway Safety Improvement Program, SAFETEA-LU more than doubled the amount of highway safety funding for States and emphasized a data-driven strategic approach to improving highway safety. The program provides States with the flexibility to use funds for safety projects on all public roads and publicly owned pedestrian and bicycle paths and to effectively implement State Strategic Highway Safety Plans.

FHWA assisted States in developing their plans, and we are happy to report that every State now has a strategic plan in place. We have witnessed the impacts of taking a strategic and comprehensive approach to highway safety. Thirty-two States identified data and data system improvements as a priority in their plans, and in 2007, 40 States used highway safety improvement funds for data improvements.

In addition, we have seen increased stakeholder collaboration in the States and a greater focus on allocating resources to address the highest priority safety needs.

FHWA continues to assist States with their safety planning, so that safety funds will be used where they yield the greatest safety benefits. A priority for FHWA is safety on rural roads. Rural two-lane road fatality rates are significantly higher than fatality rates on the Interstate. The High-Risk Rural Road portion of the Highway Safety Improvement Program sets aside \$90 million each year to address safety and develop counter-measures to reduce these fatalities.

Earlier this year, Secretary of Transportation Mary Peters announced a new national strategy to concentrate resources and technology on reducing deaths on the Nation's rural roads. The Rural Safety Initiative, led by Deputy Secretary Thomas Barrett, is a

comprehensive effort among several agencies within DOT that will help States and communities develop strategies to eliminate the risks that drivers face on rural roads. The Rural Safety Innovation Program, a component of the Rural Safety Initiative, is offering \$15 million to rural communities across the country to apply and evaluate innovative safety solutions.

Highway fatalities are a national tragedy, and FHWA is committed to reducing their numbers. Using the tools SAFETEA-LU provided, and working together with the highway safety community, we are making progress and seeing results. As we approach reauthorization, we look forward to continued work with this Committee, the States and our transportation safety partners to save lives on our highways and achieve the Department's safety goal. We hope to build upon the strong framework that was established in the last reauthorization with a continued focus on improving data collection and analysis and providing States maximum flexibility to target their greatest safety needs.

I thank you for the opportunity to appear before you today, and I will be happy to answer any questions you may have.

[The prepared statement of Mr. Paniati follows.]

**STATEMENT OF
JEFFREY F. PANIATI, EXECUTIVE DIRECTOR
FEDERAL HIGHWAY ADMINISTRATION
U.S. DEPARTMENT OF TRANSPORTATION
BEFORE THE
COMMITTEE ON ENVIRONMENT & PUBLIC WORKS
U.S. SENATE
HEARING ON SAVING LIVES ON OUR NATION'S HIGHWAYS**

JULY 17, 2008

Chairman Boxer, Ranking Member Inhofe, and Members of the Committee, thank you for the opportunity to appear before you today to discuss the Federal Highway Administration's (FHWA) role in saving lives on our Nation's highways.

The safety of the traveling public is the United States Department of Transportation's (DOT) most important priority. As you well know, improving highway safety requires a comprehensive, multi-agency and multi-disciplinary effort. Through the combined efforts of the entire highway safety community, our highways are safer than ever before, but with over 42,000 highway fatalities in 2006, much work remains.

FHWA takes seriously its charge to ensure the safety, reliability, and efficiency of America's highways, roads, and bridges. We are committed to continued work with you, the safety community, and our sister agencies, including the National Highway Traffic Safety Administration (NHTSA) and the Federal Motor Carrier Safety Administration (FMCSA), to reduce highway fatalities and injuries.

The Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users (SAFETEA-LU) (Public Law 109-59) significantly increased the national policy emphasis on safety and the resources available to reduce traffic fatalities and injuries on all public roads. The Act also introduced new programs and provided greater flexibility to meet the challenges of improving safety. Using the tools SAFETEA-LU provided, and working together, we are making progress and seeing results.

Reducing Highway Fatalities

In 2006, the last year for which we have final data, the number of people who lost their lives on the Nation's roadways fell by 868 deaths from 2005, equating to a fatality rate of 1.41 per 100 million vehicle miles traveled (VMT)—the lowest rate ever recorded. The number of fatalities in 2006 represents the largest drop in total deaths in 15 years.

Passenger car occupant fatalities declined for the fourth year in a row to 30,521, the lowest annual total since 1993. The fatality rate per 100 million VMT for passenger vehicles also reached an all time low of 1.10 in 2006. In addition, the number of people suffering incapacitating injuries as a result of motor vehicle crashes in 2006 was 26 percent lower than in 2000.

At 1.94 fatal crashes per 100 million large truck VMT, in 2006, the large truck fatal crash rate reached its lowest point since the Department began tracking these figures 30 years ago. From 2005 to 2006, large truck fatalities decreased from 5,240 to 4,995, representing a 4.7 percent reduction.

Although final data are not yet available for 2007 and 2008, preliminary State data show promising signs of a further reduction in fatalities in 2007 (compared to 2006) and more significant declines in fatalities in at least 35 States in 2008 (compared to 2007).

Despite the gains we have made in improving highway safety, 42,642 individuals still lost their lives in motor vehicle crashes in 2006. Motorcycle rider fatalities continued their nine-year increase, reaching 4,810 in 2006—an increase of 5 percent over the 2005 number and a 127 percent increase since 1997. Motorcycle rider fatalities now account for 11.3 percent of total motor vehicle fatalities, exceeding the number of pedestrian fatalities for the first time since DOT began collecting fatal motor vehicle crash data in 1975. In 2006, 17,602 people were killed in the U.S. in alcohol-related motor vehicle crashes—about 40 percent of total motor vehicle fatalities. This proportion has remained relatively unchanged since 2000.

In 2005, according to the Centers for Disease Control, once again motor vehicle crashes were the leading cause of death for Americans for every age 2 through 34. And, the associated financial costs are staggering—over \$230 billion each year.

These numbers are not acceptable. That is why the DOT considers safety its top priority and remains committed to the goal of reducing highway fatalities to a rate of 1.0 per 100 million VMT by 2011. To most effectively align program and policy actions needed to meet key challenges, the Department has established four fatality sub-measures—passenger vehicles, nonoccupants (e.g., pedestrians and bicyclists), motorcycle riders, and large-truck and bus-related fatalities—which represent the breadth of all highway users. The purpose of this approach is to examine more closely the fatality rates of the various segments of highway users and develop targeted strategies to combat trends within these segments of highway users.

Additionally, data from the NHTSA Fatality Analysis Reporting System (FARS) highlight crash trends and areas where major fatalities are still occurring. We use this information to assist States in maximizing returns from safety investments. Some of the greatest gains in reducing fatality rates in the short term lie with influencing driver behavior. Over 90 percent of crashes are caused by human factors, such as speeding, lack of seat belt use, and alcohol impairment. The DOT has implemented a number of driver behavior programs, including the primary safety belt use law incentive grant program, the alcohol-impaired driving countermeasures program, and others.

FHWA's Role in Highway Safety

Comprehensive Safety Programs and Partnerships

FHWA's Office of Safety is responsible for leading FHWA in the development and delivery of a comprehensive range of programs that will enable the Department to meet its 1.0 safety goal. FHWA actively pursues improved highway safety through a collaborative, multi-faceted approach that addresses the "4Es of safety"—engineering, education, enforcement, and emergency medical services. Using a data-driven approach, we work with other safety agencies at DOT and with our safety partners to develop and deliver technologies, processes, and policies that direct resources to activities that can yield the highest highway safety gains. While FHWA concentrates primarily on infrastructure-oriented solutions, we recognize that highway deaths are often the result of some failure of the driver or vehicle, in addition to the roadway, so we work closely with

both NHTSA and FMCSA on intermodal activities such as the DOT Speed Management Strategic Initiative. We not only work at the national level to provide leadership for highway safety, we work directly with roadway owners and operators at all levels to deliver safety-related programs and funding that yield benefits that include improvements in system conditions and operations. As part of this comprehensive approach, FHWA safety funding is targeted at improving the safety of roadway designs and operations, removing roadway hazards, and advancing high-quality safety data collection and analysis systems in collaboration with others.

FHWA's efforts with our partners to improve data quality are extensive. FHWA takes an active role, in conjunction with our partners at NHTSA and FMCSA, in the USDOT Traffic Records Coordinating Committee, an intermodal team that provides coordinated Federal leadership to maximize the efficiency and effectiveness of integrated roadway, traffic and safety data collection and analysis. FHWA also supports NHTSA in the implementation of the State Traffic Safety Information System Improvement Grant program, authorized under SAFETEA-LU, which provides grants to States to improve their data systems. FHWA has developed, in consultation with FMCSA and NHTSA, a Crash Data Improvement Program that gives States a detailed analysis of their crash data systems, training on how to make improvements, and individualized attention from data systems experts. This program has been piloted in two locations, and we are in the process of expanding it to other locations.

Perhaps one of the most difficult and wide reaching issues related to usable data is the availability of roadway information. Many States have, via their asset management systems, good data on engineering features, but in many cases, these systems cover only State-owned roadways and do not include some safety-critical elements. FHWA is working on the Model Minimum Inventory of Roadway Elements (MMIRE) program to more clearly define a set of standardized elements that will be beneficial in performing analyses to make program and project decisions. In 2006, preliminary MMIRE elements were vetted with traffic records professionals and "cross-walked" with safety analysis tools available or under development. FHWA has initiated a number of activities to move the concept forward, including establishing an executive steering committee, developing outreach materials on MMIRE for State and local partners, and initiating a contract to begin development of the MMIRE. Through these efforts and others, FHWA will continue to emphasize the need for data-driven decision-making.

SAFETEA-LU Implementation

Since the enactment of SAFETEA-LU in 2005, FHWA has worked aggressively to make the authorized funds available, and issue guidance and regulations as necessary to carry out programmatic modifications in SAFETEA-LU.

Highway Safety Improvement Program. SAFETEA-LU authorized the Highway Safety Improvement Program (HSIP) as a new core Federal-aid formula program and more than doubled the amount of highway safety funding for the States by authorizing \$5.1 billion over 4 years. The HSIP emphasizes a results-based, data-driven, strategic approach to improving highway safety. The program provides States with flexibility to use funds for safety projects on all public roads and publicly-owned pedestrian and bicycle paths, and to focus State efforts on implementation of State Strategic Highway Safety Plans (SHSPs). FHWA assisted States in developing their SHSPs. We helped

States convene the stakeholders necessary to solve highway safety problems and worked to analyze data to identify critical emphasis areas individualized for each State's safety needs. We are happy to report that every State now has an SHSP. We are also pleased to report that 32 States identified data and data system improvements as a priority in their SHSPs and that, in 2007, 40 States used HSIP funds for data improvements. FHWA's emphasis on a collaborative approach to improving safety is especially critical in the HSIP, where each State's SHSP addresses all "4Es" of safety described above. FHWA will continue to assist States with their SHSP implementation and safety planning so that safety funds will be used where they yield the greatest safety improvement.

We have cooperated with the Government Accountability Office (GAO) on its ongoing review of the HSIP and look forward to the issuance of its report on the program.

Safe Routes to Schools. SAFETEA-LU also authorized \$612 million for a new Safe Routes to School (SRTS) program to: enable and encourage children, including those with disabilities, to walk and bicycle to school; make walking and bicycling to school safe and more appealing; and facilitate the planning, development, and implementation of projects that will improve safety, and reduce traffic, fuel consumption, and air pollution in the vicinity of schools. Working with States, FHWA moved quickly to implement this new program. Each State has appointed a SRTS coordinator as required by SAFETEA-LU, and States are well underway in awarding grants and implementing projects. We also have fulfilled another SAFETEA-LU program requirement, creating a national clearinghouse for SRTS. The National Center for Safe Routes to School located at the University of North Carolina at Chapel Hill assists communities and States in developing successful SRTS programs and strategies. The National Center offers training, technical assistance, case studies of successful programs, and information on how to start and sustain a SRTS program. The Clearinghouse makes information available on its website at <http://www.saferoutesinfo.org>. At Congress' direction, we have also established and convened a Federal Advisory Committee that has studied and developed a strategy for advancing SRTS programs nationwide. The report on the Committee's findings will be transmitted to Congress soon.

High Risk Rural Roads. Rural two-lane, two-way road fatality rates are significantly higher than the fatality rates on the Interstate. The fatality rate for rural crashes is more than twice the fatality rate for urban crashes. The High Risk Rural Road portion of the HSIP sets aside \$90 million each year to address safety considerations and develop countermeasures to reduce these higher rural road fatalities. On February 29, 2008, Transportation Secretary Mary E. Peters announced a new national strategy that will concentrate resources and technology on reducing deaths on the Nation's rural roads. The *Rural Safety Initiative*, led by DOT Deputy Secretary Thomas J. Barrett, is a comprehensive effort among several agencies within DOT that will help States and communities develop strategies to eliminate the risks drivers face on rural roads. Approximately \$287 million in existing and new funding is available to support the *Rural Safety Initiative*. This new initiative highlights available resources and solutions and addresses 5 key goals: safer drivers, better roads, smarter roads, better-trained emergency responders, and improved outreach and partnerships. For example, the Rural Safety Innovation Program, a component of the *Rural Safety Initiative*, is offering \$15

million to rural communities across the country to apply and evaluate innovative safety solutions.

Work Zone Safety. SAFETEA-LU included an increased emphasis on work zone safety. Fatalities in highway work zones currently number over 1,000 annually. Four out of 5 of these deaths are motorists. Under the Work Zone Safety Grants program, FHWA has awarded grants to nonprofit and not-for-profit organizations to provide training to prevent and reduce work zone injuries and fatalities. SAFETEA-LU authorized \$5 million for each fiscal year of the program, starting in 2006. The grants may be used for construction worker training to prevent injuries and fatalities; development of guidelines to prevent work zone injuries and fatalities; and training for State and local governments, transportation agencies, and other groups implementing these guidelines. SAFETEA-LU also authorized \$1 million annually for a national nonprofit foundation to operate the National Work Zone Safety Information Clearinghouse. The Texas Transportation Institute is operating this clearinghouse under contract with the American Road & Transportation Builders Association (ARTBA). The Clearinghouse provides a wide variety of information related to improvement of roadway work zone safety available at <http://www.workzonesafety.org/>.

In addition, FHWA has been working with the American Association of State Highway and Transportation Officials (AASHTO) to advance and promote accelerated bridge construction technology, which enables bridge systems to be built offsite and then installed, in part or the whole bridge, at the job site over a weekend or overnight. The technology reduces the exposure time in the work zone and significantly reduces traffic disruption.

Bridge Safety Efforts. Highways, by definition, include bridges. The Highway Bridge Program supports State and local efforts to improve conditions, and thus safety, of highway bridges. The expansion of the Highway Bridge Program's scope under SAFETEA-LU is recognition of the importance of preserving bridges that are in better condition, as well as replacing and rehabilitating bridges that have suffered from deterioration. Since its inception, the Highway Bridge Program has been successful in reducing bridge deficiencies. As of December 2007, there were 116,025 bridges out of 599,319 inventoried nationwide that were on the National Highway System (NHS). Of those, 25,780, or 22.2 percent, were considered deficient. That represents a reduction of 4 percent from 1997, when 33,558 out of 128,432, or 26.1 percent, of NHS bridges inventoried were deficient.

Thousands of well-trained and dedicated bridge inspectors in the National Bridge Inspection Program work every day to ensure the safety of the nearly 600,000 existing bridges in the National Bridge Inventory. Through these inspections, critical safety issues are identified and acted upon to protect the traveling public. With an aging infrastructure and limited resources, it is vitally important to continuously monitor the condition of the Nation's bridges and frequently assess the load-carrying capacity of those bridges that are showing signs of deterioration.

Focused Approach to Safety

To reduce the number and rate of fatalities in traffic-related crashes, FHWA launched a performance-based approach to safety several years ago that better focuses our resources where the greatest opportunities to save lives exist. To accelerate

development and delivery of tools and technologies where they will make the biggest impact, we have focused resources on 4 areas where we see the greatest percentage of highway fatalities that are addressable by infrastructure-oriented solutions: roadway departure crashes (58 percent of all highway deaths); intersection-related crashes (21 percent of all highway deaths); pedestrian crashes (11 percent of all highway deaths); and speeding-related crashes (32 percent of all highway deaths). We maintain our focused approach to safety in the 4 critical areas in several ways, including:

- Providing technical assistance and training to States;
- Advancing the use of countermeasures such as shoulder and center-line rumble strips, cable median barriers, roundabouts and other operational improvements;
- Promoting the implementation of USLIMITS, a web-based expert advisory system to help States determine appropriate speed limits;
- Implementing PEDSAFE, an interactive system to diagnose pedestrian-related issues; and
- Supporting Roadway Safety Audits that bring together multi-disciplinary teams to review the safety performance of specific corridors or locations and develop countermeasures.

Safety Research, Technology and Innovation

Developing new technologies and tools through a strong research and development program in highway safety is a key component of FHWA's strategy to reduce highway deaths and injuries. FHWA conducts its own research and collaborates extensively with others who sponsor highway safety research and technology, including States and universities. Numerous safety research and technology projects that contribute to our highway safety objectives are currently under development with a strategic focus on areas with the greatest fatalities, including roadway departure, intersections, pedestrians, and speeding. Examples of our research and technology efforts include:

- Evaluating low cost safety improvements for State and local partners;
- Using advanced crash simulation and analysis to enhance the design of median cable barriers and edge-pavement dropoffs to make roadsides safer;
- Deploying SafetyAnalysis software to assist States in making cost-effective safety investment decisions;
- Working on Human Centered Systems to ensure that driver responses are considered in road design and in the development of new roadside safety technologies;
- Releasing targeted technical briefs on innovative intersection designs, such as the Diverging Diamond interchange, that enhance safety, alleviate congestion and reduce construction costs;
- With the US DOT Intelligent Transportation Systems Joint Program Office (ITS JPO), researching advanced vehicle-highway cooperative systems to avoid collisions at intersections; and
- Issuing an information report on the illumination of Mid-Block Pedestrian Crossings, to improve pedestrian safety.

FHWA is also active, along with others throughout the safety community, in supporting the future Strategic Highway Research Program (SHRP2), established by Congress and managed by the Transportation Research Board (TRB). Along with

NHTSA and FMCSA, we are excited about the potential impacts of an increased understanding of crash causation, including how driver performance is affected by roadway features and conditions. We are providing input to TRB as it studies SHRP2 implementation needs, and we look forward to further collaboration on this topic.

Program Guidance and Implementation

FHWA Division Offices work closely with State and local officials to assure that highly-effective systems, technologies, and processes are utilized when investing Federal dollars in highway safety countermeasures. We develop and disseminate guidance on program expectations and information on “best practices” on a continuing basis. Most recently, we provided information to States on high-priority safety countermeasures, which we encourage all States to consider as part of their regular project development and delivery. In addition, we work closely with national associations representing States, localities, enforcement officials, safety advocates, and others to facilitate sharing of information and tools to maximize the value of all our safety programs.

Conclusion

Highway fatalities are a national tragedy, and FHWA is committed to reducing their numbers. As we approach reauthorization, we look forward to continued work with this Committee, the States, and our partners in the transportation community to find solutions for the safety problems on our highways and develop methods to attain our safety goal.

Thank you for the opportunity to appear before you today. I would be happy to answer questions.

RESPONSES BY JEFFREY F. PANIATI TO ADDITIONAL QUESTIONS
FROM SENATOR BOXER

Question 1. Do you think that lower speed limits would make the roads safer? Do you think a national speed limit would be effective?

Response. The effects of speed limits on speeds, crashes, and casualties have been studied extensively over the past 30 years. In 1974 the 55 mph National Maximum Speed Limit (NMSL) was enacted to conserve fuel. Travel decreased, speeds decreased on roads where the speed limit was lowered to 55 mph, and total traffic fatalities decreased by 9,100 from 1973. The slower and more uniform speeds due to the 55 mph limit are judged to have saved between 3,000 and 5,000 lives in 1974 (TRB, 1984). As fuel became plentiful again, travel increased and compliance with the 55 mph limit decreased markedly (TRB, 1984). In 1987 Congress allowed States to raise speed limits to 65 mph on rural interState highways. States that raised their limits generally saw increases of about 4 mph in average speeds and 85th percentile speeds and statistically significant increases in traffic fatalities on these roads (TRB, 1998). A NHTSA study conducted in 1989 to assess the effect of the increase in NMSL estimated that fatal crashes increased by 22 percent in States that increased the speed limit, accounting for approximately 300 more fatalities each year (the same study also showed that States retaining their speed limit at 55 mph experienced a fatal crash increase on rural interstates of 10.4 percent). In 1995, Congress repealed the NMSL and returned full authority to set speed limits back to the States. Again, increased speed limits produced modest increases in both average and 85th percentile speeds and increases in traffic fatalities (TRB, 1998).

Although lower speed levels would reduce the severity of crashes, we do not believe that re-implementing a national speed limit would be an overall wise policy decision. Imposition of a national speed limit would impose a costly burden on the States, due to the disproportionate efforts needed to effectively enforce such a limit. Arbitrarily lower speed limits are viewed by drivers as unreasonable and often ignored. Arbitrarily lower speed limits strain relationships between the public and law enforcement personnel, and the States and Federal transportation agencies. The setting and enforcement of rational speed limits would be more effective in improving highway safety. Rational speed limits are determined by roadway geometry, traffic and pedestrian volume and characteristics, roadside development, etc., without the imposition of arbitrary speed limits. To be most effective, States should retain their authority to set speed limits. They have the best knowledge of their roadway conditions and will be relied on to enforce speed limits.

The Department has a comprehensive approach in place to reduce speed-related fatalities, injuries, and crashes, and the Secretary approved the Speed Management Strategic Initiative in June 2005. The initiative was developed jointly by Federal Highway Administration, the National Highway Traffic Safety Administration, and the Federal Motor Carrier Safety Administration. It is pursuing strategies and key actions to better define the relationship between speed and safety, promote engineering measures to manage speed, and increase awareness of the dangers of speeding. The strategies also include promotion of effective speed enforcement activities and building stakeholder cooperation and support. Based on scientific research, strategies include engineering, enforcement and education elements.

Question 2. What is the most important thing that can be done to improve road safety? Is there a Federal element to that, or is it purely State or local?

Response. When a crash occurs, it is generally the result of numerous contributing factors. Combinations of driver, roadway, and vehicle factors all have an impact on road safety. Likewise, combinations of programs and strategies at the Federal, State, and local level are needed to address this national crisis. Unfortunately, there is not just "one" most important thing—improving safety requires a comprehensive approach.

SAFETEA-LU has pointed the way to making a real difference in highway safety. The Highway Safety Improvement Program's (HSIP) data-driven, cooperative approaches are encouraging the critical partnerships, collaboration, and leveraging of resources and investments by the States across all 4 "Es" of safety (Engineering, Education, Enforcement, and Emergency Medical Services). The HSIP fosters more effective approaches as State and local agencies choose the best countermeasures or investments to solve their highest priority safety problems.

To make the most effective safety investments, we need to ensure that all safety decisions are based on quality data and that the necessary data and analysis tools are available. Also, it is important to view safety as an integral part of transportation decisionmaking to ensure that safety elements are fully incorporated into all Federal-aid projects. We also need to address the safety problems of rural roads where almost 60 percent of fatalities occur. Improving safety on the vast local and

rural road network will require system-wide applications of low-cost safety improvements.

To improve road safety, the Federal level has a definite role to play in partnership with States and local transportation practitioners. We proactively provide technical assistance and support to encourage improvements in State and local safety data and implementation of safety improvements on all public roads. To be successful, these Federal strategies must be carried out in cooperation with State and local partners. State and local practitioners have the most critical role to play in implementing the policies, regulations, countermeasures, and decisions that advance and improve safety.

Question 3. You have highlighted in your testimony the USDOT's rural safety initiative. How does that differ from the programs that are already in place? What new funds are being drawn upon? Am I correct to observe that the main thrust of this program is used to create a "bully pulpit"? Are there any other programs being developed at USDOT?

Response. The Rural Safety Initiative is different from current safety programs because it not only taps over \$200 million in existing rural safety funds, it has also provided ITS program funds and Delta region transportation development program funds for State and local communities to improve safety on rural roads through grants made available by the Rural Safety Innovation Program (RSIP). These RSIP grants are designed to help States and communities develop ways to eliminate the risks drivers face on America's rural roads and highlight available solutions and resources. On August 27, the Department announced that 14 States, three counties and two parishes were awarded \$14.7 million to implement projects to reduce crashes on dangerous rural roads. Selected projects included installation of dynamic curve warning systems, intersection safety using ITS, speed management and information, and low-cost road departure crash countermeasures.

In addition, NHTSA is conducting two new demonstration programs to identify model strategies for increased seat belt use and decreasing impaired driving in rural areas.

The program does include a "bully pulpit" function that is effective because it brings more attention to the needs of rural roads. About 79 percent of rural roads are off the State systems where safety infrastructure and design have been most neglected. A greater emphasis is placed on technical assistance through safety circuit riders and non-traditional partners who help local governments identify problems and implement low-cost safety improvements.

In response to the third part of your question, FHWA is evaluating the HSIP and the High Risk Rural Roads (HRRR) program to identify possible improvements for reauthorization. In particular two areas are being explored: (1) we are considering options that help ensure that HSIP funds are used or made available by States for safety improvements on non-State owned roads; and (2) we are also considering ways to make it easier for State and local partners to participate in the HRRR program.

Question 4. Do you believe that the Highway Safety Improvement Program is living up to its potential? How are you going to deal with the shortcomings that GAO has described?

Response. We are confident the new Highway Safety Improvement Program is on sound footing. We have seen a significant drop in highway fatalities and the fatality rate in 2007, and we believe that HSIP policies and funding have contributed to this improvement, even though we also believe that greater gains will be achieved as the program fully matures and delivery processes are optimized. Significant progress has been made since enactment of SAFETEA-LU. All 50 States and the District of Columbia developed and are currently implementing Strategic Highway Safety Plans (SHSP) that include goals and strategies relevant to each State's distinct highway safety emphasis areas. To date, \$4.4 billion has been made available to the States, which is a cumulative total representing HSIP apportionments and additional funds from the Equity Bonus program, which totaled \$301,861,654 in fiscal year 8. This amount also includes a carryover of some HSIP funds from fiscal year and fiscal year 7.

The GAO pointed out several shortcomings that we are addressing to improve the effectiveness of the HSIP. The States' lack of safety data to carry out data-driven decisionmaking is a major concern. We have made States aware that funding for data improvements is available through the HSIP, NHTSA's State Traffic Safety Information System Improvements program, and other sources. By asking States to report annually on their plans and timetables for achieving full public road coverage for their fatality and serious injury data, we have encouraged them to improve these critical systems. The States demonstrated an increased awareness of the importance

of good safety data in 2007. Forty States used HSIP funds for data improvements and 32 listed data and data system improvements as priorities in their SHSPs.

GAO questioned the lack of a date-certain for State completion of roadway inventories in FHWA guidance documents. We have not required a specific date for completion of roadway inventories because we are developing a list of roadway data elements that will serve as a guideline to help standardize State reporting of roadway data. Better safety data including roadway inventory data are essential to good safety investments and identified as a high priority for safety reauthorization.

GAO also called for developing HSIP project selection guidelines for States. To provide guidance, we are currently revising Part 924 of title 23, Code of Federal Regulations (CFR), the Highway Safety Improvement Program. The regulation incorporates the new features and requirements of section 148 of SAFETEA-LU. It provides detailed information on program structure, planning, implementation, evaluation and reporting that will give the States a good basis for making effective project selections. We are also updating the Highway Safety Improvement Program User Manual and workshop. Three pilot workshops will be held in fiscal year 9.

GAO points out that the certifications required for State use of the 10 percent flexibility provision have been a barrier. Liability concerns have played a major role. We may also have to assess the impact of the certification required for the use of the rail flexibility provision in the recently passed Technical Corrections Act. We are considering ways to reduce these barriers and enhance State flexibility in reform of the surface transportation program. GAO also points out the disparity between the \$220 million set-aside for rail grade crossing safety and its low priority among the States. This is another example of the lack of flexibility for States to address their highest priority problems that could be addressed in program reform. GAO's comment that it is difficult for States to identify qualifying roads for the HRRR program is on target. We are considering ways to make it easier for States to participate in this program as part of reform legislation.

Though the HSIP has not yet reached its full potential, we are confident that significant progress is being made and will continue. The National Safety Council reports steady decreases in fatalities of 2 percent from 2005–2006, 3 percent from 2006–2007, and projects a 9 percent decrease from 2007–2008. Although these percentages are small, they indicate approximately 6000 lives will be saved from 2005–2008.

Question 5. An Associated Press report cited a University of Alabama study that says reduced driving due to increased gas prices could reduce auto deaths. Do you agree? Is this a “silver lining” to high gas prices?

Response. Yes, essentially less exposure will lead to less risk. A reduction in highway fatalities is truly a remarkable benefit to the Nation. In addition, inevitably there are other benefits to be realized in reducing fatalities, namely, a reduction in the estimated \$230 billion per year cost of highway crashes to the American public.

Question 6. What about large trucks in the traffic stream. As freight continues to increase, more large trucks are necessary to move goods to their final destinations. What are you doing to see that they are accommodated safely? What should the Federal role be in assuring safe goods movement? Should truck corridors be part of the answer?

Response. The Department, through the Federal Motor Carrier Safety Administration (FMCSA), has programs to ensure that commercial vehicles operating on our highways do so safely. In fact, in 2007, the number of people killed in crashes involving large trucks—trucks with a gross vehicle or gross combination weight rating of over 10,000 pounds—was the lowest since 1992, and a 4.4 percent decrease from 2006. Fatalities in large truck crashes have now dropped for 3 years in a row, from 5,240 in 2005 to 4,808 in 2007, a total decline of 8.2 percent.

These improvements in commercial vehicle safety are due in great part to a successful partnership between FMCSA and the States. FMCSA promulgates safety regulations and, together with the States operating under Motor Carrier Safety Assistance Program grants, enforces those regulations through traffic enforcement, roadside inspections, safety audits, and compliance reviews.

In addition, FMCSA coordinates with NHTSA (the National Highway Traffic Safety Administration), on commercial vehicle safety research and technology development, and outreach programs. Major heavy vehicle research topics for fiscal year include: continued research on truck-tractor stability control systems; vision enhancement systems to eliminate truck blind spots; and crash prevention and mitigation systems, including initiating research to estimate the safety benefits of automatic braking systems for heavy trucks. Collectively, these systems may help reduce a variety of crash types including rollovers, road departures, jackknives, rear end colli-

sions, and lane change/merge collisions. Research is needed to understand the capabilities, limitations, and reliability of these technologies.

While the research initiatives and partnering described above are making progress in improving commercial vehicle safety, given the projected freight increases, the Department does believe that truck corridors may provide an opportunity to realize greater safety and efficiency in the movement of freight in our country. Truck corridors could be part of a multimodal approach to more efficient goods movement. There are a number of parameters that could be evaluated when looking at highway system data/performance (e.g., the Annual Average Daily Truck Travel (AADTT), the percentage of trucks in the AADT, level of service on a facility). When certain thresholds are reached (e.g., AADTT > 10,000, the percentage of trucks in the AADT > 25 percent, the level of service on the facility is worse than D), an evaluation of multimodal transportation options, including rail, water, and highway (truck corridors) would be appropriate. The types of commodities moved by truck and the length of those trips, travel time reliability, emissions, energy consumption, public benefit, and changing commercial motor vehicle size and weight requirements on a dedicated corridor, would be some of the factors to be considered. For example, the I-70 Corridor of the Future effort is using a \$3 million Transportation, Community, and System Preservation program grant to conduct a study of the potential for dedicated truck lanes in the I-70 corridor across the four States of Ohio, Indiana, Illinois, and Missouri to improve goods movement through that corridor.

Question 7. Is the InterState safer than other roads? Why?

Response. Yes, the InterState system is safer than other roads.

While the InterState system carries 24 percent of vehicle travel, only 12 percent of the fatal accidents occur on this system. The reason for this is that the InterState system is required to adhere to a higher level of geometric design standards. This system facilitates higher volumes of traffic in a safe and efficient manner. Some of the features of the InterState system that contribute to it being safer are:

- Separation of directional traffic
- Lack of at-grade intersections
- Wide and/or protected medians
- Lack of pedestrians
- Zones clear of roadside obstacles
- Wide traffic lanes
- Paved shoulders
- Higher design speeds, with longer sight distances

RESPONSES BY JEFFREY F. PANIATI TO ADDITIONAL QUESTIONS
FROM SENATOR KLOBUCHAR

Question 1. There is a Federal Highway Administration regulation that generally prohibits—with some exception—the use of patented or proprietary products on Federal-aid projects. I'm told that several organizations have adopted policy statements encouraging modifications to the regulation. A joint committee of AASHTO, the Associated General Contractors, and the American Road & Transportation Builders Association, for instance, has urged that the regulation be modified". . . to permit greater flexibility in use of proprietary products that are beneficial to the public interest, especially those that can provide safety benefits to the public."

Is it possible that highway safety has been compromised in some instances when states were prevented from using new safety products because they were patented or proprietary?

Response. FHWA's policy does not prohibit the use of patented or proprietary products or processes. It encourages competition in the specification and selection of materials, and as a result, it promotes innovation in the design, manufacturing, installation and performance of highway materials. We are not aware of any instances where highway safety has been compromised due to this policy.

Question 2. If there is a close call whether the potential safety benefits of a new product outweigh the public interest in having multiple suppliers and multiple bids, which public interest should take precedence: safety or multiple suppliers?

Response. Contracting agencies and the FHWA have a responsibility to fully consider both safety benefits and life-cycle-costs in the selection and specification of materials. Safety benefits and economic factors must be considered and documented in any public interest finding that shows that there is no equally suitable alternate to a given product. This documentation process leads to greater transparency in the product selection process and a more competitive contracting environment that provides multiple benefits for the traveling public. I can assure you that, as part of this process, FHWA fully appreciates that significant safety benefits can be achieved

through innovation and development of new technologies and products, and we continue to stress that safety is the top priority of the Department and FHWA.

RESPONSES BY JEFFREY F. PANIATI TO ADDITIONAL QUESTIONS
FROM SENATOR INHOFE

Question 1. The testimony we have heard so far suggests that data limitations constrain the intended data-driven focus of the HSIP program. What is the best way to encourage improved data collection—especially when it comes to helping states improve their strategic highway safety plans?

Response. There is probably not just one “best way” to encourage improved data collection, but FHWA believes that in working together with NHTSA and FMCSA and through State-level Traffic Records Coordinating Committees (TRCCs), data collection and quality can be improved. The States vary widely in terms of the quality and accessibility of necessary data. Several activities are underway to improve data systems in all States:

- Thirty-two States have identified data and data system improvements as a priority in their Strategic Highway Safety Plans. Many types of Federal funds are available to States for data system improvements.

- FHWA takes an active role in the USDOT Traffic Records Coordinating Committee, an intermodal team that provides strong coordinated Federal leadership to maximize the efficiency and effectiveness of integrated roadway, traffic and safety data collection and analysis.

- FHWA actively supports NHTSA on the State Traffic Safety Information System Improvement Grants (“408 Grants”), an incentive program that provides funds to States to improve their data systems. FHWA division personnel have been extensively involved in the State TRCCs.

- FHWA has developed, in consultation with FMCSA and NHTSA, a “Crash Data Improvement Program” that provides States with a detailed analysis of their crash data system “health”, training in how to make improvements, and individualized attention from data systems experts. This program has been piloted in two locations and additional offerings are being scheduled.

- The Model Minimum Inventory of Roadway Elements (MMIRE) program will more clearly define a set of standardized elements that will be beneficial in performing analyses to make program and project decisions. MMIRE elements have been vetted with traffic records professionals and “cross walked” with safety analysis tools available or under development. FHWA has initiated a number of activities to move this concept forward, including establishing an executive steering committee, developing outreach materials on MMIRE for State and local partners, and initiating a contract to begin development of the MMIRE.

- The Modification to 23 CFR 924 Notice for Proposed Rulemaking (NPRM) includes specific references relating to the importance of evaluation, and the need for States to collect and maintain a record of crash, roadway, traffic, vehicle, case or citation adjudication and injury data on all public roads. Additionally, the NPRM indicates that new rule will require States to have a process for advancing their safety data collection and analysis capabilities.

Question 2. I understand from today’s testimony there is inconsistency among States in how they are implementing the HSIP program. I’d like to ask both of you if you think this is a significant problem or a reflection of the broad flexibility we wrote into SAFETEA. If you think it is a problem, does it need to be addressed legislatively or administratively?

Response. While we recognize that there are inconsistencies between the States in implementation of the HSIP, we do not think this indicates a significant problem or should be a major concern. The differences between the States’ implementation of the HSIP program are a reflection of their differing safety needs and challenges. The flexibility provided by the HSIP is essential to allow States to identify their unique safety needs. Strategic Highway Safety Plans have validity because they are data driven, comprehensive, and represent a consensus with safety stakeholders. The SHSP process requires the flexibility to focus HSIP funds on the priorities that address pressing safety problems rather than relying on traditional funding categories without examining safety data. The planned revision of 23 CFR 924 will provide States updated guidance to implement the HSIP. SAFETEA-LU has provided a good foundation to build on and points us in the right direction.

Question 3. 23 CFR, Chapter 1, Sec 655.411, as I understand it, prohibits the use of proprietary or patented products in Federal-aid projects unless:

- 1) The product has been selected through a competitive bid process;

2) A State certifies that the patented product is essential to the project and no suitable alternative exists;

3) The patented product will be used for experimental purposes in a small portion of the project;

4) If there is a “public interest” finding by FHWA that use of the product is in the interest of the public.

Several associations (ATSSA, ARTBA, AASHTO, AGC) have suggested that the existing proprietary rule discourages the use of innovative products simply because they are proprietary. ATSSA specifically states while “product innovators often enjoy a temporary marketplace advantage, fostering additional innovation by competitors, which serves the public interest . . . [that] temporary advantage should not be used as a justification for preventing implementation of the product innovation.”

In other words is the rule as currently drafted discouraging innovation because States are not able to use patented products and thus there is limited incentives to develop innovative products that can increase safety?

Response. We don’t believe that our regulations are too cumbersome or stifle innovation. Rather, they attempt to strike a balance between allowing innovation to be introduced into the market without adversely affecting the competitive environment, and contain several options designed to accomplish that objective. New products can be introduced:

- Through competitive bidding with other suitable proprietary and non-proprietary products from multiple manufacturers
- As a unique product for which there is no suitable alternative (i.e., no competing product that performs the same function)
- On an experimental basis
- Through FHWA approval of the State’s request to use a proprietary product as being in the public interest

And Federal-aid funding recipients can also choose to use proprietary products on Federal-aid projects on a non-participating basis.

We recently performed a survey of our Division offices on recently granted public interest findings, which revealed over 300 approvals for a variety of products. We believe that this level of activity provides evidence that existing regulations and processes are working, not that innovation is being stifled.

Question 4. Has the Administration given any thought to revisions to the rule to address the concerns raised by States through AASHTO and industry? If so, what do you believe could be done and if no discussions have taken place please explain why not.

Response. Yes, we have considered this issue from a number of perspectives and have also met with stakeholder groups on the topic. At this time, we continue to believe that the regulation (23 CFR 635.411) does not need to be revised. As noted above, the regulation strikes a balance between allowing innovation to be introduced into the market without adversely affecting the competitive environment and contains several options designed to accomplish that objective. The survey results noted above provide evidence that existing regulations and processes are working, not that innovation is being stifled. In addition, we have implemented an internal web page so that Division Administrators can see what products their counterparts in other States have seen and approved or disapproved. This should help Division Administrators make quicker and more informed decisions on requests for public interest findings.

We do understand the continuing interest of certain stakeholder groups in this issue, and we would be happy to work with the Committee and others if and when further discussions go forward.

Question 5. Given our transportation challenges, wouldn’t you agree that we need to allow States to select the best product for the job and doesn’t 635.411, as currently drafted, have a chilling effect on use of innovative products.

Response. We don’t believe that our regulations have a chilling effect on the use of innovative products. Rather, as noted above, they attempt to strike a balance between allowing innovation to be introduced into the market without adversely affecting the competitive environment. The regulations contain several options designed to accomplish that objective. As an example of this process at work; last year, 15 States requested that FHWA approve use of a new sign sheeting product that has the potential to significantly improve sign visibility at night. In this case, the asserted benefits of the new product over other high quality sign sheeting products, that are available from a number of manufacturers, were not so clear as to justify the ability to sole source this product in a large number of States on a widespread basis, for 3 years as requested. This determination was based on a detailed technical

review within FHWA. Instead of approving the broad request for a public interest finding, we recommended to these States that they seek more limited authority to experiment with the product to develop the more definitive safety benefits data that would support such a finding. We also provided guidance on how an appropriate experimental plan could be developed and offered to help States pool their resources if a pooled-fund approach was desired. At this time, none of the 15 States (or any others) has approached us to request such experimental authority.

Protecting and improving highway safety is FHWA's top priority. If there is a product that can clearly improve highway safety or other areas of the highway infrastructure, we would not hesitate to approve its use. The safety evidence simply was not that clear-cut in the example above, and the potential negative impact on competition was substantial.

Senator LAUTENBERG. Thank you very much.

Ms. Siggerud, welcome.

**STATEMENT OF KATHERINE A. SIGGERUD, MANAGING
DIRECTOR, PHYSICAL INFRASTRUCTURE ISSUES**

Ms. SIGGERUD. Chairman Lautenberg, Ranking Member Inhofe, I appreciate your invitation to GAO to appear at this hearing.

As Mr. Paniati explained, FHWA has a number of programs with the important goal of reducing crashes and fatalities on the Nation's roads. My statement focuses today on just one of those programs, the Highway Safety Improvement Program, or HSIP, which provides funds to States for infrastructure improvements at hazardous locations.

While this program continues some aspects of earlier authorization, SAFETEA-LU added a number of new features and requirements. We have been reviewing this program at the request of Ranking Member Inhofe and expect to report out on it this fall. Therefore, today I will provide preliminary information on, first, the extent to which States have implemented HSIP requirements set forth in SAFETEA-LU; second, the types of guidance and assistance FHWA provided to the States; and third, the result of HSIP, including the setaside programs for rail grade crossings and high-risk rural roads.

To implement HSIP requirements, States have submitted Strategic Highway Safety Plans that cover all aspects of highway safety, including infrastructure, behavioral and emergency medical services projects. They have consulted an array of stakeholders. State officials view these new planning requirements positively, especially the collaboration they encourage among safety stakeholders.

Mr. Chairman, I testified yesterday with the President of the State association that implements NHTSA grants, and he was also supportive of these plans.

States have also submitted the so-called 5 percent reports. These are meant to increase public awareness of highway safety by identifying the 5 percent most hazardous places in the State, along with possible solutions and their costs. FHWA posted these reports on its website.

However, States do not yet have the crash data analysis systems intended by SAFETEA-LU to support data-driven planning. These systems are intended to identify hazardous locations and to analyze solutions to help States select projects. Therefore, they require substantial data, including first, data from crash reports in a format such as GPS that can be used for mapping crashes on all public

roads; second, data on the characteristics of all public roads, such as the number of lanes with the shoulders; and third, software for analyzing these data.

Typically, States have better data on the roads they own than on locally owned roads, but State-owned roads account for a relatively small proportion of public road miles. Therefore, most States cannot currently perform the analysis envisioned in SAFETEA-LU or fully meet the requirements for the 5 percent reports. Estimates to obtain the necessary data run into the hundreds of millions. FHWA is developing software that may help States perform their safety analyses when the data become available.

To help States plan and carry out HSIP, FHWA provided guidance on preparing the safety plans, on the 5 percent reports and other prior reports, offered training for State officials and participated in every State strategic planning process. FHWA has not yet established deadlines for some efforts related to crash data analysis. FHWA did set an August 2009 deadline for States to be able to locate crashes on public roads electronically, but has yet to establish deadlines for States to have the required data on roadway characteristics.

In its guidance on the 5 percent report, FHWA understandably allowed the States to develop their own methodologies so they could use whatever data they had, and partly as a result, the States have developed widely varying versions of this report. Because some of them use a format that makes it difficult for the public to identify locations of listed sites, this report is not always increasing public awareness as intended.

It is too soon to evaluate fully the results of States' efforts to carry out HSIP under SAFETEA-LU. States submitted their Strategic Highway Safety Plans in 2006 and 2007. It usually takes a year or more to select and construct a project and additional time to evaluate its impact.

However, Mr. Chairman, we already have questions and issues for next year's authorization. First, only seven States have taken advantage of the provision that allows them to transfer some HSIP funds to behavioral programs, such as efforts to enforce drunk driving laws. States may do this if they certify they have met all highway safety infrastructure needs. Some States are apparently concerned about the implications of certification, others simply have more safety infrastructure projects.

It appears that improvements to rail grade crossings are not a high priority for a substantial number of States, in fact, two-thirds of the 25 that we reviewed. But SAFETEA-LU reserves about 17 percent of HSIP's authorized funding for these projects through a setaside program. Last month's technical corrections bill provides States with flexibility but still requires certification.

Finally, implementation of HSIP's high-risk rural road setaside program is in its early stages. Five of the six States we visited were having some difficulty identifying qualifying roadways and projects because of the same data challenges that I mentioned earlier. This may explain the relatively low spend-down rate for this program.

Mr. Chairman, this completes my statement. I am happy to answer any questions you may have.

[The prepared statement of Ms. Siggerud follows:]

United States Government Accountability Office

GAO

Testimony
Before the Committee on Environment
and Public Works, U.S. Senate

For Release on Delivery
Expected at 10:30 a.m. EDT
Thursday, July 17, 2008

HIGHWAY SAFETY

Preliminary Observations on Efforts to Implement Changes in the Highway Safety Improvement Program Since SAFETEA- LU

Statement of Katherine A. Siggerud
Managing Director, Physical Infrastructure Issues



July 17, 2008

HIGHWAY SAFETY

Preliminary Observations on Efforts to Implement Changes in the Highway Safety Improvement Program Since SAFETEA-LU

GAO
 Accountability Integrity Reliability
Highlights

Highlights of GAO-08-1015T, a testimony before the Committee on Environment and Public Works, U.S. Senate

Why GAO Did This Study

About 43,000 traffic fatalities occur annually, and another 290,000 people are seriously injured on the nation's roads. To reduce these numbers, the Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users (SAFETEA-LU) nearly doubled funding for the Federal Highway Administration's (FHWA) Highway Safety Improvement Program (HSIP), authorizing \$5.1 billion for 2006 through 2009. SAFETEA-LU also added requirements for states to develop strategic highway safety plans that cover all aspects of highway safety, including infrastructure, behavioral (education and enforcement), and emergency medical services projects; develop crash data analysis systems; and publicly report on the top 5 percent of hazardous locations on all their public roads. SAFETEA-LU also set aside funds for a legacy rail-highway crossing program and a new high-risk rural road program.

This testimony provides preliminary information on the implementation of HSIP since SAFETEA-LU. It is based on ongoing work that addresses (1) states' implementation of HSIP following SAFETEA-LU, (2) FHWA's guidance and assistance for states, and (3) results of HSIP to date, including for the two set-aside programs. To conduct this study, GAO visited 6 states, judgmentally selected based on highway safety attributes, analyzed plans and reports from these 6 states and 19 randomly selected states, and interviewed FHWA and state safety officials.

To view the full product, including the scope and methodology, click on GAO-08-1015T. For more information, contact Katherine A. Siggerud at (202) 512-2634 or siggerudk@gao.gov.

What GAO Found

All states submitted strategic highway safety plans and reports listing the top 5 percent of their hazardous locations, according to FHWA. The 25 state plans GAO reviewed generally cover all aspects of highway safety, but the 25 states have not fully developed the required crash data analysis systems. FHWA and state safety officials cited the collaboration that occurred among safety stakeholders in developing the plans as a positive influence on state safety planning. Many of the 25 states lacked key components of crash data analysis systems, including crash location data, roadway characteristics data, and software for analyzing the data. As a result, most states cannot identify and rank hazardous locations on all public roads, determine appropriate remedies, and estimate costs, as required by SAFETEA-LU, and their 5 percent reports often lack required information on remedies and costs.

FHWA provided written guidance and training to assist the states, especially in preparing their strategic highway safety plans, and participated in every state's strategic safety planning process. However, FHWA has not required states to submit schedules for obtaining complete roadway characteristics data, and because states lack complete data, FHWA's guidance on the 5 percent reports did not specify a methodology. As a result, states' 5 percent reports vary widely, raising questions about how this report can be used.

It is too soon to evaluate the results of HSIP as carried out under SAFETEA-LU because states need more time to identify, implement, and evaluate projects they have undertaken since adopting their strategic highway safety plans. However, preliminary evidence indicates that some HSIP provisions may not be aligned with states' safety priorities. First, most states have not taken advantage of a new spending provision that allows states to use some HSIP funds for behavioral or emergency medical services projects, partly because a certification requirement—that all state highway safety infrastructure needs have been met—may make them reluctant to do so. Second, the rail-highway crossing set-aside program does not target the top safety priorities of some states. Lastly, states are still in the early stages of implementing the high-risk rural road set-aside program, and data limitations may make it difficult for some of them to identify qualifying projects, especially for locally owned rural roads. FHWA agreed with GAO's findings.

Rumble Strips and Cable Median Barriers to Improve Highway Safety

Source: GAO.

Chairman Boxer and Members of the Committee:

We appreciate the opportunity to participate in this hearing to discuss highway safety. My statement today focuses on our ongoing work on the Federal Highway Administration's (FHWA) Highway Safety Improvement Program (HSIP). The program, established in 1973, provides funds through the Federal Aid Highway Program to states primarily for infrastructure and other improvements designed to reduce the number of crashes, serious injuries, and fatalities on the nation's roads. During 2006, about 43,000 traffic fatalities occurred and 290,000 people were seriously injured. Congress significantly revised HSIP through the Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users (SAFETEA-LU), passed in August 2005.¹ Key revisions include the following:

- The annual authorization for HSIP nearly doubled to about \$1.3 billion per year.²
- States must now prepare a strategic highway safety plan that addresses all aspects of highway safety, which include infrastructure improvements, behavioral approaches such as education and enforcement projects meant to change drivers' behavior, and emergency medical services approaches.³ Eight types of stakeholders must participate in developing the strategic highway safety plan.
- States must now develop crash data analysis systems that they can use to identify hazardous locations, potential remedies, and the costs of these remedies.

¹Pub. L. No. 109-59. SAFETEA-LU amended provisions of Title 23 of the United States Code. For the purposes of this testimony, we refer generally to SAFETEA-LU instead of the United States Code when describing various requirements.

²The HSIP funding that states receive is generally higher than the amount authorized, mainly because of the Equity Bonus program. The Equity Bonus program, authorized by SAFETEA-LU, provides funding to states based on equity criteria such as a minimum return on state contributions to the Highway Trust Fund. For fiscal year 2008, SAFETEA-LU authorized \$1,275.9 million for HSIP, including two set-asides for rail-highway crossings and high-risk rural roads. After adjustments, including the equity bonus, FHWA apportioned \$1,550.6 million to states for HSIP—over 20 percent more than the authorized amount.

³Emergency medical services approaches to improving highway safety include projects to reduce response time to crash locations and improve medical care in the aftermath of a crash, for example.

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- To advance public awareness of highway safety, states must now analyze safety hazards on all their public roads and report the most hazardous 5 percent of these locations, in what is known as the "5 percent report," to FHWA for posting on its public Web site.
 - The act authorized a \$220 million per year set-aside of funds for rail-highway crossing improvements under an existing rail-highway crossing program established in the Highway Safety Improvement Act of 1973.
 - The act created a new \$90 million per year set-aside for infrastructure projects on high-risk rural roads and defined these roads.
 - The act added a provision that allows states to transfer, or flex, up to 10 percent of their HSIP funds to behavioral and emergency medical services projects⁴ provided the state has adopted a strategic highway safety plan and certified that it has met all its safety infrastructure needs.

FHWA is not alone in funding state safety programs. The National Highway Traffic Safety Administration (NHTSA) and the Federal Motor Carrier Safety Administration (FMCSA) administer almost half of federal safety funding through grants provided to states for their safety programs. These grants are generally for behavioral projects. The Department of Transportation (DOT) encourages states to align their NHTSA- or FMCSA-funded programs with the strategic highway safety plans they develop in implementing HSIP, but such alignment is not required.

My testimony today addresses (1) the extent to which states have implemented HSIP requirements set forth in SAFETEA-LU, including key elements of strategic highway safety plans and crash data analysis systems, (2) the types of guidance and assistance FHWA provided to the states to support them in planning and carrying out HSIP, and (3) the results to date of states' efforts in carrying out HSIP, including the results of the set-aside programs for rail-highway crossings and for high-risk rural roads.

My testimony is based on preliminary work we are doing for this Committee for a review of HSIP scheduled for release later this year. To

⁴SAFETEA-LU states that approved states can flex HSIP funds to noninfrastructure projects that are identified in their strategic highway safety plans. According to FHWA officials, noninfrastructure projects are generally behavioral and emergency medical services projects.

examine states' strategic highway safety planning, we reviewed strategic highway safety plans and related program reports for a total of 25 states, including 19 randomly selected states and 6 states we visited—California, Florida, Illinois, Iowa, Mississippi, and Pennsylvania. We based our judgmental selection of these 6 states on our analysis of attributes associated with highway safety, such as fatalities and roadway characteristics, in each of these states and based on comments from highway safety experts. For these 6 states, we also obtained information on the development of their strategic highway safety plans and state officials' views. To identify and assess the types of guidance and assistance FHWA provided to the states in planning and carrying out HSIP, we reviewed FHWA guidance and interviewed FHWA headquarters officials and, in the 6 states we visited, FHWA division and state officials. To determine the results of the states' efforts since SAFETEA-LU, we reviewed strategic highway safety plans and analyzed data from HSIP annual reports for our 25 selected states. The results of our review of strategic highway safety plans and associated reports and site visits are not necessarily representative of all states. To address all our objectives, we also interviewed other DOT safety program officials and other highway safety stakeholders. We began this performance audit in May 2007, in accordance with generally accepted government auditing standards. Those standards require that we plan and perform the audit to obtain sufficient, appropriate evidence to provide a reasonable basis for our findings based on our audit objectives. We believe that the evidence obtained provides a reasonable basis for our findings based on our audit objectives.

Summary

States have developed strategic highway safety plans that meet the requirements set forth in SAFETEA-LU, but have not fully implemented the required crash data analysis systems. According to FHWA, all 50 states and the District of Columbia submitted strategic highway safety plans, and all 25 plans we reviewed generally covered all aspects of highway safety, including infrastructure, behavioral, and emergency medical services projects. The plans also contained other elements prescribed by SAFETEA-LU. State officials we interviewed described the results of the new planning requirement as positive, and FHWA officials said they considered the collaboration among various stakeholders in developing these plans as the most important result to date of SAFETEA-LU's HSIP revisions. However, states do not yet have the crash data analysis systems needed to identify and select possible safety improvements as prescribed by SAFETEA-LU. These systems include (1) data from crash reports in a geographic format suitable for mapping crashes on all public roads; (2) data on the characteristics of all public roads, such as the number of lanes,

width of shoulders, and other roadway features; and (3) software for mapping and analyzing the data. While states have data on crash locations, these data are often not in a format for geographic analysis and many states lack data on roadway characteristics, especially for locally owned roads. Typically, states have better data on the roads they own than on locally owned roads in the state, but state-owned roads account for a relatively small proportion of the public road miles in most states, averaging 20 percent nationwide and ranging from 8 percent to 33 percent in the 6 states we visited. Therefore, most states cannot currently perform analyses to identify hazardous locations on all public roads, determine appropriate remedies, and estimate the costs of these remedies as required to identify and select safety improvements and to fully meet the requirements for the 5 percent reports. FHWA is developing software that may help states perform their safety analyses once their data improve.

FHWA provided guidance and assistance to the states to support them in planning and carrying out HSIP, but has not yet established deadlines for key efforts related to crash data analysis. FHWA developed guidance to help states prepare their strategic highway safety plans, 5 percent reports, and other required reports; provided technical assistance and training for state officials; and participated at the division level in every state's strategic planning process. FHWA set an August 2009 deadline for states to have crash location data suitable for mapping, but has yet to establish deadlines for states to have the required data on roadway characteristics. In its guidance on the 5 percent report, FHWA gave states leeway in interpreting the act's requirements and, recognizing their data limitations, did not specify a methodology. As a result, states developed widely varying versions of the report, some of which use a format that may make it difficult for the public to identify listed sites. Consequently, it is unclear if this report is meeting its public information purpose.

It is too soon to evaluate the results of states' efforts to carry out HSIP since SAFETEA-LU's enactment because states need time to identify, implement, and evaluate HSIP projects undertaken after adopting their strategic highway safety plans. Given that states submitted their strategic highway safety plans to FHWA in 2006 and 2007, and that project selection and construction can take a year or more, it is too early to know whether the HSIP projects selected will make a difference in reducing crashes, serious injuries, or fatalities at project sites. Already, however, preliminary evidence raises questions about how well some HSIP provisions are aligned with states' safety priorities. First, few states have taken advantage of a provision that allows states to transfer some HSIP funds to behavioral programs and emergency medical services projects if they certify they

have met all the highway safety infrastructure needs they can address through HSIP. As of the end of June 2008, seven states had received approval for transfers. Other states told us they are interested in transferring funds but have not done so, partly because of concerns about the certification requirement. Second, about two-thirds of the strategic highway safety plans we reviewed (17 of 25) did not include rail-highway crossings as a top priority, or emphasis area, but SAFETEA-LU reserves about 17 percent of HSIP's authorized funding for these projects through the rail-highway set-aside program, leading some states to question the size of this set-aside program. A June 2008 act provides states with flexibility to use their rail-highway set-aside funds for other types of infrastructure improvements under HSIP if they certify that they have met all their rail-highway crossing needs.⁵ Finally, implementation of HSIP's high-risk rural roads set-aside program is in the early stages, and although 16 of the 25 states we reviewed had identified and funded projects by the end of fiscal year 2007, 5 of the states we visited were having difficulty identifying qualifying roadways and appropriate remedies because they lacked data on crash locations and local road characteristics.

Strategic Highway Safety Plans Included Key Elements Added by SAFETEA-LU, but States Lack Data for Analysis Specified by the Law

All 50 states and the District of Columbia submitted strategic highway safety plans to FHWA before October 2007, a deadline established by SAFETEA-LU. Additionally, the 25 state strategic highway safety plans we reviewed generally contained the key elements specified in SAFETEA-LU, such as consideration of all three approaches to improving highway safety, including infrastructure improvement, behavioral approaches (education and enforcement), and emergency medical service improvements, and evidence of involvement by a broad set of stakeholders. For example:

- All 25 plans included infrastructure improvement and behavioral approaches among the emphasis areas or key strategies that states identified to address their top priorities. Twenty-two of the plans included emergency medical services improvements.
- Our review of the plans indicated that 20 of 25 states consulted with at least five of the eight specified types of stakeholders, including representatives of the state agencies that administer NHTSA and FMCSA safety grants.

⁵SAFETEA-LU Technical Corrections Act, Pub. L. No. 110-244.

As a result, the new planning process helped break down the separation between engineering and behavioral program planning that existed prior to SAFETEA-LU. Highway safety officials in states we visited said the extent of cooperation between stakeholders that occurred when developing the strategic highway safety plan was a largely new development after SAFETEA-LU. FHWA officials told us that they believe this change in planning is the most important result to date of the changes in HSIP. Likewise, officials responsible for safety programs at NHTSA, FMCSA, and in the states we visited agreed that HSIP's strategic highway safety planning process facilitated more integrated safety planning than had occurred in the past.

While the state plans we reviewed indicated general compliance with SAFETEA-LU's requirements for preparing strategic highway safety plans, states do not yet have the crash data analysis systems needed to identify and select possible safety improvements as set forth in SAFETEA-LU. These systems include crash location data in a geographic format suitable for mapping and roadway characteristics data—such as lane and shoulder dimensions—for all public roads, together with software that can analyze the data. With these components, states can identify hazardous locations, develop appropriate remedies, and target resources to the greatest hazards. The requirement to obtain and analyze data for all public roads is a significant departure from past practice for many states. Before SAFETEA-LU, states generally had such information only on the roads they owned, because that information was useful for managing the maintenance and operation of their state-owned roads. However, state-owned roads account for a relatively small proportion of the public road miles in most states, averaging 20 percent nationwide. In the six states we visited, the state-owned portion of all public roads ranged from about 8 percent in Iowa to about 33 percent in Pennsylvania, and the remaining roads were locally owned. This data gap presents a challenge for states that may be costly for many to address, but the increased funding authorized for HSIP is generally available for data improvements as well as safety projects.

Our review of 25 state strategic highway safety plans and six site visits indicated that, to varying degrees, states lack key components of crash data analysis systems:

- All 50 states maintain data on the crashes that occur on all public roadways in the state, but in the 25 states we reviewed, the information on crash locations was typically not in a geographic format (GIS or GPS) suitable for mapping. Safety engineers use crash location data to

determine if accidents recur, or cluster, at specific sites. Among the states we visited, Iowa and California had crash data in a geographic format that allowed accidents to be located precisely on any public road in the state, but the other four states did not have such data for nonstate roads. According to our review of 25 states' strategic highway safety plans, some states are working toward improving their crash location data by upgrading their crash reporting systems with GPS capabilities, yet it is still common for crash location data to come from handwritten crash reports that use mile-post markers, intersections, or street addresses to identify crash locations.

- Most of the 25 states included in our review did not have data on roadway characteristics for all publicly owned roads, especially locally owned roads. As noted, states generally maintain these data only for roads they are responsible for maintaining and operating. For example, the Pennsylvania Department of Transportation originally established, and now maintains the data for, a roadway characteristics database to support its management and operation of state-owned roads. The department still uses the database primarily for this purpose, but the data can also be used for safety analyses. Furthermore, because it is costly and time consuming to gather and maintain roadway characteristics data, states generally have not expanded their roadway characteristics databases to include locally owned roads. For example, Florida officials estimated that it would initially cost \$300 million and could take 3 years to develop such a database. In addition, they noted there would be annual maintenance costs to keep the data current. Of the six states we visited, only Iowa had roadway characteristics data for all public roads.
- Most of the 25 states we reviewed have not developed software or other analytic tools to use the crash location and roadway characteristics data to perform the analysis required by SAFETEA-LU. FHWA is developing a software system, known as "Safety Analyst," that is designed to help states use crash location and roadway characteristics data to determine their most hazardous locations, rank them, identify possible remedies, and estimate the costs of implementing the remedies. FHWA estimates that it will complete the development of this software and release it to the states later in 2008. In the meantime, some states may also be developing their own approaches. For example, Mississippi is developing its own software, which is similar to Safety Analyst.

Until states have obtained the necessary data and software, they cannot conduct the kind of data analysis specified by SAFETEA-LU—namely, identifying and ranking hazardous locations on all public roads, determining appropriate remedies, and estimating project costs. This kind

of analysis is also necessary to generate 5 percent reports that fully meet the requirements for these reports set forth in SAFETEA-LU, including requirements for information on remedies and costs. Many of the 5 percent reports we reviewed lack this required information.

**FHWA Assisted States
in Preparing Strategic
Highway Safety Plans,
but Has Not Set
Deadlines to Obtain
All Needed Data**

FHWA provided guidance and technical assistance to states in preparing strategic highway safety plans, and FHWA division officials participated in each state's planning process. FHWA's guidance included memorandums describing new HSIP program procedures and a reference guide on strategic planning. Furthermore, FHWA held training symposiums and provided technical assistance through its division offices and resource center. According to our review of 25 strategic highway safety plans and six site visits, FHWA division staffs were actively involved in the state planning efforts that resulted in states' adoption of strategic highway safety plans and FHWA's acceptance of these plans.

In its guidance to states on implementing HSIP, FHWA stopped short of requiring states to gather all the data needed for the type of safety analysis specified in SAFETEA-LU. FHWA set August 31, 2009, as a deadline for states to develop the crash location data needed to map crashes on all public roads. FHWA officials told us that they believe that states will meet this deadline. However, recognizing the data limitations many states face, FHWA has not set a date for states to have the other required data on roadway characteristics for all public roads. Without roadway characteristics data, states cannot identify remedies and estimate the costs of infrastructure projects using analytic tools, such as Safety Analyst, but must instead rely on older approaches that combine data analysis with field surveys of potential improvement locations, roadway safety audits, or other information sources.

In its guidance on the 5 percent report, FHWA gave states leeway in interpreting the act's requirements and did not specify a methodology. Recognizing the states' data limitations, FHWA advised the states to prepare their 5 percent report using available data. Consequently, states prepared widely varying 5 percent reports. For example, some reports included remedies and costs for each location while others showed remedies and costs only for certain locations or for none at all. In our review of the 2007 reports for 25 states, the number of locations reported ranged from 5 to 880, with 3 states reporting 10 or fewer locations and 6 states reporting over 100. Additionally, many reports list locations in a format that the general public may find difficult to use. For example, the public may find it hard to identify a hazardous location when it is

identified in the report by the roadway mile marker, as is done in several reports we reviewed. We found that some states were using their 5 percent reports to help identify projects for funding, but where the format for identifying the sites was not readily accessible to the public, it was not clear whether the reports would enhance public awareness of highway safety, as intended.

It Is Too Soon to Evaluate Results of States' Efforts Since SAFETEA-LU, but Preliminary Evidence Raises Questions about whether Certain Program Provisions Are Aligned with States' Safety Priorities

As previously noted, federal and state officials told us that the strategic highway safety planning process improved collaboration and safety planning, but it is too early to evaluate the results of states' efforts to carry out HSIP since SAFETEA-LU's enactment, especially the results of infrastructure projects identified through the strategic highway safety planning process. However, preliminary evidence from our review of 25 states' plans and six site visits indicates that three provisions in SAFETEA-LU may not be aligned with states' safety priorities. First, states have generally not taken advantage of HSIP's flexible funding provision, which allows them to use HSIP funding for noninfrastructure projects.⁶ Second, the rail-highway crossing set-aside may target a low-priority type of project for some states, although other states continue to emphasize this area. Third, states have just begun to implement the high-risk rural road program, but data limitations may be making it difficult for some states to allocate program funds to qualifying projects.

More Time Needed to Evaluate HSIP Projects Since SAFETEA-LU

Too little time has passed for states to select and build infrastructure projects identified in their strategic highway safety plans and, as a result, it is too soon to evaluate the results of HSIP projects funded under SAFETEA-LU's authorization. Given the October 2007 deadline for states to submit their strategic highway safety plans to FHWA, states finalized their plans relatively recently—28 states did so in 2006, and the remaining 22 states, plus the District of Columbia, did so in 2007. Because infrastructure projects can take a year or more to select and build, and subsequent project evaluations require 3 years' worth of crash data after the projects have been implemented, it is too soon to assess the effectiveness of projects undertaken under the new program.

⁶Noninfrastructure projects are generally behavioral and emergency medical services projects, according to FHWA officials.

Few States Used HSIP Flexible Funding Provision for Behavioral and Emergency Medical Services Projects

States made limited use of the HSIP flexible funding provision that allows them to transfer up to 10 percent of their HSIP funds to behavioral and emergency medical services projects if they have adopted a strategic highway safety plan and certified that they have met all their safety infrastructure needs. As of the end of June 2008, seven states had applied to FHWA, and been granted approval, to transfer about \$13 million in HSIP funds to behavioral or emergency medical services projects (see table 1), according to FHWA data. Though none of the six states we visited has requested approval to transfer HSIP funds, officials in two of those states did express interest in doing so. However, these officials noted that their states could not meet the certification requirement because of ongoing infrastructure needs and concerns about the potential legal liability a state could incur by certifying that all its infrastructure safety needs have been met. Officials in the other states we visited agreed that certification would be difficult, but did not express interest in transferring funds because they had enough infrastructure projects to use all the available HSIP funds.

Table 1: Information on Funding and Projects in Seven States Approved to Transfer HSIP Funds for Behavioral and Emergency Medical Services Projects

State	Approved funding	Projects
Alabama	\$5,671,268	Education, emergency medical services, and enforcement activities
Colorado	\$1,867,737	Work zone safety, traffic records, occupant protection, and other activities
Hawaii	\$579,662	Specific information on projects not available from FHWA
Michigan	\$380,000	Various safety projects, such as work zone safety and winter driving safety education
Nebraska	\$2,100,000	Impaired driving, occupant protection, and young driver safety activities
Utah	\$983,132	Continuation of the Zero Fatalities Program, which incorporates a number of behavioral approaches
Wisconsin	\$1,202,000	Various public education programs, such as work zone safety and older and medically impaired driver safety
Total	\$12,783,799	

Source: FHWA.

At least in part because of these conditions attached to transferring funds, most HSIP funding remains focused on infrastructure. In some instances, the funding allocated between approaches may not be aligned with the emphasis areas laid out in the state strategic highway safety plan. Nevertheless, states may use NHTSA and FMCSA grants as well as transfer HSIP funds to address behavioral and emergency medical services approaches to improving highway safety. In contrast to HSIP funding, though, grants from related NHTSA and FMCSA programs are not formally aligned with the strategic highway safety plan developed as part of HSIP.

In our interviews with federal officials at FHWA, NHTSA, and FMCSA, we found that stakeholders from those three organizations were collaborating, usually informally, but to date, the flexible funding provision in HSIP has not significantly altered the sources of federal funding states use to fund infrastructure, behavioral, and emergency medical services safety projects. Additionally, because states' NHTSA and FMCSA grant awards are not formally aligned with states' strategic highway safety plans, it is unclear to what extent states have aligned their total federal highway safety funding with priorities identified in their strategic highway safety plans.

Rail-Highway Crossing Improvement Set-aside May Target Low-Priority Projects in Some States

HSIP's funding set-aside for rail-highway crossing improvements may target projects that are a low priority and yield low safety benefits for some states, but other states continue to emphasize rail-highway crossing improvements. Our review of 25 strategic highway safety plans showed that improving rail-highway crossings was often a low priority for states. As noted earlier, states designate their top safety priorities as emphasis areas in their strategic highway safety plans and identify their most hazardous locations in their 5 percent reports. Seventeen of 25 states had not identified rail-highway crossings as an emphasis area. In our review of the 5 percent reports submitted by these 25 states in 2007, we found that Oregon alone identified a rail-highway crossing in its 5 percent report of most hazardous locations.⁷

States' relatively low emphasis on safety improvements at rail-highway crossings may be related to their evaluations of the effectiveness of recent improvements. In reviewing our 25 selected states' rail-highway crossing program annual reports for 2007, we found 21 reports that included before-and-after crash data for rail-highway crossing improvement locations. In 15 of these 21 states, almost all of the improved locations showed zero incidents both before and after the improvement. Nevertheless, West Virginia's annual crossing report noted that as long as federal funding through the set-aside program continues, the state's strategic highway safety plan will address rail-highway crossings despite low project benefits.

⁷Because the locations in 5 percent reports are sometimes described in vague or technical terms, such as by mile markers, it may be difficult to determine if an included location is a rail-highway crossing.

The six states we visited varied in their views on the set-aside for rail-highway crossing improvements. Officials in two of the states said that the set-aside may be disproportionately high given the low risk rail-highway crossings pose compared with other hazardous locations. FHWA Office of Safety officials agreed that the program's funding, which accounts for approximately 17 percent of HSIP authorizations, was high based on the number of fatalities that occur at rail-highway crossings. Conversely, officials in Illinois noted that rail-highway crossings are a safety priority for the state. Additionally, Mississippi demonstrated the importance of improving crossings through their safety programs by augmenting federal set-aside funds with state funds.

The SAFETEA-LU Technical Corrections Act⁸ provides states with flexibility to use rail-highway crossing set-aside funds for other types of HSIP projects if they certify that they have met all their rail-highway crossing needs. While it remains to be seen how states will respond to this amendment, they may be reluctant to certify that they have met all their needs. As noted earlier, some states have been reluctant to make use of HSIP's flexible funding provision because they may still have some infrastructure needs or may have legal concerns about the potential liabilities of such a certification.

States Are in the Early Stages of Implementing the High-Risk Rural Road Program, and Data Limitations May Be Slowing Implementation

Many states are still in the early stages of implementing the set-aside program for high-risk rural roads and have yet to obligate significant funds for projects, and data limitations may be hindering their ability to target program funds to eligible projects. SAFETEA-LU created this program because over half of highway fatalities occur on rural roads. The act authorizes \$90 million per year to address hazards on rural roads defined as high risk.⁹ Projects on roadways that meet the act's definition are eligible for funding under the program. According to reports on the program to FHWA by the 25 states we selected, 23 of these states had implemented the program to some extent by the end of fiscal year 2007. Of these 23 states, 16 had already identified projects and approved, funded, or contracted for at least one infrastructure project, and 7 were still

⁸Pub. L. No. 110-244 (2008).

⁹The program defines high-risk rural roads as rural collectors or local roads that have shown fatality or serious injury accident rates above the state average for similar road types, or, based on projected changes in traffic volume, are likely to show above average rates in the future.

identifying potential projects, gathering data, or performing other preliminary activities. Because states remain in the early stages of implementing the program, obligations made to date are low; for example, through June 2008, program obligations for all years under SAFETEA-LU totaled \$50.3 million, compared with almost \$270 million authorized through that time period.

Limited data on rural roads—including data on crash locations and local roadway characteristics—may be hindering the program's implementation by making it difficult for some states to identify roads that conform to the definition of high-risk rural roads in SAFETEA-LU. Officials in 5 states we visited noted that limitations in their crash location and roadway characteristics data made it difficult for them to identify qualifying roadways and appropriate remedies. Additionally, in our review of 25 state reports, we found states cited data limitations as a difficulty in implementing the program. For example, at the end of fiscal year 2007, Texas had yet to implement the program due to data limitations.

Chairman Boxer and Members of the Committee, this concludes my prepared statement. We plan to report in more detail on changes in the Highway Safety Improvement Program and may have recommendations at that time. I would be pleased to respond to any questions that you or other Members of the Committee might have.

GAO Contact and Staff Acknowledgments

For further information on this statement, please contact Katherine A. Siggerud at (202) 512-2834 or siggerudk@gao.gov. Individuals making key contributions to this testimony were Rita Grieco, Assistant Director; Richard Calhoun; Elizabeth Eisenstadt; Bert Japikse; Sara Ann Moessbauer; John W. Stambaugh; and Frank Taliaferro.

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RESPONSES BY KATHERINE A. SIGGERUD, TO ADDITIONAL QUESTIONS
FROM SENATOR BOXER

Question 1. Do you think that lower speed limits would make the roads safer? Do you think that a national speed limit would be effective?

Response. Speeding is one of the major factors contributing to traffic crashes and can result in more serious injuries and fatalities in the event of a crash. According to the National Highway Traffic Safety Administration (NHTSA), in 2006, speeding was a contributing factor in 32 percent of all fatal crashes, and 13,543 lives were lost in speeding-related crashes. GAO has not conducted any recent work on the potential safety effects of imposing a national speed limit,¹ although we have ongoing work concerning the potential energy savings of such a limit. A 1998 NHTSA study² found that fatalities increased in states that increased their speed limits following the repeal of the 1974 law imposing a national speed limit of 55 miles per hour,³ although the study found variability within and among states, depending on roadway conditions. In considering imposing a national speed limit, Congress would need to consider the potential impacts on safety, as well as impacts on congestion and travel time for both passengers and freight. Additionally, a national speed limit would require effective enforcement if it is to succeed in improving highway safety. Besides considering a national speed limit, Congress could weigh the pros and cons of requiring NHTSA to conduct a national high visibility enforcement campaign—which combines intensive enforcement of a specific traffic safety law with extensive media communication to inform the public about the campaign—on speeding, similar to the campaigns that the agency currently conducts on seat belt usage and impaired driving.

Question 2. What is the most important thing that can be done to improve road safety? Is there a Federal element to that, or is it purely State or local?

Response. NHTSA's crash data show that the two leading factors contributing to fatal crashes are the failure to use safety belts and alcohol-impaired driving; speeding and motorcycle crashes are also key factors. All these factors can overlap. For example, many of the people killed in alcohol-related crashes were also unrestrained. Overall, unrestrained fatalities and alcohol-involved fatalities have decreased over the last two decades. In contrast, overall speeding-related fatalities have remained fairly constant, and motorcycle fatalities and fatality rates have increased significantly over the last decade. Other factors are also important, including the diverse issues associated with crashes involving older drivers, young drivers, large trucks, and pedestrians and bicyclists. Certain infrastructure improvements can help mitigate these problems. For example, rumble strips and median barriers can help reduce the probability and severity of alcohol-related crashes. Historically, the Federal Government has supported states' efforts to address many of these factors, through infrastructure improvements funded by the Federal Highway Administration's (FHWA) Highway Safety Improvement Program (HSIP) and through NHTSA's incentive grants and penalties that encouraged states to adopt laws against unrestrained and alcohol-impaired driving, among others programs.

As I noted during the July 17, 2008 hearing, states have developed, in part in response to Federal requirements, strategic highway safety plans that address the full range of approaches that can be helpful in addressing these diverse factors, including (1) highway infrastructure improvements, (2) behavioral approaches such as education and enforcement projects meant to change drivers' behavior, and (3) emergency medical services approaches designed to reduce response times to crashes and improve medical care in the aftermath of a crash, for example. However, GAO's recent work has pointed to the need for NHTSA and FHWA to encourage further improvement of states' data reporting and analysis capability and their program evaluation of highway safety activities to ensure that states can identify and select the

¹ We reported in 1977 that fatalities and injuries from crashes significantly declined after the national 55-miles-per-hour speed limit law was passed, although the lower speed limit was only one of several factors that contributed to the decline. See GAO, *Speed Limit 55: Is It Achievable?*, CED-77-27 (Washington, DC.: Feb. 14, 1977).

² Department of Transportation, National Highway Traffic Safety Administration, Report to Congress: *The Effect of Increased Speed Limits in the Post-NMSL Era*, (Washington, DC.: February 1998).

³ The 1974 law imposing the national speed limit was the Emergency Highway Energy Conservation Act, which prohibited the Secretary of Transportation from approving any Federal aid highway projects in any State having a maximum speed limit in excess of 55 miles per hour. In November, 1995, Congress repealed the maximum speed limit by passing the National Highway System Designation Act of 1995, which made the states responsible for designating all speed limits on roadways.

best possible safety improvements needed to address problems and to ensure that State grant recipients are awarded Federal funds based on their performance.⁴

Question 3. I realize that GAO is not finished with its study. Is GAO considering recommendations (for current study)? How would you advise us, as we prepare for next year's reauthorization, to improve the highway programs so that safety is seriously addressed? On balance, did SAFETEA-LU's changes add value to highway safety? Are we on the right track?

Response. Currently, we are considering recommendations to improve data analysis and reporting and targeting of funds under HSIP, although our recommendations could change as we finalize our report in the coming weeks. Prior to issuing our report, we will share our draft report and recommendations with the Department of Transportation to get their comments.

On balance, SAFETEA-LU's changes to HSIP have been positive. As I noted in my July 17 statement, the coordination between safety stakeholders that occurred in developing strategic plans was good and the focus on goal-setting and data-based planning to reduce fatalities and serious injuries is always positive. However, states still have significant obstacles to meet the data requirements of SAFETEA-LU and these data may be costly to obtain.

Question 4. Would you advise Congress to move in the direction of basing the safety program funding on performance? For example, states that make progress would receive funding or some other benefit as an incentive?

Response. GAO supports the concept of performance-based funding if the agency uses clear performance criteria and relies on sound data analysis to measure performance. In our prior work, we have often noted that Federal transportation programs, including HSIP, lack performance measures and incentives for good performance. Implementing such measures and incentives for highway safety programs would involve (1) clearly defining specific goals in the Federal interest and ensuring that the goals of all the relevant Federal highway safety programs are coherent and complementary, (2) deciding how performance should be measured, and whether national measures can or should be developed in a way that gives states flexibility to address their unique circumstances, (3) addressing challenges that states face in generating and analyzing the data required to measure performance, and (4) determining how decisions about funding the Federal highway safety programs should be linked to the performance of those programs. Given some of the challenges that FHWA and the states have encountered in implementing HSIP that I discussed in my July 17 statement—including the data limitations that states face and the questions about whether certain program provisions align well with states' safety priorities—it may be difficult for FHWA and the states to quickly develop and implement a full range of performance measures that can be used to make funding decisions. However, Congress and the administration may be able to identify some interim indicators of performance—one example might be developing a full plan, with milestones, for completing roadway inventory data systems and there may be other interim indicators—that could form the basis for rewarding states that are taking actions to advance their ability to measure the performance of their highway safety programs.

Question 5. What is the data telling you about the effectiveness of various countermeasures? How can you tell what combination of features should be considered in an effective plan?

Response. As noted in my July 17 testimony, it is too soon to tell if the projects implemented under states' strategic highway safety plans have been effective in improving highway safety because states need time to identify, implement, and evaluate HSIP projects undertaken after adopting their plans. However, some State transportation officials we interviewed noted that relatively low cost measures—such as cable median barriers, rumble strips, and other measures—can have positive impacts. Furthermore, according to information provided by State officials in Missouri, cable median barriers were highly effective in reducing cross-median head-on collisions on highways with center medians, and these barriers played a role in allowing the State to achieve its 2008 safety goal in 2007, a year early.

⁴See GAO, Highway Safety: Preliminary Observations on Efforts to Implement Changes in the Highway Safety Improvement Program Since SAFETEA-LU, GAO-08-1015T (Washington, DC.: July 17, 2008); Traffic Safety Programs: Progress, States' Challenges, and Issues for Reauthorization, GAO-08-990T (Washington, DC.: July 16, 2008); Traffic Safety: Improved Reporting and Performance Measures Would Enhance Evaluation of High-Visibility Campaigns, GAO-08-477 (Washington, DC.: April 25, 2008); and Traffic Safety: Grants Generally Address Key Safety Issues, Despite State Eligibility and Management Difficulties, GAO-08-398 (Washington, DC.: March 14, 2008).

The strategic highway safety plans we reviewed laid out a broad range of planned safety approaches, including the three approaches required by SAFETEA-LU (infrastructure improvements, behavioral approaches, and emergency medical services projects), but the specific mix of approaches varied between states. For example, some states emphasized older driver safety and others commercial vehicle safety, among other approaches. Furthermore, while we did not evaluate the comparative effectiveness of states' strategic highway safety plans, we believe plans that rely on data-based analysis of crash and other relevant data are most likely to effectively address State safety needs because such analysis can shed light on the most significant safety problems facing a given State and the causes of those problems, and help states target resources to appropriate remedies.

Question 6. How do you think states and others should be held accountable for results? How can we respect the differences among the states while maintaining a serious commitment to safety nationwide?

Response. It is unlikely that a single yardstick could appropriately measure all of the critical aspects of states' performance. The safety issues facing states vary and, as a result, current State strategic plans include different combinations of approaches. Performance measures that consider these differences could include measures of a state's progress over time or success in meeting a federally defined interim indicator of performance, such as compiling a complete crash data analysis system. The NHTSA grant program has shown that grant amounts can be based, for example, on rates of seat belt use and on adoption of primary safety belt laws and laws to prevent impaired driving. In addition, given data currently available on states' road characteristics and safety performance, interim indicators of performance, designed to take into account differences among states, could be developed. As noted above, these indicators could improve in quality and rigor as safety performance data and reporting improve.

Question 7. What advantages and safety gains do you foresee from using more advanced technologies in crash data collection? Your testimony referred to GPS systems versus hand-written crash reports. Could you elaborate? Is there any benefit to having a national data system where states can share information?

Response. Law enforcement agencies around the country are implementing field-based information technologies that allow data to be recorded directly into a state's data system, bypassing the need for data entry of paper files. One such technology is the Traffic and Criminal Software (TRACS) which allows local and State police to enter crash records electronically. If the police cruiser also has GPS capabilities, this system allows location data to be precisely recorded as well. Some of these systems have been funded by NHTSA's grant for improving traffic safety data. However, some states are still encountering barriers in getting timely, useful, and reliable traffic safety data to make highway safety planning decisions and to evaluate the effectiveness of their safety programs.⁵

Broader implementation of advanced technologies in crash data collection has several benefits. First, electronic crash reports can be prepared more quickly and with fewer errors than paper reports. Consequently, these safety data are available for analysis sooner, allowing safety program managers to respond more quickly to changing circumstances. Additionally, systems that contain information about geographic location, such as GPS, allow safety engineers to more easily identify locations that experience frequent crashes. When coupled with other data about roadways, safety engineers could develop potential safety remedies for these locations without conducting more costly, time-consuming field audits.

There could be some benefits to developing a system of consistent, national level data. If all data relevant to safety analysis are collected in every State in the same way, State safety program managers could conceivably make cross-State comparisons that could help determine whether strategies implemented in other states might be beneficial in their own state. Furthermore, safety analytic tools, such as Safety Analyst, a software tool currently under development by FHWA, will require some degree of data consistency to be implemented properly. NHTSA has already developed a national standard for consistent crash data collection—the Model Minimum Uniform Crash Criteria (MMUCC). Currently, MMUCC is a voluntary guideline and states vary in their compliance with it, but NHTSA expects greater compliance in the future because of a SAFETEA-LU provision that requires states to adopt the MMUCC as soon as practicable in order to qualify for traffic safety information system improvement grants. FHWA is also developing uniform standards for roadway inventory data elements, called Model Minimum Inventory of Roadway Ele-

⁵See GAO, Highway Safety: Improved Monitoring and Oversight of Traffic Safety Data Program Are Needed, GAO-05-24 (Washington, DC.: Nov. 4, 2004).

ments (MMIRE), which the agency anticipates will be fully developed and disseminated to states by 2009. Finally, we note that the benefits of pursuing national level data should be weighed against the costs of doing so.

RESPONSES BY KATHERINE A. SIGGERUD, TO ADDITIONAL QUESTIONS
FROM SENATOR INHOFE

Question 1. The testimony we have heard so far suggests that data limitations constrain the intended data-driven focus of the HSIP program. What is the best way to encourage improved data collection—especially when it comes to helping states improve their strategic highway safety plans?

Response. In the course of our work, Federal and State transportation officials noted a number of ideas that could encourage improved data collection, including the following:

- setting clear expectations for states of required data and timelines for acquisition,
- ensuring that the data collection requirements are not overly burdensome,
- continuing to make Federal funds available to support states' efforts to improve data, as currently provided by FHWA and NHTSA, and
- integrating safety data with other purposes—for example, requiring the collection of roadway data that can also be useful for maintaining and operating roads, as well as for safety analysis—to generate additional value in the data.

Question 2. I understand from GAO's testimony that there is inconsistency among states in implementing the HSIP program. Is this a significant problem or a reflection of the broad flexibility we wrote into SAFETEA? If you think it is a problem, does it need to be addressed legislatively or administratively?

In the area of data analysis, FHWA stopped short of requiring states to gather all the data needed for the type of safety analysis specified in SAFETEA-LU. For example, recognizing the data limitations many states face, FHWA did not set a date for states to have the required data on roadway characteristics for all public roads. Furthermore, in its guidance on the "5 percent report" that lists the top hazardous locations on all of a state's public roads, FHWA did not specify a methodology and, as a result, states' 5 percent reports vary widely, raising questions about how this report can be used. GAO is still evaluating information about FHWA's implementation of the "5 percent report" requirement and considering whether any recommendation(s) in this area would be appropriate.

In other areas, the flexibility afforded by SAFETEA-LU—such as the flexible funding provision that allows states to transfer up to 10 percent of their HSIP funds to behavioral and emergency medical services projects if they certify that they have met all their safety infrastructure needs—could help states improve highway safety and implement the most effective safety remedies, provided states are able to conduct the underlying data analysis needed to identify problems and appropriate solutions. However, relatively few states have taken advantage of this particular flexible funding provision, at least in part because of the condition attached to transferring funds. Moreover, as I noted in my July 17 statement, other HSIP funding provisions, such as the set-asides for rail-highway crossing safety and high risk rural roads, may not align with the safety priorities of some states and so there may be value in considering additional flexibilities for states in applying those funding provisions.

Senator LAUTENBERG. Thank you very much, Ms. Siggerud.

Mr. Paniati, you make note of the fact that 90 percent of crashes are caused by human factors, speeding, lack of seat belt use, alcohol impairment and so forth. If the key to improving safety is changing driver behavior, what has FHA done to influence drivers directly or encourage States to do so? What do you see as having been done to change human behavior there?

Mr. PANIATI. As you are aware, Senator, our primary responsibility and focus is on the infrastructure aspects of the system. We have been working aggressively to improve the communication to drivers through signing, marking, those kinds of activities.

The Highway Safety Improvement Program has been particularly beneficial, in that it has created focus among the States. They have taken data and focused on their programs. Rural roads are a particular problem. We have seen advancements both on the State side

as well as on the Federal side in things like uniform traffic control devices and larger signs. We recently put forward minimum reflectivity requirements that specify the minimum brightness for a sign at night, which is an important human factors element to give drivers guidance.

We are continually working to advance the ability to communicate with drivers to give them the kind of instruction and information that they need to safely navigate the roadway system. Clearly, it is part of a larger whole. We need, as you suggest, to have all drivers, all occupants in vehicles wearing seat belts. We need to have all motorcyclists wearing helmets. We need to have alcohol and other impaired driving laws in place and fully enforced. We need rational speed limits and speeding aggressively enforced.

Bringing all those things together, both from the behavioral side and in the vehicle with the driver and in the infrastructure, that comprehensive solution is what it is going to take to really drive the numbers down.

Senator LAUTENBERG. In your judgment, should Federal Highway enlarge its scope of activities? You identified the fact that there are so many of these deaths as a result of human behavior. And you did mention a few things. What do you think FHA's role ought to be doing in getting these things done? Do you think they should be more aggressive, or do we leave that to other departments?

Mr. PANIATI. I think we have a strong role to play on that infrastructure part of the equation. I think SAFETEA-LU and the Strategic Highway Safety Plans and the Highway Safety Improvement Program requirements point us in exactly the right direction, taking that data-driven comprehensive approach to safety that really targets the resources at where the problems are.

Senator LAUTENBERG. Let me interrupt and ask you this. Do we know how many deaths are caused as a result of the infrastructure deficiencies, whether as you said, be it signage or so forth, or inadequate structure in the highways and the design of roads and the repair of roads? Is there anything that says, in Federal law, that roads have to be kept to a certain minimum degree of operability? Anything like that?

Mr. PANIATI. We certainly know that virtually every crash has a series of events that contribute to it. Often, as you note, it is driver error. But that driver error may be compounded by a roadway design issue or a signing issue or driver distraction issue or others. It is important to the interrelationship of the factors.

We don't have good, solid data that identifies clearly the contribution of specific elements. But we do understand the number of crashes, for example, that are related to running off the road or related to speeding. We use that information to guide the kinds of tools that we put in place at the Federal Highway Administration to try to combat those.

Senator LAUTENBERG. Ms. Siggerud, Federal law only requires seat belts on small school buses, even though most students are transported on large buses. Considering the 7,000 injuries annually to children in school buses, do you think that the DOT should require seat belts on all school buses?

Ms. SIGGERUD. Chairman Lautenberg, I can tell you that GAO has not done a study specifically on that topic. But there are safety standards for school buses. They implement the concept of compartmentalization, so that when students are riding in a bus and are in a crash, they are generally contained and not able to move, usually about the bus, in the case of a crash. So the standards for buses currently are specifically designed to be safe.

In some work we did last year, looking at Head Start transportation, we did say that the addition of safety belts would generally be an improvement in safety over the compartmentalization standard.

Senator LAUTENBERG. Senator Inhofe.

Senator INHOFE. Thank you, Mr. Chairman.

Ms. Siggerud, the testimony we have heard so far suggests that data limitations constrain the intended data-driven focus of the HSIP program. What is the best way to encourage improved data collection, especially when it comes to helping States improve their Strategic Highway Safety Plans?

Ms. SIGGERUD. Let me first of all say that we are certainly fully supportive of the concept of the data-driven safety planning and improving the data on roadway characteristics and crash locations that are necessary to make that happen. It is clear that States will continue to need to use both the Federal Aid Highway dollars coming through the HSIP program for that purpose, as well as making good use of the NHTSA grants that also allow States to put new crash reporting systems into place and try to get better electronic reporting from law enforcement officers.

In our work several years ago, we pointed to a number of barriers as simple as having law enforcement officers filling out pieces of paper rather than reporting the crashes electronically, or not having GPS in order to be able to locate the crash. If we can continue to provide those grant dollars and assure that States make use of them and make progress in this area, that will be very important moving forward.

Senator INHOFE. I see. Mr. Paniati, I was going to request a hearing actually on proprietary or patented products, and decided we could get this done in this hearing also. So I am going to ask you, then I will be asking Ms. Martinovich a very similar question on the second panel.

It has to do with the, as I understand, the prohibition of the use of proprietary and patented projects in the Federal Aid projects, unless, and it lists four things: the product has been selected through a competitive bid process; the State certifies that the patented product is essential to the project and no suitable alternative exists; the third being the patented product will be used for experimental purposes in a small portion of the project; and fourth—these are the exceptions—if there is a public interest finding by the FHWA that use of the product is in the interest of the public.

Several associations, and I have a list of those associations, have suggested that the existing proprietary rule discourages the rule of innovative products simply because they are proprietary. One of the safety organizations specifically states, “Product innovators often enjoy a temporary marketplace advantage, fostering additional innovation by competitors which serves the public interest.

That temporary advantage should not be used as a justification for preventing implementation of the product innovation.”

In other words, is the rule as currently drafted discouraging innovation because States are not able to use patented products, and thus there are limited incentives to develop innovative products that can increase safety? What would you say?

Mr. PANIATI. We think the existing regulation allows us to maintain the proper balance between, as you suggest, allowing innovation on one hand, but not affecting the competitive environment in the marketplace on the other hand. We try to maintain that balance.

Over the last 10 years, our divisions have given over 300 approvals under that fourth exception that you cited. A specific example in the safety area is in the area of cable median barrier.

Senator INHOFE. Of what?

Mr. PANIATI. We call it cable median barrier. It is a type of guard rail used in narrow medians. It is relatively low-cost and has shown to be very effective in improving safety for roadway departure crashes.

A particular product that was developed as a proprietary product was brought forward and appeared to be a more cost-effective product. We asked that that product be tested first under the experimental exception that you cited. It was tested and demonstrated clear safety benefits, at which point we granted a limited 1-year term exception, to allow it to be used in the public interest.

The result was that it was introduced into the marketplace. It result in some competition. Other competitors came forward. We are in a situation today where we have a variety of cable median barriers available from a variety of manufacturers, now available in the competitive marketplace. I think that is the kind of outcome we are after in that balance between innovation and marketplace competition.

Senator INHOFE. What parts do you think that the States should be expanded in their ability to deal with this?

Mr. PANIATI. We believe that the current process with the current exceptions are working adequately to provide the opportunity for innovation to be introduced and for the competitive environment. So we would not recommend any change to the current regulation.

Senator INHOFE. All right, thank you, Mr. Chairman.

Senator LAUTENBERG. Thank you.

I just have a technical question. That is, in your notes, Mr. Paniati, you say that the cause of deaths of people aged 2 to 34 is dominated by highway accidents. Does that consider illnesses and things of that nature, accidents and all?

Mr. PANIATI. Yes, the No. 1 cause of death for individuals between the ages of 2 and 34 are highway crashes.

Senator LAUTENBERG. That is quite incredible when you think of what that kind of a toll on a military experience would be, it would shock the Country throughout to hear these things.

Then I want to ask Ms. Siggerud, the Federal Highway Safety Improvement Program was designed to recognize differences among the States and their safety needs, that is the question you just dealt with, to allow them to choose, them, the States, to choose how

best to improve safety. Well, there is a lot of flexibility. How can we be certain that these funds are being used effectively in that regard?

Ms. SIGGERUD. Let me take a step back to answer that question, Chairman Lautenberg. In general, GAO has raised issues over the past year or so about this very issue, in general, with the Federal Aid Highway program. That is, how can we be certain that in choosing to spend these formula funds that we are in fact choosing the investments that have the greatest effect on mobility, safety, whatever goal it is that we are talking about. And how can we understand the performance of these dollars, in other words, what results are we getting.

I think when we turn to the safety programs, we are in a little bit better shape than we are in some of the other Federal Aid Highway programs, where we have even more flexibility in fairly nebulous concepts like mobility that we are trying to measure. With regard to the safety programs, we talked about all the efforts the States are putting in to understand where the crashes are happening, what the causes of the crashes are and that kind of thing. We have a much stronger basis from which to do data-driven planning.

So if we can get to the point where we have confidence that the States have the data that they need and have a credible planning process in place, then I think we can also be confident that we are getting good accountability for the Federal dollar through the HSIP program.

Senator LAUTENBERG. You say if, and it is an elusive thing. Even though, Mr. Paniati, we had some improvement in the reduction of fatalities on the highway in the last year, that still leaves a number that is beyond imagination, over 40,000 people.

And I was pleased to hear that you listed motorcycle helmets as something that might encourage safer performance on the roads. I have been an advocate for a long time. But I am planning to come back with it again. We will see.

Senator Inhofe, any other questions?

Senator INHOFE. No, I just would observe, I asked the staff to give me the written statement of Mr. Paniati when he was talking about some of the successes here. And that is pretty impressive, that it fell by 868 deaths from 2005, and the 1.41 per 100 million vehicle miles traveled, the lowest rate ever recorded. To what would you attribute most of that success?

Mr. PANIATI. I think we are seeing a concentrated effort across the board on highway safety in a way we haven't seen before on the infrastructure side. Earlier in my career, I spent 10 years working directly in the highway safety area. I can tell you that the emphasis at the State level, the coordination from both the behavioral and the infrastructure side and the overall commitment at all levels that exists today is dramatically improved from where it was 10 years ago.

Senator INHOFE. We have both been around here for a while, I started on the House side in that committee that did the reauthorization. We didn't used to have much in there at all on safety, now there is a lot. I would assume that has something to do with the

concentration on safety from reauthorization bills over the last 22 years that I am familiar with.

Mr. PANIATI. Absolutely. It has brought more resources to bear on the problem. As Ms. Siggerud testified, it created a construct within which we are strategically thinking about and identifying problems and using data to drive the resources to those problems. I think that is exactly the right approach to use. I think that is how you get results.

We are hopeful that we are only at the beginning of the results that we are going to see and that those numbers are going to drop. There is some indication and expectation that they are going to drop significantly again in the most recent year's data. So we are hopeful we are on a trend that is headed in the right direction. We have a long way to go, no question about it. But we feel like we are moving in the direction we need to move.

Senator LAUTENBERG. That raises an interesting question. That is, has the high price of gasoline reduced traffic on roads, thusly improved the safety figures? That is a terrible way to get there, that is to keep people from being able to operate their vehicles.

Senator INHOFE. But that was not a factor in 2006?

Senator LAUTENBERG. No, no, no. Oh, I take nothing away. Any percentage gained, though it was about 2 percent, as I calculate, it is a good result.

I thank both of you for your public service and for being here today.

With that, the next panel, please.

[Remarks off microphone.] Ms. Martinovich comes with a lot of experience, 23 years of experience, including work on a number of national transportation issues. Ms. Gillan, as I mentioned, fights every day to improve the safety of our highways, as far as the trucks that use them. We thank you for your commitment.

And Mr. Johns is the Director of the Center for Transportation Studies, University of Minnesota. Mr. Johns leads research teams in several study areas, including regional growth, transportation needs and access to destination.

I thank each one of you for joining us and sharing your experience. I call on Ms. Martinovich first.

**STATEMENT OF SUSAN MARTINOVICH, P.E. DIRECTOR,
NEVADA DEPARTMENT OF TRANSPORTATION**

Ms. MARTINOVICH. Thank you, Senator. Good morning, Mr. Chairman, Senator Inhofe.

My name is Susan Martinovich. I am the Director of the Nevada Department of Transportation. On behalf of the Association of State Highway Transportation Officials, AASHTO, thank you for having this hearing.

Heightening the awareness of safety is of the utmost importance for the health and prosperity of the Nation. The steady level of over 42,000 fatalities per year must end. A recent study estimated the societal costs of all crashes in just larger metropolitan areas is a staggering \$164 billion annually. This is nearly two and a half times greater than the \$68 billion price tag for congestion. I am not downplaying congestion, coming from the fastest-growing State and home to Las Vegas, which enjoys over 43 million visitors a year.

But over half of the congestion problem is caused by non-recurring incidents. Curing safety greatly reduces the congestion problem.

Crashes don't just affect the urban centers of our Country. Almost 60 percent of the fatalities occur in rural areas. They can have a tremendous economic impact. A fatal or severe crash incident in rural Nevada that closes Interstate 80 causes a chain reaction of impacts. Over 70 percent of the goods and commerce coming from California cross the rural western States. Closures due to crashes result in long detours, hundreds of miles, and delays which impact delivery time and create additional user costs.

So to address safety, AASHTO recommends a series of bold actions to continue our progress in reducing highway fatalities. These are recommendations across congressional jurisdictions, and go beyond just infrastructure improvements. They can save lives.

First, adopt a national goal of halving fatalities over two decades and call for and fund a national summit on highway safety. Defining a national safety goal can bring focus and intensity to the problem. The goal adopted by AASHTO and our safety partners translates into saving 1,000 lives a year. With regard to the national summit, the last time the White House actively held a summit was in 1956, in conjunction with the interstate highway system. So it would be great to lead the charge again with the renewal of that system.

Continue the requirement of the Strategic Highway Safety Plans and require each State to update their plans at least once during the new authorization and call on each State to establish a State-set aggressive fatality reduction goal. These collaboratively developed plans prioritize and define the strategies and actions that address the States' most pressing needs, and these are individual States, from infrastructure improvements to education, and from enforcement to emergency response. The plans don't belong on the shelf. They need to be followed, revisited and measured.

The safety plans and programming actions need to be data based. Good data is the foundation for determining the fatality and serious crash reduction targets and how and where money should be spent. We want to allow greater funding flexibility and greatly increase the level of funding for all safety programs. Flexibility is needed because a priority for one State can be very different for another. As an example, trees contribute to a large percentage of fatalities in Northeastern States. Nevada's one tree is under heavy guard.

States following their safety plans should have the ability and flexibility to apply the safety funding to where their most critical needs lie and where they can have the biggest impacts with the minimal funding available. But we want, and the public should have, accountability. Therefore, spending needs to be performance-driven.

Funding for highway safety programs should remain as separate funding categories comparable to the other core programs. Safety enhancements are infused within all of the capacity or rehabilitation investments and actions we take. When expenditures from these other core programs, such as the interstate maintenance, such as the NHS and the bridge programs grow, then safety is in-

creased. The current level of funding for highway programs has failed to keep pace with inflation. Congress should further enhance safety research and development in all areas from infrastructure and driver behavior to improvements in vehicles. Research provides an important tool to discovery of a feasible solution for minimal cost. Federal incentives and enhanced vehicle regulations can enable crashes to either be eliminated or their impact greatly reduced.

We need to break through the compliancy plateau and take the effort up with additional fire and intensity if we want to save lives.

I thank you very much for the opportunity to appear before you. I assure you that AASHTO is representing the States, is a strong advocate and we are anxious to be part of the team again to save lives. Thank you.

[The prepared statement of Ms. Martinovich follows:]

JULY 15, 2008

Written Statement of
Susan Martinovich, P.E.

Director, Nevada Department of Transportation
Vice Chair, Standing Committee on Highway Traffic Safety
Chair, Standing Committee on Research
American Association of State Highway and
Transportation Officials

“SAVING LIVES ON OUR NATION’S HIGHWAYS”

SENATE COMMITTEE ON THE ENVIRONMENT AND PUBLIC WORKS
July 17, 2008

AMERICAN ASSOCIATION OF
STATE HIGHWAY AND
TRANSPORTATION OFFICIALS



Founded in 1914, AASHTO represents the departments concerned with highway and transportation in the fifty States, the District of Columbia and Puerto Rico. Its mission is a transportation system for the nation that balances mobility, economic prosperity, safety and the environment.

INTRODUCTION

Good morning Chairman Boxer and other distinguished Senators. I am Susan Martinovich, Director of the Nevada Department of Transportation. On behalf of the American Association of State Highway and Transportation Officials (AASHTO), in my capacity as Vice Chair of the Standing Committee on Highway Traffic Safety, and chair of the Safety Legislative Policy Team, let me start by thanking you for having this hearing early in the authorization process---heightening the awareness highway safety is of the utmost importance for the health and prosperity of the nation.

I also thank the Congress for infusing Highway Safety with a new core \$1 billion per year Federal –Aid Highway Program—the Highway Safety Improvement Program -- in SAFETEA-LU.

SAFETEA-LU made significant strides in enhancing the nation’s focus on safety. The legislation significantly increased funding for safety programs, created new apportioned safety programs, and required all states to develop an evidence-based strategic highway safety plan. State DOTs are using these funds to implement effective solutions designed to drive down fatalities. The legislation is still in its infancy, thus making it difficult to assess the progress that each program has had in reducing fatalities and crashes, but we are very optimistic these measures and those we are recommending for future legislation will bring us closer to meeting and surpassing our goals. The AASHTO Board of Directors passed in May of 2007, the goal of halving fatalities over two decades. This translates to saving 1000 lives per year from the base number---we know that together we can do this.

The steady national level of 42,000 plus fatalities per year must end.

As a nation we must do better; with the support of the US Congress we can do better—our future depends on it.

CURRENT SITUATION

The National Safety Council reports that “Motor-vehicle deaths for January through May of 2008 totaled **15,840.**”

While this number is still too high, it is following a 2-year downward trend. For the same time frame, we saw a peak in 2006. In 2007, the number decreased by 1% or 17, 490 lives, now in 2008 we are down another 9%. Percentages mean nothing. That 9% means 1650 lives are still here today. This isn’t a pattern by any means, but a start and hopefully a continued trend as a result of the SAFETEA-LU initiatives.

Traffic crashes are the leading cause of death among 4 to 34 years-olds and annually our nation suffers over 42,000 fatalities with over 3 million more sustaining disabling injuries due to roadway crashes. The societal cost of crashes in just the larger metro areas is a staggering \$164.2 billion annually. This is nearly two and a half times greater than the \$67.6 billion price tag for congestion, as reported by AAA^{1&2}. The national cost for crashes equates to an annual per person cost of \$1,051, compared to \$430 per person annually for congestion. I don't mean to downplay congestion by any means, especially coming from the fastest growing state in the country and home to Las Vegas, Nevada which enjoys over 43 million visitors a year and over 3000 people a month moving in to stay. I also was honored to present testimony to the National Surface Transportation Policy and Revenue Study Commission with emphasis on simplifying project delivery to reduce congestion and enhance safety. Curing the safety problem greatly reduces the congestion problem. Over half of the congestion problem is caused by non-recurring incidents. Both safety and congestion need to be addressed aggressively if the nation is to prosper. The safety costs I mentioned include medical, emergency and police services, property damage, lost productivity, and quality of life, among other things. NHTSA has estimated the cost of all crashes---not just those in the larger cities--- to be about \$230.6 billion per year³ in year 2000 dollars.

The World Health Organization (WHO) forecasts that roadway fatalities and disabling injuries will be the second leading cause of productive days lost by 2015, second only to heart disease⁴. Furthermore, WHO also estimates the cost of road crash injuries at roughly 1-2% of gross domestic product in developed countries.

Solving the safety problem fosters real economic growth in this country.

Crashes don't just affect the urban centers of our country. While there may not be the same congestion issues, there are tremendous economic impacts. A fatal or severe crash incident in rural Nevada that closes Interstate-80 causes a chain reaction of impacts. Over 70% of the goods and commerce coming into the ports of California cross the very rural western states on the journey east. Closures due to crashes result in long detours. In Nevada this means over 100 miles of out of the way travel. This impacts delivery time and creates additional user costs, not to mention the impact to highways not necessarily designed to accommodate the loads carried on the interstate.

AASHTO Safety Authorization Proposal

Considering all that I've previously stated, AASHTO recommends a series of bold Congressional actions to continue our progress in reducing highway fatalities. These have recently been adopted in May of this year ---by my 51 peers and me --the State DOT leaders from around the nation.

1. National Agenda on Highway Safety

Congress should adopt a National goal of halving fatalities over two decades; call for and fund a National Summit on Highway Safety (\$500,000) to include the US DOT, Members of Congress, State transportation and safety officials, and safety advocates; and fund a joint AASHTO-GHSA Safety Center of Excellence at \$3 million per year.

AASHTO passed this goal in May, 2007 and we have worked with our public sector safety partners to have their leadership adopt this goal as well. To date many have done so --including the Governors Highway Safety Association (GHSA), American Association of Motor Vehicle Administrators (AAMVA), Commercial Vehicle Safety Alliance (CVSA), National Association of County Engineers (NACE); and others are working the proposal thru their policy approval processes such as the International Association of Chiefs of Police (IACP).

In addition, it matches the goal presented to the Congress by the National Surface Transportation Policy and Revenue Study Commission. The goal also was supported at a Visioning Conference⁵ held in Cambridge MD last year which was attended by over 50 Industry/governmental/and transport user associations representing all surface modes. Defining a national safety goal brings additional focus to the charge.

In support of a national summit, the last time the White House actively held a safety summit was in 1956---in conjunction with the launching of the Interstate Highway System---it would be fitting for the Congress to lead such a charge again as we fund the renewal and enhancement of that system for our future prosperity!!

2. Highway Safety Funding

Increase the flexibility and level of funding for all safety programs commensurate with increases in the other core programs' funding in order to meet the national safety goal.

All the states have developed and implemented a Strategic Highway Safety Plan. These were not developed in isolation of a DOT only, but are statewide collaboratively developed plans including local participation since not all crashes happen on state highways. These plans prioritize and lay out strategies and action plans for addressing state's most pressing safety needs ranging from infrastructure improvements and engineering to education and behavior; from enforcement activities to emergency response strategies. A priority for one state can be very different then for another. For example, trees and moose hits contribute to a large percentage of fatalities in the northeastern states. Nevada's one tree is heavily guarded and I'm not sure what a moose is. All jests aside, states following their safety plans should have the ability and flexibility to apply safety funding to where their most critical need lies, and where they can have the biggest impacts. However, we want accountability. The public should demand it!

Therefore, spending would be performance driven to really assure the most pressing needs are being addressed.

Highway Safety Improvement Program (HSIP) recommendations include: Increase HSIP funding commiserate with the other core programs and include sufficient enhancements to continue the current funding level for the High Risk Rural Road Program; Update the Safe Routes to School Program to increase its focus on pedestrian safety and coordination with the State's Strategic Highway Safety Plan; Eliminate the requirement for developing and reporting the top five percent locations in each state currently exhibiting the most severe highway safety needs – the intended goals of this requirement are mostly addressed through the development and implementation of a state's Strategic Highway Safety Plan (SHSP) and HSIP; To address those safety needs of our rail/highway partners and local governments and our walking and biking youths, continue the dedication of funding to the rail-highway grade crossing and Safe Routes To School program.

Consolidate NHTSA funding to the degree possible and streamline the grant application process

3. Strategic Highway Safety Plan Continuation

Continue the requirement that states develop and implement Strategic Highway Safety Plans (SHSP) consistent with their long-range transportation planning and short-range programming processes. Require each State to update their plans at least once during the new authorization cycle and establish an aggressive State determined fatality reduction goal to help achieve the national goal.

An extraordinary amount of work and effort went into the development of the SHSP plans. They don't belong on a shelf. They need to be followed, revisited and measured. AASHTO is also encouraging each State's Governors Highway Safety Office and Department of Transportation (they are not necessarily under the same state cabinet position), to host a peer review with adjacent states -- furthering collaborative and partnership efforts and benefiting on sharing best practices.

4. Highway Safety Data Collection & Sharing

Support the further development of the NHTSA State Data System.

This system should include traffic & roadway characteristics, and injury outcome data. We want to encourage all states to participate with their individual statewide data sources that address and encompass the issues of collection, quality, management and linkage. AASHTO is requesting to provide \$20 million per year to enhance the NHTSA State Data System, and ensure that the collection of data needed to support safety analysis for all public roads are eligible for HSIP and NHTSA safety funding and to provide funding (\$500,000) to AASHTO and GHSA to develop guidance for states on implementing a data-collection-analysis system. We are also seeking to provide statutory changes needed to protect individual privacy while providing for the disclosure of information related to crashes.

Good data is the foundation for determining how and where money and efforts need to be focused.

5. Highway Safety Laws & Adjudication

Support a national effort, led by NHTSA, to develop and recommend model statutes and best practices to the States on ways to drive down fatalities, including rigorous enforcement and adjudication of those laws. (\$750,000 per year)

Local and state law enforcement agencies are a key and critical component in reducing fatalities. They experience many challenges in their daily activities that can have an impact on highway safety, from critical law enforcement (work zones, speed, red light running, and aggressive driving) to exposure when having someone pulled over. They also play a key role in creating or compiling good crash data.

In many municipal and local courts, penalties against the traffic safety laws that are in place are commonly reduced, thus minimizing the emphasis on practices that have shown to work to save lives. Efforts to put responsibility back on drivers should be encouraged and supported.

6. Highway Safety Improvement in Vehicles

Recommend that the Congress incorporate technical safety improvements in vehicles more expeditiously through federal incentives, and through regulatory and research and development initiatives.

The recent USDOT rulemaking on electronic automated stability systems in all vehicles produced after 2012 is estimated by the USDOT to save at least 5,000 deaths per year from the base.

Provide General Fund assistance either through tax credits or on a cost sharing basis to early adopters of auto and truck vehicle advanced safety systems.

This can help spur needed economic growth in a languishing industry and support our national goal of saving lives thru a safer vehicle fleet.

7. Highway Safety Research, Development & Technology

Enhance the level of funding for safety research, development and technology, and expand the coordination between research entities. Increase funding for safety research in the following areas: ITS R&D, FHWA research, SHRP2 Research, NHTSA research, and FMCSA research, and eliminate safety research designations that have not been identified as part of the National Agenda on Highway Safety.

Specific Recommendations include:

- Increase the overall FHWA research program to \$200 million per year.
- Support overall SHRP 2 implementation funding for all areas, not just safety, at a level of \$75 million per year and as a takedown from federal-aid apportionments.
- Increase the overall NHTSA research program to \$20 million per year.
- Increase the overall FMCSA research program to \$15 million per year.
- Provide \$1 million to FHWA to quantify and qualify the benefits of the safety aspects of other modes (transit, non-motorized)
- Provide \$1 million to NHTSA to study certain vehicle and behavioral safety issues

- Request that the U.S. Department of Transportation review and consider modifying regulations to permit greater flexibility in use of proprietary products on road improvement projects that are beneficial to the public interest, especially those that can provide safety benefits to the public⁶.

Research provides an important tool to discovery or vetting out a feasible solution for minimal cost.

8. Safety Improvements in Drivers

*Provide \$5 Million to complete the modernization of the Commercial Driver Licensing Information System (CDLIS) needed to fully implement "One Driver-One Record."
Provide \$14 Million in General Fund support thru the DHS for the final phase of the information hub to allow motor vehicle agencies to implement a one-driver one license system.*

These recommendations are supportive of our sister state organization, AAMVA.

CONCLUSIONS

Safety is not just a catch phrase or a feel good word. The number of fatalities is not just data or a rate to compare over the years. Safety on our transportation system means we go home to our families every day. It means that we will live through our less than perfect moments to drive another day.

Drivers should take responsibility for their actions, and we as a nation should take responsibility for a safe transportation system. We need to break through the plateau. A clear way to success is to do something different and to push through that steady level of over 42,000 deaths per year with more focus and intensity – to bring people home. This is possible.

Thank you very much for the opportunity to appear before the committee and let me assure you that AASHTO representing the states, is a very strong safety advocate, we are anxious to be part of the solution, and we stand ready to assist you in your legislative deliberations.

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**ADVOCATES
FOR HIGHWAY
AND AUTO SAFETY**

**STATEMENT OF JACQUELINE S. GILLAN
VICE PRESIDENT
ADVOCATES FOR HIGHWAY AND AUTO SAFETY**

ON

SAVING LIVES ON OUR NATION'S HIGHWAYS

BEFORE THE

SENATE COMMITTEE ON ENVIRONMENT AND PUBLIC WORKS

July 17, 2008

RESPONSES BY SUSAN MARTINOVICH TO ADDITIONAL QUESTIONS
FROM SENATOR BOXER

Question 1. Do you think that lower speed limits would make the roads safer? Do you think that a national speed limit would be effective?

Response. Let me answer the second part of your question first. If you mean a return to a nationally set limit by withholding Federal funds as we did in the 1970's-no. That was counterproductive and set the Nation back decades since the public did not accept it and the speeds were artificially set low on high speed designed roads. On the other hand, we know that about one-third of fatalities are speed related. The solution is appropriate speed setting-or speed management. When setting speed limits additional factors have to be considered such as driver behavior, the ability flamenco to effectively teaseled and the speeds for which the roadway facility is designed. On some roads it may mean raising them; on others, reducing the limits. Arbitrarily setting speed limits with out considering these factors or setting a national speed limit is likely to increase the likelihood of crashes. This occurs when drivers become frustrated due to the inability to drive the roadway at a comfortable and reasonable speed. When this occurs there are typically more passing maneuvers and risk taking behavior with an associated increase in head-on collisions. This would be especially prevalent in large rural western states that have long distances between urban centers connected by two-lane highways.

In all cases, once set they need to be enforced!!! Automated speed enforcement can be an effective method particularly on freeway work zones, residential areas and school zones. The Governors Highway Safety Association which represents all the NHTSA grant recipients has advocated for a new speed management incentive program and AASHTO supports this initiative.

Question 2. What is the most important thing that can be done to improve road safety? Is there a Federal element to this, or is it purely State or local?

Response. Strong committed leadership from the top down meaning a visible push from the US Congress to the President to each Governor on down to local leadership (mayors, commissions, etc). We have seen this make a real difference internationally in France, England, Sweden and Australia.

The Federal Leadership role is both with the US Congress enacting reforms of the current USDOT safety programs as I indicated in my testimony, and with the President and the Executive branch. Congress can take a leadership role by adopting the AASHTO goal of having fatalities within two decades as a new national goal and vision for safety and by calling for a national summit on highway safety—the last national summit was initiated by President Eisenhower.

The President needs to focus on the issue and call on appropriate Federal officials to act as a team—from the USDOT to the DOJ to the Dept of Health and Human Service to the FCC on certifying enforcement equipment for example. Governors and local officials have to similarly take accountability through team efforts.

Additionally, one of the most important things that will improve roadway safety is a consistent and focused approach to access management on our roadways. This is an effort that needs to be supported by all agencies.

Freeways are one of the most tightly controlled access facilities we have in this country and typically carry the highest volumes of traffic yet have the lowest number of crashes per vehicle mile traveled. Appropriate and affective access management policies can make a significant difference in the number and severity of the crashes that occur on our roadway system. Policies on access management must be carefully balanced with the needs of the public to efficiently reach their desired destinations while allowing appropriate access to private properties and business developments. Implementing such policies can reduce the number of conflicts between motor vehicles, driver distractions are decreased, and improvements in roadway capacity can be achieved while still providing a roadway that promotes economic development and supports a reliable and attractive transportation system.

Question 3. What is the real potential for technology to make a real difference? For example, is the best potential at the roadside or in the car? Or are lower-tech options just as important in the short run? How long would it take for those technologies to be in place?

Should the Federal Government be doing something to accelerate development or adoption?

Response. Road infrastructure, vehicle and enforcement technology all have a key role to play.

Technology is already making a big difference. Newer model cars are required to have safety devices such as air bags and anti lock braking systems. Transportation agencies are using electronic instrumentation to monitor and operate the roadway systems to provide faster response times to traffic incidents and reduce congestion.

I believe that an investment in technological improvements needs to occur over a broad spectrum not focused at one particular element of our transportation system.

Technology can also prove to be an effective method in providing simple solutions to safety problems. The installation of devices such as Dynamic message signs and highway advisory radios are often used as a means of improving highway safety and need to be considered.

The time required to implement safety improvements based on new technologies is usually driven by the amount of funding available and the regulations that establish the timeframe for the implementation. I believe the Federal Government can be instrumental in both these areas by providing the necessary vision for need to use technology in improving highway safety and the funding to implement the program.

Regarding roadway infrastructure, first, do the easy solutions. A starting point is on system-wide upgrades to rural two-lane roads since over 50 percent of facilities occur on them. Shoulders, edge drop-off fixes, stripping, signing, centerline and edge rumble-stripes; guardrail, and hot spot fixes are some low hanging strategies. In addition GIS technology can be used to display sound/timely/integrated roadway and crash info on all roadways. There are many enforcement technologies which can be effectively used today from cameras for red-light running to speed to alcohol ignition interlock systems for convicted drivers. For passengers and drivers there are already effective and known technologies such as helmets for motorcycle riders and seat belts for auto and truck drivers. AASHTO supports a strong RD&T program funded at the Federal level for safety research and for the continuation of the efforts on VII—vehicle Infrastructure Integration-program . . . essentially smart cars and smart roads. An additional tool for consideration are Federal incentives (such as tax credits) for early adopters of safer vehicle features on new cars and trucks such as Adaptive Speed Control, Lane Departure Warning Systems, Driver Fatigue Warning Systems, or In-Vehicle Communication systems that allow communication with other vehicles and roadway elements.

Question 4. Can we afford to build a forgiving environment when the highway system is as expansive as it is? Can we focus on those locations with the highest risk? What would it take to do that?

Response. Improving our roadway system is an ongoing effort. Roadway design standards are continuously being reviewed and improved to provide safer roadways for the traveling public. Transportation agencies are building a more forgiving highway system by implementing new design standards, deploying intelligent transportation systems, and coordinating our efforts with our safety partners in other agencies.

With improved data collection and working closely with our safety partners we are doing a better job of focusing our efforts as locations with the highest risk. Improvements to how we collect and manage the data I believe is the key to being able to effectively identify high risk locations and implement effective solutions that can correct the problem. Funding devoted to developing, implementing and maintaining Safety Management Systems would be instrumental toward improving our ability to effectively identify safety issues. I ask that Congress Support the further development of the NHTSA State Data System (SDS) to include traffic & roadway characteristics, and injury outcome data. Encourage all states to participate with their individual statewide data sources that address and encompass the issues of collection, quality, management and linkage.

Question 5. Is it all about leadership? It sounds like the States that have set safety priorities and acted on them have had some success. Is that true? What level of government is best equipped to address and would have the greatest impact on safety?

Response. It is true that states that have aggressively addressed the subject of highway safety have had success. The countermeasures have varied but successful states tend to focus on all the roads regardless of ownership, have good data systems, have shared serious injury and fatality reduction goals among the stakeholders, have sound enforcement techniques, have good educational programs, and have focused infrastructure investments. The Federal Government can best serve the cause with increased safety funding, the establishment of a strong and aggressive national goal (not individual State targets), strong national education and marketing help; support for greater behavioral efforts regarding such areas as speed/alcohol and seat belt usage and motorcycle helmets, and thru the promulgation of safety rulemaking on the vehicle fleet. Many programs have seen success when at the national level a focus approach and desire is presented to the public. As examples I would point to the Interstate highway program and the nation's space explo-

ration program. Both programs were a result of leadership at the Federal level that provided the vision and desire to achieve the goals.

States need to have shared goals among the infrastructure/enforcement/education/medical/emergency management partners and target their financial resources (both State DOT and non-DOT resources) to the highest pay off areas. Local governments, which own half the safety problem, need better understanding of their crash situation. They will need Federal and State assistance in tracking and analyzing infrastructure and crash conditions.

RESPONSES BY SUSAN MARTINOVICH TO ADDITIONAL QUESTIONS
FROM SENATOR KLOBUCHAR

Question 1. The Federal Highway Administration has a regulation that generally prohibits the use of patented or proprietary products on Federal-aid projects, with some exceptions.

AASHTO has adopted a resolution calling for the regulation to be revised. The resolution indicates that the regulation “. . . is limiting the development of new products and discouraging innovation.” Could you provide the committee with some safety-related examples of instances in which states have been prevented from using new products because of this regulation?

Response. AASHTO is concerned that current Federal regulations in Title 23, Code of Federal Regulations Section 635.411 (23 CFR 635.411), “Material or product selection,” and the current law in Title 23, US Code Section 112 (23 USC 112), “Letting of contracts,” impose broad restrictions on the states’ ability to utilize proprietary methods, materials, and equipment on Federal-aid projects and, as a result, limit the development of new products and discourage innovation. As a result, in October 2007, the AASHTO Board of Directors approved Policy Resolution PR-4-07, “Use of Innovative Products,” to encourage FHWA to review existing guidelines to provide greater latitude in the use of new products/materials. In addition, AASHTO, the Associated General Contractors of America (AGC), and the American Road and Transportation Builders Association (ARTBA) issued a Joint Position Statement in 2007 that stated “Requests that the US Department of Transportation review and consider modifying regulations to permit greater flexibility in use of proprietary products that are beneficial to the public interest, especially those that can provide safety benefits to the public.” The American Traffic Safety Services Association (ATSSA) also supports these positions, as indicated in their policy on “Innovative Roadway Safety Products.”

Currently, a new product that is developed and placed on the market cannot easily be used in highway construction until a “comparable” product is produced, thus artificially producing “competition” between the two products and, the theory goes, lowering the cost. However, it can be argued that it is to other companies’ benefit not to develop their own newer, better product to compete with the first company’s innovative product, since the first product is effectively locked out of the market because it has no comparable product with which to “compete.” Thus, even though a new, innovative product could potentially provide significant benefits to the public, it cannot easily be put into use on Federal-aid projects.

In addition, the inability of government agencies to specify a particular product which currently has no “equal” limits innovation by essentially “lowering the bar” for all products in order to artificially produce competition within the market. In fact, in a true “market” situation, the best products available would be specified for use in highway construction contracts, thus stimulating competitors to make improvements to their products in order to compete.

The following are a few examples from around the country that illustrate the range of products that are being denied due to the restrictiveness of the current regulations: A sign sheeting material that delivers increased readability and retro reflectivity at all sight distances, aiding our increasingly older drivers. A four-cable median barrier to prevent trucks from crashing through and entering opposite-direction lanes (vs. standard three-cable systems that had not been shown to prevent trucks from breaking through the median). A digital radar controller to prevent traffic signals from turning red when a vehicle is detected approaching at a speed too high to stop. A crash attenuating device demonstrated to safely absorb the impact of a crash up to 70 mph (vs. the market standard devices’ maximum of 62 mph).

In each case, engineering judgment in the areas of safety and technology was trumped by an accounting policy that is being administered across-the-board without consideration for potential returns on the investment. In these cases, the State DOT traffic engineer requested permission to use the device, but the FHWA Division Office in the State denied the request, stating that Federal funds could not pay for the item because only one company manufactured such a product at that time,

or because the improved level of performance was not justified by the State agency to the satisfaction of the Federal agency—even when the state’s analysis supported the product’s use.

In addition, it should be noted that the cost of these proprietary products in most cases is a small percentage of the total cost of a given project.

Question 2. . The AASHTO resolution calls for the regulation to be revised such that “. . . innovative methods, materials, and equipment can be deployed in a timely manner on the nation’s highway network, based on the documented analysis and professional judgment of qualified State transportation officials. Can we protect the public interest in getting fair value for the taxpayers’ dollar, on the one hand, while also giving the states greater latitude to use innovative products in a timely manner? In other words, is there enough transparency in the procurement process to fulfill our fiduciary responsibility while also encouraging the use of innovative safety products by lowering the existing Federal regulatory barriers?

Response. With regard to “protecting the public’s interest” while allowing flexibility in the Proprietary Products regulation, the resolution passed by AASHTO specifies a process consisting of “documented analysis and professional judgment” to determine when and where proprietary products would be used on any transportation project. Like Federal officials, State officials are also duty-bound to act in the public’s best interest; therefore, their professional judgment—exercised in most cases by licensed professional engineers—will ensure that the public receives a final product that is effective and efficient.

State agencies also have the experience, expertise, technology, and resources to thoroughly evaluate such products and determine what best suits the project’s needs and the safety needs of the public. National programs such as AASHTO’s National Transportation Product Evaluation Program (NTPEP) and the National Cooperative Highway Research Program’s (NCHRP) IDEA program (Innovations Deserving Exploratory Analysis) are also readily available to assist State agencies in determining product worth and effectiveness.

Currently AASHTO is developing recommended modifications to Title 23 to provide for better utilization of new and innovative products on our nation’s highways. The basis for a proposed modification to either the current Federal regulations in 23 CFR 635.411 (Material or product selection) or the current law in 23 USC 112 (Letting of contracts) is solely to improve safety along our nation’s roadways.

RESPONSES BY SUSAN MARTINOVICH TO ADDITIONAL QUESTIONS
FROM SENATOR INHOFE

Question 1. SAFETEA created two programs within the Safety title that set aside funds for rail grade crossings and rural road safety initiatives. Do you think these set aside programs effectively align with state’s highest safety priorities? Do you think these set asides should be maintained, increased or eliminated in the next highway bill?

Response. The set-asides should continue. The rail crossing funds not only aid the states in meeting a safety goal but also in meeting their economic goal for freight mobility. The rural set-aside supports the thousands of local governments on their 80 percent of the nation’s roads that are not State owned. Both programs have strong constituencies—AAR for Grade Crossings and NACE for Rural Roads.

However, the set aside programs do not necessarily align with every state’s priorities. Some states such as Nevada with its limited amount of railroad crossings may see a greater benefit in using the funding to address other safety issues. I believe that the States that are affectively using their funding should be given the latitude to spend the funds in other areas where it will provide the greatest improvements in roadway safety.

Question 2. . I understand there are challenges in state-wide data collection and differences among states roadway characteristics and demographics. As we prepare to write the next highway bill, can you give me specific improvements you would recommend for the HSIP program? Do you think we need to rethink the way the Federal Government helps states implement their strategic safety initiatives?

Response. I do not believe there is a need to make drastic changes in the HSIP program. The HSIP should continue as a core highway program with increased funding equal to the increases to the other core programs. The synergy SAFETEA-LU established between the HSIP and Strategic highway Safety Plans should be expanded upon by having the SHSP adopt State specific fatality reduction goals and requiring an update to the plan at least once during the life of the reauthorizing legislation. However two areas that need adjusting are 1) Funding Flexibility—a State should have the ability to move safety funding between behavioral and infrastructure programs. For instance a State may have a greater need to spend more

on education or enforcement and less on infrastructure.. The State should have the latitude to move the funds within the safety program to best fit the states safety priorities as defined in their Strategic Highway Safety Plan (SHSP). And 2) Eliminate the Transparency provision—The requirement to list 5 percent of a state’s most hazardous locations was meant to build public advocacy for advancing safety. This hasn’t happened.

I believe each State has the ability to determine how best to implement their safety initiatives. What works for New York would not necessarily be effective in Nevada. The Federal Government should continue to be involved but allow the individual states the flexibility to achieve their safety goals.

Question 3. AASHTO has a resolution on proprietary products regulation, that requests US DOT to “review and consider modifying regulations to permit greater flexibility in use of proprietary products that are beneficial to the public interest, especially those than can provide safety benefits to the public.” Could you explain what exactly the concerns of AASHTO of the existing regulation are?

Response. AASHTO is concerned that current Federal regulations in Title 23, Code of Federal Regulations Section 635.411 (23 CFR 635.411), “Material or product selection,” and the current law in Title 23, US Code Section 112 (23 USC 112), “Letting of contracts,” impose broad restrictions on the states’ ability to utilize proprietary methods, materials, and equipment on Federal-aid projects and, as a result, limit the development of new products and discourage innovation. As a result, in October 2007, the AASHTO Board of Directors approved Policy Resolution PR-4-07, “Use of Innovative Products,” to encourage FHWA to review existing guidelines to provide greater latitude in the use of new products/materials. In addition, a Joint Position Statement was issued in 2007 by AASHTO, the Associated General Contractors of America (AGC), and the American Road and Transportation Builders Association (ARTBA) that “requests that the U.S. Department of Transportation review and consider modifying regulations to permit greater flexibility in the use of proprietary products that are beneficial to the public interest, especially those that can provide safety benefits to the public.” The American Traffic Safety Services Association (ATSSA) also supports these positions, as indicated in their policy on “Innovative Roadway Safety Products.”

As currently regulated in 23 CFR Section 635.411(a), “Material or product selection,” proprietary products are only allowed on Federal-aid construction contracts under specific circumstances. These circumstances include when:

- the item can be competitively bid against similar, unpatented items;
- the item is essential for synchronization with existing facilities; or
- the item used for experimental purposes on short sections or road.

While these restrictions appear to ensure that public money is used wisely and to its best cost/benefit, there are situations where patented products have been demonstrated to significantly improve the condition or safety of a facility, but the DOTs’ hands are tied when trying to use these products because of “low-bid” requirements. 23 USC 112 requires each State to conduct competitive bidding of all construction projects with the final contract being awarded to the lowest responsive bid. This process ensures a low-cost solution to a given problem, but the “best deal” for the public is not always obtained by getting the cheapest product available.

In addition, the restrictions serve to limit innovation, since a similar, “equally suitable” item must be developed (for competitive bidding purposes) before a State DOT can easily justify the use of the proprietary item. Federal funds cannot be obligated toward a product which is considered proprietary unless an approved equal of that product is also on the market. The potential “proprietary product” can be introduced to the DOT’s evaluation committee in hopes of becoming an approved product for that state, but until a competitor with a comparable product reaches the market, the usability of the proprietary product is delayed indefinitely.

Currently AASHTO is developing recommended modifications to Title 23 to provide for better utilization of new and innovative products on our nation’s highways. The basis for the proposed modification to either the current Federal regulations in 23 CFR 635.411 (Material or product selection) or the current law in 23 USC 112 (Letting of contracts) is solely to improve safety along our nation’s roadways.

Question 4. Competitive bid requirements are used to ensure that the public gets the best deal. If the proprietary rule is modified to allow greater flexibility, what safeguards are in place at either the State or Federal level to ensure that taxpayer dollars are not going toward “gold plated” projects. In other words is there room in the existing rules to allow greater flexibility and still protect the public interest for the best deal?

Response. Regarding “competitive bid requirements,” the “best deal” for the public is not always obtained by getting the cheapest product available. Highway agencies

are finding that “low bid” is not necessarily the best method for obtaining the best value for our taxpayers’ money. In many cases, we end up with a product that meets the bare minimum requirements found in the contract. In the past decade, highway construction contracts have been moving more and more toward a philosophy of getting the “best value for the money” as opposed to the “cheapest project possible,” since the latter may not last as long (requiring earlier replacement) or wear as well (requiring more frequent and more expensive maintenance) than a slightly more expensive product. Sometimes, paying a little bit more up front and getting a better overall product—one that will last longer, or have less maintenance, or be safer—is in the best interest of the traveling public.

To allay concerns about “gold plated projects,” the State DOTs do not have the funding to do “Cadillac” projects, let alone gold-plated projects. With recent substantial increases in construction costs, the DOTs are struggling to deliver the programs they promised the public just a few years back. And while the Federal Government certainly has important oversight responsibilities on Federal-aid projects, it must be stressed that we are all on the same team—the States have the same responsibilities to citizens to “do the right thing” and spend the taxpayers’ money in the most prudent, efficient, and effective way possible.

While the current regulations may have been needed two or three decades ago, State agencies now have the experience, expertise, technology, and resources to thoroughly evaluate such products and determine what best suits the project’s needs and the safety needs of the public. National programs such as AASHTO’s National Transportation Product Evaluation Program (NTPEP) and the National Cooperative Highway Research Program’s (NCHRP) IDEA program (Innovations Deserving Exploratory Analysis) are also readily available to assist State agencies in determining product worth and effectiveness. Giving more flexibility to state-level government agencies does not take away the responsibility to protect the public interest—rather, it puts the decision on what products to use and where to use them in the hands of those who are most knowledgeable about a given project, and most knowledgeable about the benefits that could be obtained through its implementation.

AASHTO believes that the role of the Federal Government is to oversee the processes used to achieve an outcome—Le., goal-setting, outcome-oriented oversight—not to develop prescriptive requirements delineating how decisions should be made. The current regulations are too prescriptive and delay the process of getting new products on the street where they can do some good. And, as noted in testimony presented before the Senate EPW Committee by the Federal Highway Administration, based a recent query of their Division Offices they have not identified a problem with the existing regulations. However, I believe that most requests made by the State DOTs are not specifically denied—the States are told to use State funds for that particular item or withdraw the item from the contract, and these interactions are not tracked and reported by FHWA by Mr. Jeffrey Paniati, Executive Director of the Federal Highway Administration, FHWA has no intention of changing its interpretation of the law—or their regulations—without direction from Congress on this issue. Thus, we hold no hope that additional needed flexibility could ever be obtained through the existing regulations. I believe that in order to give the State transportation departments the greatest flexibility to deliver an efficient and effective highway program, change is required.

Question 5. Do you have any examples in your State where this regulation has prevented your State or made it difficult for your State to use proprietary products designed to prevent injuries or save lives?

Response. The challenges that Nevada has had is in regards to testing or using a proprietary product on a project involve those where a local agency will eventually maintain the improvement. We enter into many partnerships to maximize our funding. Local agencies are not tied to the Federal rules when strictly using their own funding, or on segments of their system where they have incorporated a product they have found to be beneficial, only to have this ability to utilize this product on a joint funded cooperative project limited or denied. This has a big impact on long-term maintenance abilities, where multiple types of parts must be stockpiled for many different components.

Senator LAUTENBERG. Thank you very much.
Ms. Gillan.

**STATEMENT OF JACQUELINE S. GILLAN, VICE PRESIDENT,
ADVOCATES FOR HIGHWAY AND AUTO SAFETY**

Ms. GILLAN. Good morning, Chairman Lautenberg and Senator Inhofe. I appreciate the opportunity to testify this morning on such an important topic.

The number of highway deaths and injuries has essentially flatlined. Over the past decade, over 41,000 people are killed and 2.5 million more are injured in motor vehicle crashes at an economic cost exceeding \$230 billion. SAFETEA-LU will result in the largest surface transportation investment in our Nation's history. Yet during the authorization timeframe, it is unlikely we will see significant reductions in motor vehicle crash deaths, injuries or public health costs.

As this Committee begins deliberations on the next reauthorization bill, let me briefly recommend some of the key areas where real safety gains can be achieved. First, there is an urgent need for a primary enforcement seat belt law in every State. Today, only 26 States have this law. Primary enforcement seat belt laws save lives and result in higher usage rates.

SAFETEA-LU provided more than \$500 million in incentive grant money to encourage States to pass primary enforcement seat belt laws. How are we doing? In 2006, three States enacted a law. In 2007, only one State passed a law. This year, not a single State will adopt a primary enforcement seat belt law. At this glacial pace, it could be 2032 or later before every State has this essential law.

In the area of impaired driving, we are not making sufficient progress. In 2006, 13,470 people were killed in alcohol-impaired crashes, about the same number reported in 1996. Part of the problem is the fact that many States still lack some of the most fundamental impaired driving laws.

One of the major factors contributing to overall highway fatalities is the dramatic increase in motorcycle deaths in the last 10 years. Since 1997, motorcycle deaths have more than doubled. Research conclusively and convincingly shows that all-rider helmet laws save lives and save taxpayer dollars. However, while motorcycle deaths are climbing, life-saving all-rider helmet laws are under attack in State legislatures. Only 20 States today have all-rider helmet laws; yet 12 States considered repealing those laws just this year.

The increase in teen drivers on our roads is also a safety problem with a sensible solution. In 2006, about 8,000 deaths involved young drivers. While many States have a few of the essential components of an optimal graduated driver's licensing program for new teen drivers, only Delaware has all five recommended by Advocates. As a result, there is a patchwork quilt of teen driving laws across the Nation, similar to the blood borders that existed in the 1970's and 1980's when States had different minimum drinking ages for alcohol. Congress solved that problem with enactment of the 21 drinking age that you sponsored, Senator Lautenberg. That law gave States 3 years to adopt a uniform drinking age or be penalized Federal Aid Highway funds.

What happened? As a result, every State complied, no State lost a single dollar of Highway funds. And over 25,000 lives have been

saved, a remarkable achievement. It is now time for Congress to step in to protect every teen in every State through the uniform adoption of optimal GDL laws.

There is also a pressing need to address the rapidly increasing population of older drivers. Unfortunately, not enough attention is being given by FHWA or NHTSA to adopting counter-measures in our highway and vehicle designs to address the needs of older drivers.

Another safety area DOT has failed to show adequate progress is in reducing truck crash deaths. Studies show that as big trucks get heavier and longer, they have longer stopping distances, are more difficult to maneuver and have an increased risk of rollover. The destruction and damage to bridges and highways caused by overweight trucks jeopardizes safety for everyone.

One of the most successful truck safety laws ever enacted by Congress was the 1991 freeze on longer combination vehicles. Unfortunately, trucking and shipping interests are already prodding Congress to increase Federal truck size and weight laws, relax the LCV freeze and give special weight exemptions to select States like Maine and Vermont. Public opinion polls show that Americans are strongly opposed to longer and heavier trucks. They believe that bigger trucks are more dangerous and they are absolutely right.

Now let me turn to the issue of speed. In 2006, speed was a factor in about a third of all fatalities. A 1984 study by the National Academy of Sciences documented that the national maximum speed limit saved both fuel and lives. Conditions may once again be ripe for Congress to reconsider a national speed limit law and Advocates supports that strategy, in order to save lives and protect the Nation.

Let me conclude by saying that many of the safety priorities outlined in my statement this morning and in my formal testimony can be realized by expending minimal Federal dollars while achieving maximum gains in saving lives. There really are no acceptable excuses for delaying any longer the adoption of proven, cost-effective safety measures that will significantly reduce our Nation's death and injury toll.

Thank you very much.

[The prepared statement of Ms. Gillan follows:]

Good morning. My name is Jacqueline Gillan and I am Vice President of Advocates for Highway and Auto Safety (Advocates) a coalition of consumer, health and safety and major insurance companies and agents organizations working together to support adoption of laws and programs to reduce deaths and injuries on our highways. Advocates is a unique organization. We focus our efforts on all areas affecting highway and auto safety – the roadway, the vehicle, and the driver. Founded in 1989, Advocates has a long history of working with the Senate Committee on Environment and Public Works advancing public health and safety in surface transportation legislation. We appreciate the opportunity to testify at this morning's hearing addressing strategies and solutions for achieving safety gains that will reduce deaths and injuries on our highways.

Although our nation's highway system has created mobility opportunities that are the envy of the world, it has resulted in a morbidity and mortality toll that is not a source of pride. Motor vehicle crashes are the leading cause of death for all Americans between the ages of 4 and 34. Every day 117 people are killed on America's highways and 7,000 more are injured.¹

During the five-year authorization time frame of the Safe, Accountable, Flexible, Efficient, Transportation Equity Act: A Legacy for Users (SAFETEA-LU), it is expected that more than 200,000 people will die on our highways and nearly 13 million more will be injured. This will occur despite the largest surface transportation investment in our nation's history.

Any progress in achieving significant reductions in motor vehicle deaths and injuries will require Congress to address these realities. Currently, too many states have too few of the most successful, cost-effective traffic safety laws that have been proven to save lives, prevent serious injuries and reduce the expenditure of billions of dollars in medical, government and other economic costs. Additionally, federal motor vehicle and truck safety standards that have the potential to save thousands of lives year after year continue to languish at the U.S. Department of Transportation (DOT) or are issued with only minimal, weak requirements. At the same time, highway deterioration and potential catastrophic bridge failures across the country threaten the safety of motorists while trucking interests continue to prod state legislatures and Congress to again increase the size and weight of big trucks.

Highway Safety is Stuck in Neutral

Let me begin by providing a brief overview of where we are and where we are headed in efforts to address this public health epidemic.

In 2006, the last year government figures are available, 42,642 people were killed in motor vehicle crashes and over 2.5 million were injured at a cost to society of more than \$230.6 billion. This amounts to a "crash tax" of about \$820 for every person in the United States.²

More than half of passenger vehicle occupants killed in 2006 were unrestrained, unchanged from 2005. Yet, only 26 states and the District of Columbia have enacted primary enforcement seat belt laws.³

Motorcycle deaths in 2006 increased for the ninth year in a row to a total of 4,810, an astonishing 127 percent increase from 1997.⁴ Helmet use is the most effective measure to protect motorcyclists in a crash from death or disabling brain injuries. At present, however, only 20 states and the District of Columbia require all motorcycle riders to wear a helmet.⁵ This year, 12 states attempted to repeal this lifesaving law while only four states considered, yet failed, to enact an all-rider helmet law.

The map attached to this testimony indicates how few states have adopted both life-saving primary enforcement seat belt and all-rider motorcycle helmet laws.

In 2006, 41 percent of all fatal crashes were alcohol-related. This has essentially remained the same for the past 13 years.⁶ Despite strong public opinion in support of tough measures to get drunk drivers off our streets and roads, many states still lack open container and repeat offender laws that meet federal requirements, as well as other basic impaired driving laws.

In the past 10 years the number of truck crash deaths has remained essentially the same, about 5,000 fatalities each year. Ineffective public relations campaigns, flawed research, weak safety rules and inadequate enforcement efforts have all contributed to the lack of progress by the Federal Motor Carrier Safety Administration (FMCSA) to achieve significant safety gains. The agency continues to ignore Congressional mandates, issue flawed safety regulations that are routinely overturned in scathing court decisions, and fails, by any measure of success, to achieve its safety goals.

Driver Demographics are Changing, Safety Laws and Regulations Are Not

In the next reauthorization, Congress must address changing surface transportation priorities. There is also an urgent need to acknowledge and adapt our laws and safety regulations to the changing profile of highway users, particularly more teens and older citizens who will be driving.

Approximately 8,000 people were killed in crashes involving young drivers ages 16 to 20 in 2006. Although graduated driver licensing (GDL) laws have been proven to be effective in saving lives, only the state of Delaware has all five elements of an optimal teen driving law.⁷

Older citizens are overrepresented in motor vehicle crashes as drivers, vehicle occupants and pedestrians. Older vehicle occupants represent 14 percent of vehicle occupant fatalities, and 15 percent of all pedestrian fatalities involved people over the age of 70.⁸

DOT Changes Missed Goals, But Can't Change Reality

In recent years, the National Highway Traffic Safety Administration (NHTSA) has been unable to meet a number of its announced safety performance goals. Instead of improving its performance, the agency has simply moved the goal posts.

Some years ago, NHTSA switched from using total fatalities as a measure of agency performance to relying on the overall fatality rate. Although NHTSA set a goal of achieving a fatality rate of 1.0 fatality per 100 million vehicle miles of travel (MVMT) by 2008, the agency has now admitted that it cannot achieve that goal and has raised its 2008 goal from 1.0 to 1.37

fatalities per 100 MVMT. The goal of reducing the fatality rate to 1.0 has now been put off until 2011. Even this deferred performance goal is wishful thinking since it will require a decrease in the fatality rate in the next five years, from 1.41 (2006) to 1.0 by 2011, that is four times the drop in the fatality rate that NHTSA achieved in the previous five-year period (2001-2006). But even as NHTSA touts marginal reductions in the fatality rate, the U.S. has lost ground compared to other industrialized nations, falling from first to ninth in terms of highway safety.⁹

NHTSA also changed its traditional method of measuring the motorcycle fatality rate. After years of providing motorcycle fatality rates using the traditional exposure measure for surface transportation, that is, miles driven or 100 MVMT, NHTSA recently announced that motorcycle mileage data is flawed and can no longer be used to determine the fatality rate. The 2005 motorcycle fatality rate, based on mileage, was nearly 44 deaths per 100 MVMT. NHTSA had planned to issue a new fatality rate based on deaths per 1,000 registered motorcycles, which would have yielded an artificially low fatality rate 0.73 fatalities, less than one fatality, for every 1,000 vehicles. This was seen as an attempt to downplay the significance of the motorcycle fatality problem. The agency has instead decided to report the motorcycle fatality rate based on 100,000 registered motorcycles, which yields a fatality rate for 2006 of just under 72 deaths per 100,000 registered vehicles.

With regard to the truck fatality rate, FMCSA has engaged in a more subtle change to dilute the impact of the data by combining truck VMT with bus and passenger vehicle VMT so that truck fatalities will be divided by a much larger pool of vehicle miles of travel to yield a dramatically lower fatality rate for big trucks. As a result, instead of truck fatality rates being correctly reported as much higher than the overall highway fatality rate, the revised FY 2008 rate for large truck and bus crashes is an artificially and misleadingly low figure of just 0.171 fatalities per 100 MVMT. In comparison, the truck crash fatality rate in 2005 per 100 MVMT only using truck mileage was 2.12 fatalities per 100 MVMT, a significantly larger number indicating a serious safety problem.

This raises the concern that our federal safety agencies, NHTSA and FMCSA, instead of focusing on saving lives and decreasing the number of people who are killed and maimed in traffic crashes, are expending resources on public relations efforts intended to give the appearance of progress where there is none.

Enactment, Education and Enforcement are Key to Improving Safety

Changing human behavior, especially of a large and diverse population, is an enormous task. Most often, positive changes in safety behavior are not effective if predicated on educational efforts alone. For instance, efforts to convince people to use seat belts solely through "education, exhortation, or persuasion have had little success."¹⁰ Research conducted by the Insurance Institute for Highway Safety (IIHS), among others, indicates that educational messages, such as public service announcements, brochures and similar attempts at behavior modification do not yield long lasting results. This has been shown repeatedly in research studies on social behavior, especially in the context of traffic safety.¹¹

Experience teaches that behavior modification in traffic safety is most effective when an educational message is combined with a legal requirement such as a state or federal law or

regulation that is underscored by a real possibility of the imposition of a penalty (summons, fine, points, etc.) through adequate enforcement. "Most demonstrable improvements in driver behavior come from traffic safety laws."¹² The underpinning of a state legal requirement, and the accompanying potential penalty, makes the need to change behavior more tangible than simply providing an educational message.

The "Click-It or Ticket" seat belt enforcement campaign is a role model of how this combination is effective. The original program was developed in North Carolina in 1993 as a means of promoting higher seat belt use rates and was launched to test the potential effectiveness of combining widespread publicity, with strong enforcement, in a state with a primary enforcement seat belt law. The educational message was integrally related to the intent of the new law, including consequences for its violation and specific information about fines, as well as the promise to fully enforce the law. The North Carolina campaign paid immediate dividends, with belt use increasing from 65 percent statewide before the effort, to 84 percent statewide approximately six months later. North Carolina now has a statewide seat belt use rate of nearly 89 percent (2007), placing it in the top-tier of states with the highest seat belt use rates.¹³

Because the Click It or Ticket program has been so successful, it has since been used in numerous other states. In addition, in the Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users, Pub. L. 109-59 (Aug. 10, 2005) (SAFETEA-LU), Congress provided NHTSA with \$29 million each year (2006-2009), to conduct Click It or Ticket-type high visibility enforcement campaigns to reduce alcohol-impaired or drug-impaired driving and to increase seat belt use.¹⁴ NHTSA has used this funding to run a nationwide enforcement effort supported by a \$7.5 million advertising campaign focused on raising nighttime driving seatbelt use rates among teens.¹⁵

The problem, however, is that the NHTSA campaign cannot truly be a nationwide effort since not all states have primary enforcement seat belt laws. The message is not as effective in states with secondary enforcement laws.

Bold Action and Leadership are Necessary in the Next Reauthorization Legislation

Proven public health solutions to significantly reduce highway deaths and injuries are known. However, political will and executive branch leadership to advance and implement programs and policies are lacking. Many states and communities already have enacted traffic safety laws and employ ideas and programs that are resulting in important reductions in deaths and injuries. Extensive research and experience show the benefit of strong safety standards, regulations and laws. Unfortunately, much more needs to be done as a nation to ensure that safe roads, safe vehicles and safe driving adequately protect every person, in every state, on every trip.

Let me briefly identify some of the key issues that must be addressed in next year's reauthorization in order to achieve any real progress in reducing motor vehicle deaths and injuries.

A Primary Enforcement Seat Belt Law is a Primary Need

When you fly into any airport in any state across the country one has to wear a seat belt for landing and take-off. That's not the case when you and your family are driving across the

country. At present, only 26 states¹⁶ and the District of Columbia allow primary enforcement of their seat belt law.

Research shows that lap/shoulder seat belts, when used, reduce the risk of injury to front-seat passenger occupants by 45 percent and the risk of moderate-to-critical injuries by 50 percent. In a crash, one of the most serious and deadly events that can occur to passengers is to be ejected from the vehicle. In fatal crashes in 2006, 75 percent of passenger vehicle occupants who were totally ejected from the vehicle were killed.¹⁷

Seat belts save lives and help to keep occupants in the vehicle. In states with primary enforcement laws, belt use rates are higher. A study conducted by the IIHS found that when states strengthen their laws from secondary enforcement to primary, driver death rates decline by an estimated seven percent.¹⁸ Use levels are typically 10 to 15 percentage points higher in these states than in states with weaker enforcement laws. Needless deaths and injuries that result from a lack of seat belt use cost society an estimated \$26 billion annually in medical care, lost productivity, and other injury-related costs. NHTSA estimates that in 2006, among passenger vehicle occupants over age 4, seat belts saved an estimated 15,383 lives. If all passenger occupants over age 4 had worn seat belts, 20,824 lives could have been saved or an additional 5,441 lives.¹⁹ NHTSA also estimates that, had seat belt use rates been 100 percent over the years, more than 350,000 additional lives would have been saved.²⁰

Congress, in SAFETEA-LU, provided more than \$500 million in incentive grant money to encourage states to pass primary enforcement seat belt laws. In 2006, three states acted. In 2007 only Maine passed a law. This year not a single state has adopted a primary enforcement seat belt law. At this glacial pace, one state a year, it likely will be 2032 or later before every state has this essential lifesaving law.

Impaired Driving - Stagnation After Years of Progress

The number of annual deaths on our nation's highways due to alcohol-related crashes dropped steadily from more than 26,000 in 1982 to under 17,000 from the mid-1980s through the mid-1990s. Since 2000, the number of persons killed in alcohol-involved crashes fell below 17,000 only once, in 2004, but has otherwise been climbing, reaching a new recent high of 17,602 in 2006. This indicates a reversal of the decline in impaired driving fatalities and a disturbing trend toward annual increases in deaths resulting from impaired driving.

The earlier decrease in fatalities was in large measure due to a wave of enactment of state anti-impaired driving laws, more serious enforcement of impaired driving laws, and educational efforts by Mothers Against Drunk Driving (MADD) and others to raise awareness of the problem. However, over 25 years after MADD began its campaign, there is still a patchwork of laws intended to prevent impaired driving across the nation. In fact, only two states have adopted all seven optimal laws identified by Advocates as essential to deterring and preventing impaired driving and the fatal and other injury crashes that result. Only 14 other states have adopted at least six of these laws.²¹ That means that most states, 34 and the District of Columbia, have enacted only five or fewer of these life-saving legal requirements.

Advocates recommends that a renewed emphasis be placed on efforts to prevent impaired driving through adoption of key anti-impaired driving laws. This would result in all states and the District of Columbia maintaining similar legal requirements regarding violators with extremely high blood alcohol concentration (BAC) levels; child endangerment by operating motor vehicles while impaired; open containers and repeat offender laws; sobriety checkpoints; and BAC testing for drivers involved in fatal crashes regardless of whether they survive the crash or not.

Additionally, the use of technology has been burgeoning in motor vehicles in recent years. Modern technology is used not just to provide drivers with vital safety information but also to allow internet access and entertainment and business communications that can interfere with the driving task. There is no reason that technology should not be used to prevent impaired drivers from operating motor vehicles. An effort led by MADD is already underway to urge states to adopt a mandatory interlock system to prevent persons convicted of impaired driving from starting their vehicle when they are, again, impaired. Advocates supports this effort.

Advocates also believes that more can be done through on-board technology to limit the ability of impaired drivers to start and operate motor vehicles. NHTSA should determine how sensor technology could be used to ensure that when impaired drivers get behind the wheel of a motor vehicle the vehicle is "smart" enough to prevent the driver from starting the ignition, getting on the road, and threatening the lives of others.

Motorcycle Deaths are Climbing and Helmet Laws are Under Attack

NHTSA estimates that 80 percent of motorcycle crashes injure or kill a rider. In 2006, 4,810 motorcyclists were killed and 88,000 were injured. This is more than double the motorcycle fatalities in 1997 and a level not seen since 1981.²² At present, motorcycles make up less than two percent of all registered vehicles and only 0.4 percent of all vehicle miles traveled, but motorcyclists account for 11 percent of total traffic fatalities, 13 percent of all occupant fatalities, and 4 percent of all occupants injured.²³ NHTSA estimates that helmets saved the lives of 1,658 motorcyclists in 2006 and that if all motorcyclists had worn helmets, an additional 752 lives could have been saved.²⁴

Today, only 20 states and the District of Columbia require helmet use by all motorcycle riders. This year 12 of those state laws were under attack by repeal attempts. In 2007, the National Transportation Safety Board recommended that all states adopt an all-rider helmet law. Research conclusively and convincingly shows that all-rider helmet laws save lives and reduce medical costs. While helmets will not prevent crashes from occurring, they have a significant and positive effect on preventing head and brain injuries during crashes. According to NHTSA, almost 50 percent of motorcycle crash victims have no private health insurance, so their medical bills are paid by taxpayers.²⁵ In 1992, California's all-rider helmet law took effect resulting in a 40 percent drop in its Medicaid costs and total hospital charges for medical treatment of motorcycle riders.²⁶

Finally, in a 2008 report by NHTSA guiding states on highway safety actions that work, a state all-rider motorcycle helmet use law was the only countermeasure rated as "Proven" in the "Effectiveness" category.²⁷

Strong, Uniform Teen Driving Laws Will Save Lives

After declining for 15 years, the number of teens is on the rise, growing at a faster rate than the overall U.S. population. In 1995, there were about 29 million people aged 12 to 19 in the United States. The teen population will continue to expand through the year 2010, as the children of baby boomers bring the total number of 12-to-19-year-olds to 34.9 million.²⁸

Based on estimated miles traveled annually, teen drivers ages 16 to 19 have a fatality rate four times the rate of drivers ages 25 to 69. In 2006, 3,406 young drivers aged 15 to 20 were killed in motor vehicle crashes and an additional 4,569 people, including teen passengers and others, were killed in these crashes. In all, nearly 8,000 died in crashes involving young drivers.²⁹

Graduated driver licensing (GDL) programs introduce teens to driving by phasing in full driving privileges over time and in lower risk settings. Based on research showing the effectiveness of GDL laws, Advocates recommends five components for an optimal teen driving law:

- a minimum six-month holding period for the learners permit;
- a minimum of 30 to 50 hours of supervised driving;
- intermediate stage restrictions on nighttime driving;
- intermediate stage restrictions on the number of non-family teenage passengers;
- and
- restrictions on non-emergency cell-phone use during both the learner's and intermediate stages.

Despite the proven success of comprehensive GDL laws in lowering the risk of a crash for teen drivers, there is a patchwork quilt of laws throughout the nation. Adoption of GDL laws has been a priority in some states but most have taken a piecemeal approach adopting one or two GDL components, but not the others. Adjacent states frequently have different rules for teen drivers concerning limits on nighttime driving, passenger restrictions and cell phone use.

This is similar to the "blood borders" problem in the 1970s and early 1980s when adjacent states had different minimum drinking ages for alcohol. Teens would drive across state borders, drink, and then drive impaired back home, killing and injuring themselves and others. This common occurrence was a catalyst for Congress to act and the Administration to concur. In 1984, President Reagan, at the urging of then-Secretary of Transportation Elizabeth Dole, signed into law a legal minimum drinking age of 21 sponsored by the late chairman of the House committee, Rep. James J. Howard (D-NJ), former Rep. Michael Barnes (D-MD) and Sen. Frank Lautenberg (D-NJ). That law gave states three years to adopt a common, uniform drinking age of 21 or be penalized federal-aid highway funds. As a result of that federal law every state complied, no state lost any federal funds and over 25,000 lives have been saved³⁰ – a remarkable achievement. It is now time for Congress to step in to protect teens and reduce deaths and injuries in every state through the uniform adoption of optimal GDL laws.

No Country for Older Drivers

The proportion of the population over age 65 is also growing significantly. In the past 10 years the number of older licensed drivers has increased by 18 percent, to 30 million in 2006.³¹ Although the proportion of older drivers in the population in recent years is about 15 percent, NHTSA estimates that this will rise to over 19 percent by the year 2030, with over 71 million drivers age 65 or older.³²

Older citizens can be expected to have problems as drivers and as pedestrians, given well-documented changes in their perceptual, cognitive, and psychomotor performance. The result is that drivers above age 65 have a higher overall crash rate than any other age group³³ Older drivers as a group are involved in fewer fatal crashes than younger drivers, but their susceptibility to both severe, disabling injury and death in a traffic crash, either as vehicle occupants or as pedestrians, is several times that of a person in their 20s, according to NHTSA. Nevertheless, NHTSA still has many safety regulations that do not meet the safety needs of older occupants. One example is NHTSA's proposed rule on side impact protection which includes injury criteria that might be adequate for vehicle occupants through middle age, but will not adequately protect older occupants. The result will be avoidable severe injuries and deaths among older vehicle occupants in side impact crashes.

The rapidly increasing population of older drivers, vehicle occupants, and pedestrians also presents daunting challenges to transportation engineers, who must ensure safety while attempting to maintain mobility on highways and streets. Studies have shown that a driver age 75 needs more than 30 times the amount of illumination compared to a 21-year old driver to see the signs and other traffic control devices without difficulty,³⁴ and that older drivers often take double the amount of time to recognize a hazard or react to a traffic control device than a young driver. This is especially crucial with respect to the amount of time and distance needed to brake quickly to avoid a collision or to reduce the severity of an impact. In addition, a higher percentage of older drivers have varying problems with vision that occur normally with aging, yet NHTSA some years ago weakened its standard for headlamp illumination so low-beam lamps provide less illumination of overhead highway signs and objects at the roadside.

Not enough attention has been paid to adopting countermeasures in our highway and street designs for older drivers. Most guidelines and recommendations concerning the need to accommodate older drivers in government publications issued both by FHWA and NHTSA, consist of voluntary rather than mandatory actions.³⁵ The pace with which traffic engineering changes are adopted is exceptionally slow, with compliance periods for the states often set at 10 years and more. In addition, shortages of adequate highway funding at all levels of government erode the possibility of timely attention to highway and street design and traffic engineering changes that will make vehicle operation by older drivers measurably safer.

These same problems also afflict older and disabled pedestrians. Most intersections in the U.S., even when signalized, are treacherous to negotiate safely for any pedestrians, but especially for older and disabled pedestrians. Traffic engineers are reluctant to extend pedestrian crossing times to increase safety because they argue that this impedes the flow of traffic and may cause backups. Only recently have there been efforts to slow crossing times at signalized intersections, and only from 4.2 feet to 3.5 feet per second.

These brief observations make it clear that older and disabled Americans are being shortchanged on traffic and vehicle safety. DOT is not taking a systems engineering approach to the problem that combines countermeasures involving highway and traffic engineering design and operation with vehicle crashworthiness design in order to protect occupants of all age groups.

Bigger, Heavier Trucks Are More Dangerous

Each year, about 5,000 people die in crashes involving big trucks and this fatality toll has not changed in the past decade. A large part of the reason is the increased numbers of heavier trucks, sometimes pulling two and even three trailers behind a tractor and operating on more and more miles of highways, both on and off the U.S. Interstate system. As big trucks get heavier they have longer stopping distances, reduced margins of safe maneuverability at high speeds, more loss-of-control crashes, and increased risk of rollovers. These safety threats have been researched and well-documented in studies by federal agencies and private organizations.

Heavier trucks often have additional axles that require more frequent maintenance. The Commercial Vehicle Safety Alliance (CVSA) regularly finds about one-third of all trucks inspected during its annual Roadcheck to have faulty brakes that require enforcement officers to issue Out of Service Orders (OOS) to the drivers and motor carriers until the vehicle is properly repaired. In fact, Roadcheck 2008 found that 52.6 percent of all commercial motor vehicle defects resulting in OOS Orders were faulty brakes.³⁶ The U.S. Department of Transportation (DOT) has stated its concern in several studies about the increased chances of finding poor brakes on bigger trucks with more axles.³⁷

Heavier trucks also have a higher risk of rollovers as they add more weight on the same number of axles, often surpassing gross vehicle weights of 80,000 pounds by wide margins. Many hundreds of thousands of trips by legal and illegal overweight trucks throughout the U.S. every day raise the chances of rollover crashes because standard "18-wheelers" are transporting loads that result in the rig far exceeding the maximum federal gross weight limit. When those loads also involve cargo that can easily shift, such as various types of liquids in cargo tanks, extra-heavy trucks become extremely unstable in emergency steering maneuvers or when sudden braking is required to negotiate a sharp curve.³⁸

The American public has spoken loudly and clearly in opposition to heavier trucks. In poll after poll, the public has consistently and emphatically expressed the view that sharing the road with big trucks is unsafe. In a poll conducted earlier this year, two-thirds of the public, by a margin of 66 to 16 percent, oppose efforts to have Congress allow trucks that would carry heavier loads on U.S. highways.³⁹ An even larger majority of Americans, 82 percent (more than a 4-to-1 margin), believe that multi-trailer, longer combination vehicles (LCVs) are more dangerous than trucks pulling a single trailer.

When longer, heavier trucks are LCVs, that is, tractors pulling multiple trailing units, such as giant Triples, Rocky Mountain Doubles, and Turnpike Doubles, safety problems are further magnified by the swaying and increased low- and high-speed off-tracking of these very long combination rigs. Even the U.S. DOT found that if LCVs increased their operations nationwide, they would suffer an 11 percent higher overall fatal crash rate.⁴⁰ This finding was further confirmed in another DOT study that specifically cautioned against the increased use of long combinations pulling multiple trailers because of amplification or sway of the last trailing units and poorer control of load transfer as compared with single semi-trailer trucks which makes LCVs more prone to out-of-control and rollover crashes.⁴¹ One of the most successful truck safety laws ever enacted by Congress was the LCV "freeze"⁴² sponsored by Sen. Frank

Lautenberg (D-NJ), which prevented further spread of these longer, bigger trucks onto more routes, especially in California and along the East Coast of the U.S.

Speeding Wastes Lives and Fuel

In 2006, 13,543 speeding-related traffic fatalities occurred on U.S. roadways, approximately 32 percent of all traffic fatalities that year.⁴³ This percentage for speed-involved fatal crashes has held steady, year after year. Of those fatalities, more than a third (5,587) took place on roadways posted at 55 miles per hour or higher. Although the National Maximum Speed Limit was revoked in 1995 to permit states to post higher speed limits, that did not eliminate vehicle speed and speeding as a critical factor in fatal crashes, by any means. Congress may have repealed the national maximum speed limit but it did not repeal the laws of physics.⁴⁴

The National Maximum Speed Limit was designed to address the need to conserve fuel in the wake of the 1973 oil crisis and gasoline shortage.⁴⁵ The National Academy of Sciences documented the fact that the lower, uniform national speed limit saved fuel, estimating a total savings of about 167,000 barrels per day.⁴⁶ From the safety perspective, the National Academy study also revealed that the national speed limit was a life saving policy. “[T]he slower speeds and more uniform pace of travel . . . accounted for 3,000 to 5,000 fewer highway fatalities.”⁴⁷ Even years after the oil crisis had passed, that national speed limit was still saving between 2,000 and 4,000 lives and preventing between 2,500 and 4,500 serious and 34,000 and 61,000 minor and moderate crash injuries.⁴⁸

The National Academy study estimated that raising speed limits on rural interstate highways would result in about 500 more deaths annually.⁴⁹ Other studies have documented that the trend to higher posted speed limits has resulted in those increased fatalities and higher fatality rates.⁵⁰

There are few policy measures that can compete with the safety benefits provided by a national maximum speed limit. Conditions may once again be ripe for Congress to consider a new version of the national speed limit law. One bill calling for a dual limit of 60 mph on urban highways and 65 mph on rural portions of the National Highway System has already been introduced in the House.⁵¹ Advocates supports the consideration of a reformulated national speed limit as a policy option in order to save lives and protect the nation.

The Unfinished Vehicle Safety Agenda

A safe vehicle that protects its occupants is critical to surviving a highway crash. Federal Motor Vehicle Safety Standards adopted by NHTSA in the 1960s and 1970s have been credited with saving thousands of lives in the past 30 years.⁵² Airbags have saved more than 25,000 lives since 1975.⁵³ One of the major safety accomplishments in the SAFETEA-LU reauthorization legislation was Congressional direction to the National Highway Traffic Safety Administration to move forward on several federal vehicle safety standards that had languished for decades. Unfortunately, weak safety standards already proposed by the agency in response to directives will not likely realize the lifesavings that Congress envisioned or that are expected by the public.

Each year more than 10,500 people die in rollover crashes. Congress, with bi-partisan support, directed NHTSA in SAFETEA-LU to issue and upgrade long overdue safety standards to prevent rollover, improve roof strength, mitigate occupant ejection, upgrade side impact

protection and require better consumer information. In each case, the agency has so far done considerably less than it could have to advance safety and occupant protection.

Despite the successes in enacting provisions directing NHTSA to issue and upgrade safety standards, there is an unfinished vehicle safety agenda. While this is not the jurisdiction of this Committee, it is important to note that advancing federal vehicle safety standards in the areas of pedestrian safety, vehicle compatibility, and improved seat structure and belt design are critical standards still needed to save lives and prevent disabling injuries.

Conclusion

The quality of life for all Americans depends on a safe, reliable, economical and environmentally sound surface transportation system. However, transportation solutions involve not only costs, but safety as well.

As previously mentioned, highway crashes are costing our nation more than \$230 billion annually. This is money that could be better spent on addressing surface transportation needs. Many of the top priorities outlined in my testimony today can be realized by expending minimal resources from the Highway Trust Fund while achieving maximum gains in saving lives and preventing costly, disabling injuries. The health and safety community knows what works. There are no acceptable excuses for delaying any longer the adoption of proven safety measures or accommodating special interests that seek to roll back safety while the death and injury toll continues to grow.

Thank you and I am pleased to answer any questions.

Endnotes:

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- ¹ *Traffic Safety Facts 2006*, DOT HS 810 818, NHTSA (2007) (Traffic Safety Facts 2006); and, *2008 Roadmap to State Highway Safety Laws*, Advocates for Highway and Auto Safety (Jan. 2008) (2008 Roadmap Report).
- ² *The Economic Impact of Motor Vehicle Crashes 2000*, DOT HS 809 446, NHTSA (May 2002).
- ³ 2008 Roadmap Report, p. 7.
- ⁴ *Motorcycles*, Traffic Safety Facts 2006 Data, DOT HS 810 806, NHTSA (Mar. 2008).
- ⁵ AL, CA, GA, LA, MD, MA, MI, MS, MO, NE, NV, NJ, NY, NC, OR, TN, VT, VA, WA and WV.
- ⁶ Traffic Safety Facts 2006, p. 32.
- ⁷ 2008 Roadmap Report, p. 22.
- ⁸ *Pedestrians*, Traffic Safety Facts 2006 Data, DOT HS 810 810, 2008, NHTSA (Mar. 2008).
- ⁹ *Once the World Leader in Traffic Safety, U.S. Drops to No. 9*, Nov. 27, 2003, NYTimes, available at:
<http://query.nytimes.com/gst/fullpage.html?res=9D00E1D6173AF934A15752C1A9659C8B63>.
- ¹⁰ Williams, A.F., Wells, J.K., The Role of Enforcement Programs in Increasing Seat Belt Use, 35 *Journal of Safety Research* 175-180 (2004) (references omitted).
- ¹¹ See, e.g., Education alone won't make drivers safer, *Status Report* 36:1-7, IIHS (2001).
- ¹² Importance of traffic safety laws: with publicity and education, laws change behavior, *Status Report* 36:5-6, IIHS (2001).
- ¹³ *Seat Belt Use in 2007 – Use Rates in the States and Territories*, Traffic Safety Facts, DOT HS 810 949, NHTSA (May 2008).
- ¹⁴ SAFETEA-LU, Sections 2001 & 2009, Title II, Highway Safety.
- ¹⁵ NHTSA Click It or Ticket webpage, available at:
<http://www.nhtsa.gov/portal/site/nhtsa/menuitem.ce4a601cdf97fc239d1711cba046a0/>.
- ¹⁶ AK, AL, CA, CT, DE, GA, HI, IL, IN, IA, KY, LA, MD, ME, MI, MS, NJ, NM, NY, NC, OK, OR, SC, TN, TX and WA.
- ¹⁷ *Occupant Protection*, Traffic Safety Facts 2006 Data, DOT HS 810 807, NHTSA (2007).
- ¹⁸ 2008 Roadmap Report, p.13.
- ¹⁹ *Occupant Protection*, Traffic Safety Facts 2006 Data.
- ²⁰ *Ibid.*
- ²¹ 2008 Roadmap Report.
- ²² *A Highway Safety Countermeasures Guide for State Highway Safety Offices*, DOT HS 810 891, p. 5-4, NHTSA (3d ed., Jan. 2008) (NHTSA Safety Countermeasures Guide).
- ²³ 2008 Roadmap Report, p. 15.
- ²⁴ *Motorcycles*, Traffic Safety Facts 2006 Data, DOT HS 810 806, NHTSA (Mar. 2008).
- ²⁵ 2008 Roadmap Report, p. 15.
- ²⁶ *Ibid.*
- ²⁷ NHTSA Safety Countermeasures Guide, p. 5-4.
- ²⁸ U.S. Bureau of Census (1999).
- ²⁹ 2008 Roadmap Report, p. 24.
- ³⁰ Traffic Safety Facts 2006, back cover.

³¹ *Older Population*, Traffic Safety Facts 2006 Data, DOT HS 810 808, NHTSA (Mar. 2008).

³² See, NHTSA Safety Countermeasures Guide, chapter 7.

³³ See, Owsley, C., *Visual Information Capabilities of Older Drivers*, NHTSA (2001).

³⁴ *Older Drivers: A Literature Review*, No.25, United Kingdom Department for Transport (2001).

³⁵ For example, see, *Guidelines and Recommendations to Accommodate Older Drivers and Pedestrians*, FHWA-RD-01-051, Federal Highway Administration (2001).

³⁶ See, http://www.occupationalhazards.com/Classes/Article/ArticleDraw_P.aspx, a summary of the initial figures for Roadcheck 2008.

³⁷ See, for example, *Comprehensive Truck Size and Weight Study*, U.S. DOT (2000), and *Study of the Braking Performance of Heavy U.S. Vehicles*, NHTSA (1987).

³⁸ Evaluation of some of the problems of very large trucks negotiating interchanges is found in, e.g., Ervin, R., et al., *Impact of Specific Geometric Features on Truck Operations and Safety at Interchanges*, University of Michigan Transportation Research Institute (Aug. 1986).

³⁹ Lake Research Partners national survey, released May 14, 2008, prepared for Advocates for Highway and Auto Safety, Public Citizen and the Truck Safety Coalition, a partnership of Citizens for Reliable and Safe Highways and Parents Against Tired Truckers.

⁴⁰ *Comprehensive Truck Size and Weight Study*, U.S. DOT, 2000. The Working Papers were authored in 1995 and are available on the FHWA web site, <http://www.fhwa.gov>.

⁴¹ *Western Uniformity Scenario Analysis – A Regional Truck Size and Weight Scenario Requested by the Western Governors’ Association*, April 2004.

⁴² Sec. 1023(b), Surface Transportation Efficiency Act of 1991, Pub. L. 102-240 (1991), codified at 49 U.S.C. Sec. 127(d).

⁴³ Traffic Safety Facts 2006.

⁴⁴ Sec. 205(d)(1)(B), Title II, National Highway Designation Act, Pub. L. 104-59, (Nov. 28, 1995).

⁴⁵ The national maximum speed limit was originally an emergency measure enacted as part of the Emergency Highway Conservation Act, Pub. L. 93-239 (Jan. 2, 1974), and was made permanent in Sec. 114(a), 1974 Federal-Aid Highway Amendments, Pub. L. 93-643 (Jan. 4, 1975).

⁴⁶ *55: A Decade of Experience*, Transportation Research Board Special Report No. 204, p. 110, National Research Council, National Academy of Sciences (1984).

⁴⁷ *Id.* at p. 2.

⁴⁸ *Id.* at p. 3.

⁴⁹ *55: A Decade of Experience*, p. 176.

⁵⁰ See for example Baum, et al., 1989, Baum et al., 1991; and NHTSA and FHWA, 1998.

⁵¹ H.R. 6458, was introduced on July 10, 2008 by Ms. Speier of California.

⁵² Kahane, C.J., *Lives Saved by the Federal Motor Vehicle Safety Standards and Other Vehicle Safety Technologies, 1960-2002 – Passenger Cars and Light Trucks – With a Review of 19 FMVSS and their Effectiveness in Reducing Fatalities, Injuries and Crashes*, DOT HS 809 833, NHTSA (Oct. 2004) (estimating 328,551 lives saved by federal motor vehicle safety standards including both vehicle technology and occupant behavior dependent standards).

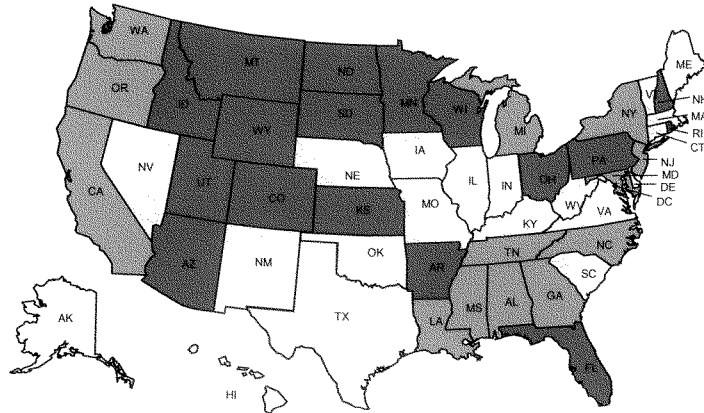
⁵³ Traffic Safety Facts 2006, back cover.



ADULT OCCUPANT PROTECTION

Primary Enforcement Seat Belt Laws

All-Rider Motorcycle Helmet Laws



- State has both a primary enforcement seat belt law and an all-rider motorcycle helmet law
- State has either a primary enforcement seat belt law or an all-rider motorcycle helmet law
- State has neither a primary enforcement seat belt law nor an all-rider motorcycle helmet law

RESPONSES BY JACQUELINE S. GILLAN TO ADDITIONAL QUESTIONS
FROM SENATOR BOXER

Question 1a. Do you think that lower speed limits would make the roads safer?

Response. There is no question that lower speed limits would make road travel safer for both motorists and the operators of commercial motor vehicles. Lower speed limits, when enforced, result in drivers having more time to react to hazards requiring braking and evasive maneuvers, as well as more time to detect, understand, and appropriately react to guidance provided by signs, pavement markings, and other traffic control devices.

Recent studies have shown that reduced crash rates and lower crash severity are benefits of lower speeds on highways and streets, and that vehicle speed has a causal relationship to crash rates and severity.

Question 1b. Do you think that a national speed limit would be effective? The National Maximum Speed Limit (NMSL) enacted in 1974 achieved lower motor vehicle operating speeds that almost immediately translated into a sustained, reduced rate of collisions with fewer deaths and fewer severe injuries. These facts have been verified repeatedly by several studies, including studies conducted through the National Academy of Sciences and by independent research organizations, such as the Insurance Institute for Highway Safety. It is documented that tens of thousands of lives were saved during the era of the NMSL, and that additional thousands of lives could be saved each year by a national speed limit that would reduce highway-operating speeds.

Question 2a. What is the most important thing that can be done to improve road safety?

Response. In terms of immediate actions that would have a large, measurable effect on saving lives and reducing crash severity and associated injuries, adoption of a national Primary Seat Belt Use Law requirement would immediately result in saving additional lives in the 24 states that do not currently permit primary enforcement of their seat belt use laws. Also, enactment of a national requirement for all-rider motorcycle helmet-use laws in all states, uniform Graduated Driver Licensing (GDL) laws for novice drivers and the use of a breathalyzer interlock for drivers previously convicted either of driving while intoxicated (DWI) or driving under the influence (DUI), are measures that would have a strong and immediate positive effect to improving highway safety.

In addition, each year, about 5,000 people die in truck crashes and more than 100,000 are injured. Congress must not weaken or repeal the 1995 freeze on longer combination vehicles or increase truck weights. Also, nationwide reductions in posted speed limits and vigorous enforcement of those limits would result in many lives saved on our nation's highways.

Question 2b. Is there a Federal element to this, or is it purely State or local?

Response. Improving traffic safety to save lives, prevent injuries and reduce motor vehicle crashes and costs requires concerted efforts mounted at the Federal, state, and local levels. However, the Federal Government must take the lead to ensure that proven safety countermeasures are uniform and enacted throughout the Nation to protect every person in every state. This is similar to the Federal Government's leadership role in aviation safety.

Motor vehicle crashes are the leading cause of death and injury for all Americans ages 3 to 33. Since the loss of more than 41,000 Americans each year in motor vehicle crashes is a national public health and safety crisis, Federal leadership is essential. While local road conditions and terrain may vary to some extent, unsafe behaviors and the laws of physics do not change from State to state. National minimum safety requirements will ensure that the public in each State receives the benefit of proven safety interventions. This includes seat belt use and motorcycle helmet use, maximum speed limits, strong measures to prevent impaired driving, graduated driver licensing for novice drivers, and other safety countermeasures including the coordination of Federal standards for the designs of highways and of traffic engineering measures that need national coordination and integrated implementation at all levels of government.

Question 3a. What is the real potential for technology to make a real difference? For example, is the best potential at the roadside or in the car? Or are lower-tech options just as important in the short run?

Response. Many technologies are already playing a critical role in improving vehicle, roadway and driver safety. Technologies that have a direct effect on the frequency and severity of crashes are evolving at a rapid pace. These include in-vehicle safety systems that both help to prevent crashes (crash avoidance technologies) such as electronic stability control and imminent collision notification systems ("smart"

cruise control, sensors and cameras for avoiding impacts with other vehicles and with children in backing incidents). Technology is also essential to reducing occupant injuries and deaths through the use of crash worthiness improvements such as safer active and passive restraint systems and automated enforcement technologies at the roadside such as red light cameras and remote speed limit enforcement. Furthermore, if a crash does occur, the increasing use of remote crash notification systems installed in motor vehicles result in more rapid emergency medical responses to injured occupants. Technology, such as interlock systems, is also helping to keep impaired drivers off our roads. These in-vehicle technologies currently provide the best safety improvements and are making a real difference.

Other technologies are helping to advance motor vehicle safety, such as remote, transponded real-time information to roadside inspectors on the critical safety condition of commercial motor vehicles. Still other technologies are transforming the highway from an essentially static operating environment to a dynamic, changing environment comprising real-time changes in notifying drivers of changed operating conditions, including speed limits.

Advocates believe that so-called "low tech" solutions can be found in passage of essential, proven, lifesaving laws that continue to languish year after year in State legislatures despite strong and broad public support.

Question 3b. How long would it take for those technologies to be in place? Should the Federal Government be doing something to accelerate development of adoption?

Response. For "low tech" solutions such as requiring primary enforcement of seat belt use laws, uniform GDL laws or motorcycle helmet use in all states, enactment of a national law would lead to adoption of those laws in nearly all jurisdictions within a few years. Other "low tech" highway-related safety features, including road safety hardware such as barriers and crash cushions, and certain traffic control devices, already qualify for Federal assistance to advance the implementation of highway-related safety features. Federal minimum standards requiring the use of such items in highway construction and rehabilitation projects would expedite the installation of these safety features.

Technologies, such as crash avoidance systems, on-board electronic recorders monitoring commercial driver hours of service compliance, and injury-prevention countermeasures like automatic reversing power windows and advanced occupant restraint systems, among many that could be mentioned, are all too often not required as standard equipment by the Federal safety agencies such as the National Highway Traffic Safety Administration (NHTSA) and the Federal Motor Carrier Safety Administration (FMCSA). As a result, it has fallen to Congress to require these agencies to issue rules requiring motor vehicle manufacturers and motor carriers to install advanced safety technologies. In general, safety technologies are adopted in an uneven manner, with implementation usually the result of Federal legislative mandates after years of unacceptable delay.

Question 4a. How would you advise us as we prepare for the next reauthorization to improve the highway programs so that safety is seriously addressed?

Response. The most effective approach for ensuring improvements in highway safety is for Congress to set the agenda by requiring in legislation that certain aspects of motor vehicle and highway safety be required either in State law, or through Federal regulation, with specific deadlines for action. First, crucial aspects of traffic safety that are governed by State law, but have not been addressed in all states, would be improved by requiring states to adopt proven safety countermeasures, such as primary enforcement of seat belt use laws, GDL laws and all-rider motorcycle helmet laws. Congress will directly and immediately improve public safety in these areas. Second, with regard to Federal regulations for passenger vehicles, Congress needs to again set the agenda for NHTSA by requiring the issuance of rules to address specific safety problems. In recent years, this approach has been most effective in getting the safety agency to establish reasonable performance standards based on using both "low tech" solutions and available technology. This requires adoption of provisions directing the Secretary of Transportation (i.e. NHTSA) to issue final rules to address serious safety problems and to amend or establish safety performance standards that include the safest countermeasures and safety technologies available. Similarly, with respect to commercial motor vehicle safety, Congress should, in the Motor Carrier Safety title, direct the Secretary of Transportation (i.e., FMCSA) to issue a series of specific rules that improve long-standing problems in commercial motor vehicle safety. Without congressional action, proven safety countermeasures for passenger and commercial vehicle safety will continue to languish due to lack of agency initiative.

As regards Federal-aid highway authorization legislation, over the past 35 years Congress and the Federal Highway Administration (FHWA) have increasingly re-

moved the direct Federal approval and oversight role for highway projects. Federal standards were changed to mere guidelines for federally assisted highway work, including safety features and basic geometric and cross-section designs. These guidelines are authored by the states as consensus guidelines that are simply accepted without change by FHWA for inclusion in the Code of Federal Regulations as the basis for federally assisted highway work. These guidelines have wide boundaries for their design values and generous latitude is built into the narrative of safety and design guides so that uneven results in safety are produced from one State to another.

Legislated funding categories have become increasingly fluid, allowing almost free exchange of money between major funding provisions, or supplying Federal funds as generally unrestricted block grants. Overall, most funds are provided with few legislated requirements.

Furthermore, although State departments of transportation should be able to rely on their expertise to build, repair, and maintain safe roads and bridges, some states do not sufficiently address highway safety needs because funds are awarded with few limitations in both legislation and subsequent allocation by FHWA. Unless Congress directs that specific highway safety countermeasures be implemented in a time certain and provides dedicated funds for that purpose, with appropriate Federal agency approval and oversight of projects, the national highway safety profile will remain uneven and unbalanced, with some states more aggressively implementing major highway safety improvements than others. For example, Federal funds for resurfacing and restoring highway pavement are provided by Congress and allocated through FHWA without any Federal standards on pavement skid resistance governing the safety of pavement surfaces, especially for wet weather travel.

Question 4b. What kind of incentives can we offer if we were to build them into the HSIP program, for example?

At this time, Advocates does not have a specific proposal but will provide that to the Committee at a later date.

Question 5a. What is the data telling you about the effectiveness of various strategies, both infrastructure and behavioral?

Response. The data tells us that while there are effective countermeasures for reducing highway deaths and injuries such as laws to increase seat belt and motorcycle helmet use, reduce drunk driving and keep new teen drivers safe, piecemeal adoption of such countermeasures by the states has slowed progress and inhibited the application of these solutions nationwide. The only way to achieve optimal safety improvement and to emphasize the national nature of this critical public health and safety epidemic is to have uniform, national laws that provide all Americans with the same basic level of safety. Government and independent research convincingly show the benefits to public health and safety of adopting these safety strategies.

There is a strong argument in support of appropriate countermeasures for infrastructure safety that are achieved through good design practices. Hundreds of studies have been published over the last few decades demonstrating that providing increased decision and stopping sight distance on highways; wider travel lanes; appropriately wide medians separating opposing streams of traffic; wide shoulders that are hard-surfaced; avoidance of edge-of-pavement drop offs; clear roadsides emptied of fixed object hazards; and clear, bright signs, pavement markings, and other traffic control devices that warn and guide motorists while fulfilling their expectations on what they will encounter on the road ahead are without question the fundamental road design strategies that prevent crashes and save lives. These are now taken for granted, but several decades ago they were almost uniformly absent from America's roads and streets. Increasing the quality of the alignment and cross-section designs of highways, increasing pavement skid resistance, providing protection against colliding with dangerous roadside features, and appropriately guiding the motorist from moment-to-moment in the numerous decisions that must be made while driving are the foundation of good infrastructure design.

In addition, infrastructure safety also requires that bridges must be inspected often with sophisticated tools and monitored for fatigue and deterioration due to environmental conditions and the disproportionate impacts of large, heavy trucks, to ensure that catastrophic bridge failures do not occur. Better signalization and pedestrian crossing designs ensure lower rates of pedestrian collisions that result in deaths and injuries. The data supporting the safety benefits of improved highway and traffic engineering designs both for motorists, bicyclists and for those walking have been collected and used to justify increased safety designs for many years.

Much of these data over the years has been collected by State highway departments and by FHWA, as well as by private researchers in universities and think tanks.

Question 5b. How can you tell what combination of features should be considered an effective plan?

Response. Traffic safety countermeasures have been tried, tested and developed over many years to improve safety in various areas of occupant protection, commercial vehicles and highway design. The best currently available features to improve a given safety problem are known and can be instituted with minimal lead-time. What has generally been lacking is not the safety features or combinations of features that will improve safety, but the leadership to institute some or all of the known and available countermeasures.

Reductions in highway deaths and injuries require a multi-faceted approach at the Federal level addressing vehicle safety, driving behavioral programs and roadway design. Advocates supports safety initiatives in all three areas in the reauthorization of SAFETEA-LU. An effective plan combines sophisticated road and bridge design principles, optimal vehicle safety, and strong behavioral programs to increase safety belt and motorcycle helmet use, deter drunk driving, reduce young driver crashes by appropriately delaying the age of full licensure, monitoring the driving and working hours of commercial drivers, and enforcement of traffic laws and regulations, including speed limits and traffic control devices requiring compliance, such as signalized and stop sign controlled intersections.

Senator LAUTENBERG. Thank you very much.

Mr. Johns, welcome.

STATEMENT OF ROBERT C. JOHNS, DIRECTOR, CENTER FOR TRANSPORTATION STUDIES

Mr. JOHNS. Chairman Lautenberg, Ranking Member Inhofe, I am honored to be invited to testify on this important topic of traffic safety.

I am going to focus on performance measures and performance-driven programs. The University of Minnesota is a large land-grant research university. Our center is one of the largest transportation centers in the Country involving many disciplines to look at a variety of transportation-related topics. We have a long history of research in traffic safety.

We address it from several perspectives: engineering, technology, human factors, planning and policy research. Our research creates innovative strategies to improve traffic safety. We also measure the performance impacts of these strategies and also develop new ways of measuring performance.

We need innovations in traffic safety because the overall performance measures in the U.S., as has been mentioned, total fatalities and fatalities per vehicle mile driven, have been at a plateau for the past 10 to 15 years. Over 40,000 people die on our road systems each year. This is a human tragedy equivalent to two large airplanes crashing every week, killing everyone on board.

What is particularly frustrating is that we are not improving and other countries are. We used to be the world leader in traffic safety. We have fallen from that leadership role.

European countries with early leadership, like Sweden with its Vision Zero program, Australia, Asian countries have all achieved impressive results. They have done this by measuring traffic safety performance, creating a vision of what they want the performance to be and setting targets to reach that vision. Their investments are judged by how well they reach these targets and their institutions are held accountable and provided incentives for advancing traffic safety performance.

In the U.S., we have had great success in performance-driven programs in our private sector. There is an opportunity to increase performance measurement and accountability in Federal transportation programs as called for by the National Surface Transportation Policy and Revenue Study Commission. Fortunately, in addition to other countries, we have innovative States that are demonstrating how this can be done in traffic safety. The States of Washington, Michigan, Missouri, Utah and others have developed visions, performance measurement systems, and investment programs to meet performance goals.

In Minnesota, a coalition of groups led by the Minnesota Department of Transportation and the Department of Public Safety, with support from our Center for Transportation Studies, has established a Toward Zero Deaths program. A variety of groups are working under this umbrella vision, led by central leadership that focuses on investments with high performance payoffs. Traffic fatalities in Minnesota dropped from 657 in 2002 to 494 in 2006.

The short-term strategies are complemented by long-term university research programs led by our Intelligent Transportation Systems Institute and our Center for Excellence in Rural Safety and by public education programs, such as annual stakeholder conferences and events. We believe the Toward Zero Deaths program in Minnesota is beginning to change the traffic safety culture in Minnesota, which is what Sweden and others have been so successful at.

So what are the implications for the Federal Government? Here are five suggestions. One, Federal funding for traffic safety should be based on States meeting performance standards with incentives provided for innovative programs and for innovative measurement systems. Two, a variety of strategies and integrated approaches should be required, such as the traditional four Es, engineering, enforcement, education and emergency management, combined with research, outreach, pilot programs with the private sector, media relations and partnerships involving elected officials and advocacy groups.

Three, there should be Federal leadership in compiling and sharing best practices by States and other countries in traffic safety. Information resources on a variety of traffic safety topics should be widely accessible using innovative mechanisms such as the transportation knowledge networks being developed by AASHTO. In addition to the research programs mentioned by Susan Martinovich, Federal sponsorship of university programs for basic research should increase, enhancing our knowledge about the complex interactions of human behavior, vehicle performance and infrastructure design.

No. 5, Federal programs should require and fund traffic safety data collection systems and statistical analyses. These are the foundations of data-driven performance measurement systems.

In conclusion, we have an opportunity for Federal programs to use performance-based approaches to break through the plateau of the past decade. Other countries and innovative States are demonstrating how it can be done. We need the commitment of Congress and the Administration to move us in these directions.

Thank you for this opportunity to testify. I would be glad to answer questions.
[The prepared statement of Mr. Johns follows:]

Saving Lives on Our Nation's Highways

Written Testimony of:

Robert C. Johns
Director, Center for Transportation Studies
University of Minnesota
Minneapolis, MN 55455
(v) 612-625-9376; (e) johns003@cts.umn.edu

Prepared for Presentation to:

United States Senate
Committee on Environment and Public Works
Washington D.C.

July 17, 2008

Madame Chair, Ranking Member, and Members of the Committee, I am Robert Johns, director of the Center for Transportation Studies (CTS) at the University of Minnesota. I am honored to be invited to discuss one of our nation's highest transportation and public health priorities: saving lives on our road systems. My focus will be on the development and use of traffic safety performance measures.

CTS Background in Traffic Safety

Our center is one of the largest university transportation centers in the nation, ranking in the top five in terms of annual funding attracted for research, education, and outreach activities related to transportation. Our Intelligent Transportation Systems Institute is a national University Transportation Center (UTC) funded by the Research and Innovative Technology Administration. Our Local Technical Assistance Program (LTAP) funded by the Federal Highway Administration offers extensive training and technology transfer services to transportation professionals throughout Minnesota. We also compete for and have been awarded several grants and contracts from a diverse set of federal sponsors, including FHWA, FTA, NHTSA, NSF, NASA, DOE, and DHS. We have a close partnership with the Minnesota Department of Transportation, the Minnesota Local Road Research Board, the Minnesota Department of Public Safety, and other state agencies, which also are sponsors of CTS research projects and training activities.

As a center in a land-grant university, we work to advance the land-grant mission of research, teaching, and public service in the field of transportation, which we define very broadly. We are a large research university—with more than 50,000 students at our Twin Cities campus—and are able to call on numerous disciplines to address the multi-disciplinary nature of transportation challenges. We have coordinated extensive research

activities for years on engineering and technology topics, exploring infrastructure, traffic, and vehicle research issues. In recent years, our research activities in policy and planning topics—such as transportation and regional growth, community design, non-motorized transportation, and land use relationships—have grown considerably. We work with over 70 faculty members in more than 25 academic departments and disciplines.

Traffic safety has been an ongoing area of research for our center. We address safety challenges from the perspectives of traffic engineering, mechanical engineering, psychology, computer science, urban planning, public policy, and law. I do not intend to discuss our research findings today; it would be better to have our experts in these fields testify. But I will describe our involvement in Minnesota's performance-based safety programs. Our research contributes to the development of new intervention strategies (technology, human behavior, and policy) and to the understanding of the performance impacts of these and other strategies. Our education and outreach activities contribute to enhancing the safety expertise of our current and future workforce and to increasing the public understanding of safety issues.

Increased Transportation Performance Measurement

Both the public and private sectors have made advances in recent years in measuring performance. In the early 1990s, private sector companies facing increased global competition developed extensive data systems for monitoring product quality, organizational performance, market acceptance and change, and financial success. Today many companies tie strategic plans, goals, and objectives to quantitative measures that indicate how well the strategic goals are being met. This allows executives to compare the results of alternative investments, better analyze how well their company is performing in relation to their competition, make mid-course adjustments, capitalize on emerging opportunities, and hold their managers and staff accountable. Management and investment decisions have increasingly become data-driven, with strategic priorities justified by an analysis of the likelihood of reaching target performance measures.

The public sector has followed these practices, often influenced by elected and appointed officials who are demanding more accountability for the expenditure of public funds. In transportation, the practice of performance measurement has advanced rapidly in the past decade. The Transportation Research Board of the National Academies established a performance measurement committee in 2000. In addition to identifying research needs and publishing papers, this committee has sponsored two national conferences on performance measurement in transportation, resulting in extensive proceedings that describe examples of practices for measuring infrastructure condition, congestion, safety, and other indicators of the performance of our transportation system. State departments of transportation and metropolitan planning organizations have begun to include performance targets in their updated transportation plans. In 2006, the Minnesota Department of Transportation (Mn/DOT) received a national award from the Federal Highway Administration as the leading state department of transportation in incorporating performance measures into its state transportation plan. Those measures are

reviewed and used by the Minnesota legislature in its response to Mn/DOT's biennial budget proposals.

Traffic safety performance measures are usually one of the first sets of measures to be tracked by a transportation agency as it advances its practice of performance measurement. The overarching measures, such as total traffic fatalities, are straightforward and have been measured in crash statistics for years, but the linking of program goals and investments to performance targets is in its infancy.

Why Measurement-Driven Safety Programs Are Needed

In 2006, almost 43,000 people died on U.S. roads and almost 2.6 million were injured. While these numbers represent tragic experiences for many families, it is particularly discouraging that we are not making progress as a nation. A key performance measure for traffic safety is the fatality rate, which is measured by fatalities per 100 million vehicle-miles traveled (VMT). The U.S. rate dropped from 5.3 in 1965 to 1.7 in 1995. Since then it has stayed at a plateau, declining only to 1.4 fatalities per 100 million VMT in 2006.

It is also discouraging that the United States, formerly a world leader in traffic safety, has been surpassed by many countries whose fatality rates continue to decrease. In other countries, traffic safety is increasingly being seen as a public health concern. The World Health Organization has projected that if action is not taken, road traffic injuries in 2020 will be the third leading contribution to the global burden of disease and injury, ranking above pulmonary disease, respiratory infection, tuberculosis, war, and HIV. Several countries have taken on this challenge with comprehensive, integrated programs to address the culture of road safety. Sweden established its Vision Zero program in 1997, which focuses on shared responsibility to meet public health targets; it has shown success in reducing fatalities and injuries. Other European countries have followed Sweden's model with innovative programs. Australia and New Zealand have also achieved impressive results in meeting targets. U.S. gains during this period have been small in comparison.

Setting performance targets for traffic safety can improve safety performance by motivating everyone involved to make optimal use of their resources, with ambitious long-term targets often more effective than modest short-term ones. Performance targets encourage people to identify all possible interventions, rank them according to their impact, and implement ones that are most effective. Good baseline data and ongoing measurement systems are essential.

In its 2007 report, the National Surface Transportation Policy and Revenue Study Commission called for increased performance measurement and accountability for all federal transportation programs. It acknowledged the challenge in developing measurement-driven programs applicable to all states and metropolitan areas, since local conditions are so different. But it strongly reinforces the potential gains of using

performance standards—in accomplishing national objectives and in restoring public confidence in the transportation decision-making process.

For the United States to follow the National Commission’s recommendations and tie federal safety investments to meeting performance measures, it will need to address a barrier not present in some of the countries that have advanced beyond our nation in traffic safety. This is the cultural value of “individual rights” present throughout our history, which contributes to resistance to some of the interventions being implemented more easily in other countries, such as mandatory seat-belt laws, low blood-alcohol standards, and increased electronic surveillance. Our challenge is to create integrated, shared approaches that address cultural trends in addition to implementing technical strategies. Lessons can be learned from innovative states that have recently developed new performance-driven approaches in traffic safety and have begun to show impressive results.

State Experiences

The increased use of performance measures by state governments has led to several innovative performance-based programs in traffic safety. They have been accelerated by the SAFETEA-LU requirement for each state to develop a strategic highway safety plan (SHSP). A few states are highlighted below, with a more extensive description of Minnesota’s program in the next section.

In 2000, the state of Washington developed its Target Zero program. Its vision is to reach zero traffic deaths and zero disability injuries by 2030. The program recognized the important need for partnerships by creating a Traffic Safety Commission chaired by the governor. Washington has established a number of goals and strategies, with extensive performance measures and targets for each. Most trend lines are downward since the establishment of the Target Zero program.

The state of Michigan also recognized the need for a comprehensive program. In 2002, the governor formed the Governor’s Traffic Safety Advisory Commission, with extensive outreach to and involvement of partners. Similar to Washington, this previous experience prepared Michigan well for the development of its SHSP in 2004. The state established 12 emphasis areas and measures safety performance for each one.

The state of Missouri in 2003 developed its Blueprint for Safer Roadways. This contained four emphasis areas and 17 targets. Missouri also established the Missouri Coalition for Roadway Safety, which is divided into 10 regional coalitions; each has a safety plan. For each of its targets in the four emphasis areas, Missouri has established benchmarks as the “ideals” toward which it strives.

In 2006, several organizations in Utah came together to introduce the goal of reaching zero traffic fatalities. A Utah Safety Leadership Team was formed to develop the Zero Fatalities program and the Utah SHSP. Eight safety emphasis areas were identified, with

strategies and performance measures established for each. In addition, the Utah Department of Public Safety's Highway Safety Office addresses 10 focus areas and sets goals, measures of success, action plans, and performance goals for each.

Minnesota's Towards Zero Deaths Program

In 2004, Minnesota's Toward Zero Deaths (TZD) program was formed as a result of a stakeholder workshop sponsored by Mn/DOT and the Minnesota Department of Public Safety (DPS); the workshop was hosted by the Center for Transportation Studies (CTS) at the University of Minnesota. The stakeholders heard speakers from Sweden and Australia as well as university faculty and then formed small groups to develop strategic directions. This process led to a strengthened partnership between Mn/DOT and DPS and an active support role by CTS. Other partners in the state include the State Patrol, the Minnesota Department of Health, and counties and cities. A leadership team drives the program's activities.

Like Washington and Michigan, Minnesota was a step ahead in creating the required SHSP. The plan includes several emphasis areas and performance measures. The TZD vision is perhaps most powerful in providing an umbrella under which several activities can be coordinated in several agencies. It accelerated initiatives by other organizations, such as the county engineers association, which wanted to be part of this vision.

The result of this comprehensive program was a reduction of traffic fatalities from 657 in 2002 to 494 in 2006. Minnesota achieved its target measure of 500 fatalities by 2008, two years ahead of schedule. The TZD leadership team decided to establish a new safety goal of 400 fatalities by 2010.

The energizing TZD vision and the resulting partnerships led to new strategic thinking and resources at a central level to focus on large pay-off activities. The amount of funds allocated towards safety projects was doubled. Three centrally administered programs were initiated: 1) county SHSP grants; 2) a state speed management program; and 3) a cable median barrier program. Continued performance measurement has recently led to new directions that address high crash cost locations.

This short-term success of TZD is complemented with long-term investments in research and public education. CTS's Intelligent Transportation Systems Institute has been successful in attracting federal funds in addition to its UTC funds for intersection control and for teen-age driving research initiatives. CTS also coordinates a stakeholder conference each year for Mn/DOT and DPS that attracts more than 550 participants from local government and from safety interest and advocacy groups. CTS provides additional support by maintaining a comprehensive TZD Web site.

Increased safety courses in Minnesota have been developed both for degree programs in civil engineering and for short courses for the LTAP training program. The recently established Center for Excellence in Rural Safety at the University's Humphrey Institute

of Public Affairs has begun to produce research and tools that highlight the significant policy issues of traffic safety, including a Google-Earth Web site that allows visual displays of traffic fatalities for various geographic areas in the United States.

The linking of these diverse activities under the TZD vision has created an atmosphere of continuous learning and cooperation and a willingness to pilot new approaches and actively court the media's attention. In addition to creating innovative programs, the TZD vision is fostering important steps in addressing Minnesota's traffic safety culture, as Sweden and other countries have done.

Implications for Federal Safety Programs

State agencies in the United States and governments in other countries can be seen as laboratories for the U.S. government. Their positive experiences with measuring safety performance and establishing performance targets provide a base of knowledge and practice for the federal government to use in following the recommendations of the National Commission for performance-based programs. Several directions at the federal level should be explored:

- Federal funding programs based on meeting performance standards. Financial incentives could be developed for states that demonstrate measured improvement in safety performance.
- Federal requirements for a state structure, vision, and plans that involve multiple partners and set ambitious long-term goals, building on the state initiatives in the SHSPs.
- Increased federal funding for public education programs, with grants available for communities to bring together local elected officials, school districts, hospitals, enforcement agencies, and other stakeholders who together can influence public attitudes.
- Federal reinforcement of the need to integrate approaches with multiple strategies—such as the four E's (engineering, enforcement, education, and emergency response), research, training, media relations, and involvement of elected officials and advocacy groups.
- The development and sharing of best practices by states and other countries in data-driven programs that utilize safety performance targets.
- Federal sponsorship of university-based programs for long-term basic research in traffic safety. While successful applied research programs are in place, such as the National Cooperative Highway Research Program and the Strategic Highway Research Program administered by the Transportation Research Board, there is a need for more fundamental knowledge of the complex interactions of human behavior,

vehicle performance, and infrastructure design in traffic safety. Increased knowledge would lead to more effective intervention strategies.

- Federal programs for workforce development, assuring that our future professionals have expertise in traffic safety. This is an important outcome of student-based university research, in addition to the new ideas and knowledge created.
- Federal requirements and funding that assure safety data collection systems and ongoing statistical analyses, both at the federal and state level. These form the foundation for performance measurement and for the evaluation of how well states are meeting performance targets.
- Information resources for a wide range of traffic safety topics that are easily accessible by professionals, researchers, students, elected officials, the media, and the public. An example is the Transportation Knowledge Network program that AASHTO is proposing be funded in the next authorization, which would link state libraries and information resources to the National Transportation Library and federal information resources, taking advantage of rapidly developing Web-based systems and sharing of electronic databases and information.

The U.S. government has an opportunity to establish federal safety programs based on performance measurement and performance targets that will break through the plateau the nation has been on for the past decade. Other countries and innovative state governments are demonstrating how it can be done. We need the commitment of the U.S. Congress and the executive branch to make this a high priority and provide new directions such as those suggested above.

Thank you this opportunity to testify today.

RESPONSES BY ROBERT C. JOHNS TO ADDITIONAL QUESTIONS
FROM SENATOR BOXER

Question 1a. Do you think that lower speed limits would make the roads safer?

Response. Lower speeds limits will not necessarily make roads safer. Three key factors determine whether speed limits improve safety: 1) how reasonable the speed limit seems to the majority of drivers; 2) the relationship of the speed limit to the design of the roadway; and 3) the level of enforcement available to ensure people are driving at the speed limit. If a lower posted speed limit is reasonable to drivers, is appropriate for the roadway design, and is enforced, then a lower limit is likely to make a road safer, especially in reducing the severity of crashes. (See Technical Note #1)

Question 1b. Do you think that a national speed limit would be effective?

Response. A national speed limit would only be effective if there were dramatic changes in federally funded programs. First, Federal funds would be needed for states to ensure that the types of highways that fall under the national speed limit all meet national roadway design standards. Second, Federal funds would be needed for states to provide dedicated speed enforcement. Even if these two conditions were met, there still may be uncertainty about its effectiveness, since a reasonable speed in one State might differ dramatically from what is reasonable in another state. (See Technical Note #1)

Question 2a. What is the most important thing that can be done to improve road safety?

Response. Many states in their safety plans focus on the four "E's:" engineering, enforcement, education, and emergency management. While an integrated and well-funded approach using strategies in these categories remains important, increased attention is being given to the human behavior component, which includes seatbelt usage, teen driving, impaired driving, and helmet use. A strategic priority focused on changing behavior, as shown in European initiatives, can dramatically improve road safety. In addition, there is growing awareness that our culture, which accepts over 40,000 traffic fatalities each year, needs to be changed. Public involvement and education programs, combined with publicized data and information, are beginning to be used by states and organizations to help reach safety visions and targets. A changed safety culture has the potential to lead elected leaders to be more supportive of policies (such as a primary seat belt law) that are proven in reducing fatalities and severe injuries. (See Technical Note #2)

Question 2b. Is there a Federal element to this, or is it purely State or local?

Response. The Federal Government plays a critical role in sponsoring research and disseminating knowledge to states and localities on strategies to improve road safety. Federal funding initiatives should require that states set traffic safety goals and develop plans using promising approaches. They also should fund programs that ensure data are being collected to allow measurement of how well states are performing in road safety. The Federal Government has great potential in providing overall leadership that improves the national safety culture. Since many traffic fatalities and injuries occur on local roads, Federal initiatives must allow states flexibility and offer streamlined procedures for local governments to take advantage of funding and new approaches. (See Technical Note #2)

Question 3. What is the real potential for technology to make a real difference? For example, is the best potential at the roadside or in the car? Or are lower-tech options just as important in the short run? How long would it take for those technologies to be in place? Should the Federal Government be doing something to accelerate development or adoption?

Response. Technology has played and will continue to play an important role in improving traffic safety. New vehicles now include a variety of safety enhancements, from anti-lock braking to automatic airbag deployments. A new generation of technologies offers even greater possibilities. In the private sector, developments such as OnStar demonstrate the ability to link in-vehicle information (i.e., automatic crash notification) to technology-enabled service response. The Federal Government has a critical role to play in continuing to sponsor research and tests for a variety of Intelligent Transportation Systems technologies; this research contains the seeds for both in-vehicle and systems improvements. In addition, implementation of existing low-cost technologies—such as improved pavement marking and signing—should be encouraged and accelerated, with flexibility in the uses of funding. (See Technical Note #3)

Question 4a. What helps states and others achieve better results?

Response. Agencies are helped in making efficient and effective safety decisions by being able to measure the extent of the problem and measure the impacts of im-

provements, on all roads in the state. Assistance in data collection and management would help states and others to develop and enhance data-driven decisionmaking approaches. In addition, more flexibility in the use of Federal safety funding, at multiple jurisdictional levels, would allow states and others to target funds on improvements that have the greatest positive impacts, as determined by measurement systems. (See Technical Note #4)

Question 4b. You've discussed performance measures. There's an old adage: "What gets measured, gets done." Do you think that this applies here?

Response. Yes. Measuring safety performance leads to improved safety programs. It leads to effective data collection systems and the setting of performance goals. It also can be a powerful indicator of how well a State or nation is progressing toward a safety vision. Measurement requirements, however, must acknowledge that funding and guidelines for data systems are needed. There is also a need for research on the impacts of different types of safety improvements and strategies, many of which are not well quantified. (See Technical Note #4)

RESPONSE BY ROBERT C. JOHNS TO AN ADDITIONAL QUESTION
FROM SENATOR INHOFE

Question. You give many examples of state-run performance-driven initiatives in your testimony. I am interested in including Federal safety-related performance standards in the next highway bill. What metrics do you think are most appropriate to compare performance? Is it too simplistic to simply use absolute changes in annual fatalities and injuries? Or do the unique challenges facing each State make it impossible to have a national standard?

Response. It is too simplistic to only use absolute changes, and it would be very difficult to have a national standard. However, there are significant benefits in having the Federal Government require safety-related performance-driven initiatives from states. A combination of measures is needed for each state, with flexibility to match State and local capabilities. Targets based on those measures should be required, and progress should be documented in meeting those targets. Measuring a State against its own progress is more valuable and meaningful than measurements that compare states. Funding should be available to those states that demonstrate a need for help and to those that are pushing for higher safety achievement. Success should not be penalized—high performing states should move to address the more difficult safety problems. States that have not established performance-based programs should receive some form of penalty. (See Technical Note #4)

TECHNICAL NOTES

Technical Note #1:

In 1998, the Transportation Research Board published Special Report 254: Review of Current Practice for Setting and Enforcing Speed Limits (National Academy Press, Washington D.C.). It discusses the effects of reasonable versus unreasonable speed limits. Unreasonable speed limits, unless strictly enforced, will often cause a wide differential in drivers' speeds, with some people obeying the speed limit and others exceeding it. Research has shown that the differential in speeds traveled contributes to crashes, more so than a higher speed at which the majority of travelers are driving.

Many State DOTs conduct traffic studies on roadways when they establish or change the speed limit. They then set the speed limit at the speed at which 85 percent of the drivers are currently driving at or below, as recommended in the Transportation Research Board report. This is determined to be a reasonable speed. There are likely to be fewer crashes when the majority of drivers feel the speed limit is reasonable and do not deviate widely from it. This is demonstrated by our interstates—our highest speed roadways—which have some of the lowest crash rates because there is not a wide deviation.

The design of the roadway contributes to what a driver thinks is a reasonable speed. Drivers will adjust their speeds based on what they perceive to be safe or unsafe. Changing the speed limit for changing conditions, such as sharp curves, is important to reinforce the need to adapt to a new environment. In recent years, traffic calming techniques—design features that slow traffic—have shown promise in improving safety on local roadways, more so than lower speed limits on streets that the public feels can be reasonably traveled at a higher speed.

Enforcement can help "train" drivers to slow down to a lower speed limit, even at a speed limit that is deemed unreasonable by drivers. But if funding is not available for extensive enforcement given other public safety priorities—which is the case in many states—then a lower speed limit that is only sporadically enforced can have

a long-term negative effect. Some researchers have theorized that the former national speed limit of 55 miles per hour on interstates, not deemed reasonable by many drivers and only sporadically enforced, may have led to an entire generation of drivers (and now their children) believing that driving above the speed limit is acceptable. Enforcement is undergoing change, particularly in European countries, with the implementation of automatic enforcement systems through cameras and detection systems. These systems are improving traffic safety, but they have triggered concerns about individual rights and privacy in the U.S.

Technical Note #2:

Human behavior and/or choices (e.g., seat belt use, helmet use, poor decision-making, speed choice) can be related to a large majority of crashes and roadway fatalities. Education, enforcement, and engineering measures can be used to change one or more of these choices. Most transportation officials also acknowledge, however, that large reductions in motor vehicle fatalities may require a change in the safety culture—in other words, a change in the thinking of the driver, implementing agency, and legislator.

In terms of policy, it is known, for example, that the introduction of primary seat belt and helmet use legislation can have dramatic impacts on roadway fatalities. The safety culture may be part of the reason this legislation has not been enacted or reinstated.

At the University of Minnesota's Center for Excellence in Rural Safety (CERS), we have been assessing various strategies that can make a difference in rural safety, where in fact most highway fatalities occur. Our work has looked at behavioral, technological, policy, and citizen-engagement approaches. A goal is to help change the safety culture through education of policymakers and the public.

One innovative approach we have taken is to make the public more aware of potential safety hazards, allowing travelers to take a more active role in ensuring their own safety. CERS recently launched SafeRoadMaps.org, an interactive website that allows the public to zoom into their own travel routes to determine if there have been any recent traffic fatalities. In its first week of operation, SafeRoadMaps.org received over three million "hits," suggesting there is a strong consumer interest for better traffic safety information.

There are also technologies that have known impacts on safety, many of which are being researched at the Intelligent Transportation Systems Institute at the University of Minnesota. (Our research is described in more detail in Technical Note #3.)

These include collision-avoidance systems to prevent crashes as well as integrated emergency management systems to improve the timeliness and quality of response to traffic crashes. Automated enforcement of red-light running and speed infractions can have significant impacts, though great care must be taken to ensure that privacy restrictions are maintained.

In addition, geometric improvements have been shown to improve safety (e.g., rumble strips, roundabouts), and a number of low-cost roadway improvements (sometimes related to maintenance) also can have safety improvement impacts.

The Federal Government has a critical role to play in helping set overall traffic safety goals and policies and then assisting states and localities with the tools needed to achieve these goals. This includes funding, technology research and transfer, and the means to measure safety trends and improvements.

The Federal Government also distributes safety improvement funding. This can be used to encourage particular safety improvements but should not lead to situations where improving safety results in reduced safety funding (and the dropping of programs). Assistance should be provided to states that need it and to states that are progressing with a plan toward their goals. Reduced assistance may be necessary for those not willing to take basic safety improvement actions.

There is a large local component to safety improvements in the United States. More than 70 percent of the lane-miles in the United States are rural, almost 80 percent of these are under local control, and more than half of all fatalities occur on rural roadways. Any expected significant reduction in roadway fatalities in the United States, therefore, will require the cooperation and involvement of localities. In many cases, however, these jurisdictions have very few staff who must complete multiple tasks—safety being just one of them. To improve safety at the local level, local agencies need assistance at all steps, and they need to work closely and cooperatively with their State agency. Streamlining of the methods of funding acquisition and spending is also needed.

Technical Note #3:

At the University of Minnesota's Intelligent Transportation Systems Institute, researchers are working on low-cost systems to warn drivers of hazardous situations,

such as when it may be dangerous to enter onto a rural road due to oncoming traffic. In another project, researchers are working with the Mayo Clinic to understand how new technologies can provide vital health information to emergency rooms, thereby reducing the chances of disability or death from traffic accidents.

Technology can play a variety of additional roles in reducing crashes and fatalities. It is common knowledge that alcohol is the leading cause of fatalities on our roads. A consortium of automotive companies (the Automotive Coalition for Traffic Safety) has joined NHTSA to develop in-vehicle technology that prevents alcohol-impaired driving.

Other major high-risk populations may be helped by innovative use of technology. Highlighted below are two areas in which the Federal Government can play a significant role, and for which the benefits are particularly compelling.

1) Lane Departure. On rural roads, the number-one problem is lane departure. Causes are fatigue, distraction, daydreaming, and boredom. Technology that allows vehicles to “know” where they are in a lane could warn drivers of potential lane departures and significantly mitigate the rate of lane-departure fatalities. Lane-departure warning and prevention systems can be implemented based on high-accuracy differential GPS (DGPS) technology. However, a national network of DGPS stations computing local corrections is needed. Without these correction signals, the needed vehicle positional accuracies (measured in inches) cannot be achieved. Several states already have portions of their State covered, but without a national network, the automotive companies will not deploy the latest GPS technologies. Once a network is established, a nation-wide, high-accuracy (again on the order of inches) lane-level map will also be needed to capture all the lane boundaries on all our rural roads. The states and the counties themselves can create such a map fairly inexpensively. However, it will take the leadership of the Federal Government to see to it that a network of correction stations and a national high-accuracy map are deployed and standards are met. Once these are in place, we can expect the automotive manufacturers to follow through with the needed in-vehicle technology.

2) Teen Drivers. Motor vehicle crashes are the leading cause of death among teenagers in the United States. According to NHTSA, teen drivers account for 12.9 percent of all fatal crashes and 16 percent of all reported crashes even though they represent about 4.8 percent of the driving population. Furthermore, the economic cost of crashes involving 15–20 year old drivers totals 40 billion dollars a year (NHTSA 2006). An inexpensive cellular phone based Teen Driving Support System (TDSS) has been demonstrated at our Intelligent Transportation Systems Institute that can help novice drivers recognize speed limits, road curves, and stop signs, and help them model appropriate behavior, by providing real-time audio and visual feedback. For feedback to teen drivers to be effective, an accurate nation-wide data base is needed of the speed limits along roads and the locations of the stop signs and other critical traffic control devices. Such a system can also notify parents of poor driving behavior through real-time automated text messaging. (Involving parents in the learning process has been shown to facilitate driver skill learning.) Such a system could also prevent teens from even knowing about incoming calls while driving (and would transfer messages to voicemail), thus reducing the potential for driver-distraction-related crashes.

Many other functions are possible if the device could better access the data already carried on the vehicle’s data bus. The only “public” access available today is called the On-Board Diagnostics port (OBDII), a standard item on all cars manufactured since 1996. However, there is no national standard that defines what data should be made available, and many items are not accessible even though the signals are already “available” to the vehicle internally. One example of information that is not readily accessible is whether the seat belt is latched. With this information, one can engage a gearshift interlock so that the teen cannot drive away if his or her seatbelt is not in place.

In summary, we need a national standard describing what data all automotive companies should provide on their vehicle data port and the regulations that enforce such a national standard. Inexpensive, after-market, in-vehicle systems such as a TDSS can be used to support and enforce graduating driving licensure and modify teen driving behavior for the better, thereby significantly reducing teen fatalities and serious crashes.

There are no major technical challenges to these two examples, simply institutional ones.

Technical Note #4:

In the area of safety, the ability to measure the problem accurately and completely allows data-driven decisionmaking. Relating these measurements to data on roadway design, traffic volumes, and other characteristics is also important. Using this information on current conditions and using data collection systems developed

for monitoring those conditions, agencies are able to measure the impacts of their safety improvement decisions, leading to more efficient and effective decisions. Currently, the ability to do this for all roadways in a State is limited. Assisting with data collection and management is one method of producing better results from safety improvements. The flexibility to spend funding at different jurisdictional levels and in different State agencies, in order to produce the largest impact on fatalities and injuries, is also important.

The Federal Government should help states set aggressive goals and work toward meeting them through programs that are focused on safety. Documentation of results and where the funds are being spent should be watched closely by safety experts. Flexibility in shifting funds to where they have the greatest impact should be encouraged, even across disciplines—engineering, education, enforcement, emergency management, and data. Data are extremely important and lacking in many states. Federal guidance and funding are needed to standardize data collection and management. Holding an agency responsible for safety improvements without access to the appropriate data is problematic.

The measures used to quantify safety should be flexible enough to match State and local capabilities, be based on more than just total numbers, use some type of average for multiple years, include serious injury crashes as well as fatalities, be based on more than a volume-based rate, be split between urban and rural roadways, and measure a State against its own progress, which is more constructive than measuring comparisons between states. Progress toward a goal is a good thing, but it should be recognized that as traffic volumes go down (something a State or local agency often has little influence over), the total number of fatalities and injuries will often go down. It should also be recognized that the impact of many safety improvement strategies (geometric design, public education, etc.) are not well quantified (in a robust manner). There is a need to evaluate, with basic and applied research, both geometric improvements and behavior-based safety improvements. Moreover, there is still a great deal to learn about the complex interactions that occur between the driver, vehicle, and roadway environment.

Credits:

The following people assisted in developing these answers and technical notes:

- Keith Knapp, Tom Horan, and Lee Munnich, Center for Excellence in Rural Safety, University of Minnesota
- Max Donath and Mike Manser, Intelligent Transportation Systems Institute, University of Minnesota
- Susan Groth and Dave Engstrom, Office of Traffic Safety and Operations, Minnesota Department of Transportation

Senator LAUTENBERG. Thank you.

Senator Inhofe has other functions to take care of immediately, and I would ask him now for his questions.

Senator INHOFE. Mr. Chairman, thank you for allowing me to go ahead of you. I do appreciate it.

Ms. Martinovich, you heard me talk to, and ask the question of Mr. Paniati concerning the proprietary products. I have heard, he seemed to believe, if I understood his pretty strong response, that there is not a problem, that it is working well the way it is, and I outlined the four exceptions that are written into the rules.

I am always interested in what they say from the States. I am one of those who doesn't subscribe to the idea that no idea is a good idea unless it is developed in Washington. So I would like to have you respond to the same question I asked him, how is this system working? Do you think the rules as currently drafted are discouraging innovation, because the States are not able to use patented products? What was your feeling about this?

Ms. MARTINOVICH. Senator Inhofe, thank you.

I respectfully disagree with Mr. Paniati and FHWA. From the States perspective, we would like more flexibility and provide opportunity for innovation. We would enjoy working on developing some language for that. As an example, building on Mr. Paniati's example where, if a feature, the cable rail, say, that was built

under experimental and it turns out to be OK, so you get an additional year, what happens at the end of that year? As a State which has a minimal budget and needs a stockpile of maintenance parts, then at the end of the year, if we can't use that any more, that means I have to expend money to go and buy other parts with other systems. Then potentially, you have a hodgepodge of systems across the State.

It is not to preclude anyone. I think if a manufacturer sees the opportunity that a State is using something that is shown to work that they will rise to the occasion. States also do projects on competitive bidding. So that will further allow the innovation and to bring the price of items down. Because there is only a limited amount of money. So if States have the opportunities to use something that works for quality, for safety and for innovation, I think then the market will rise to the challenge to provide those additional.

Senator INHOFE. Would you suggest doing that by adding to the list of four exceptions, or do you want to rewrite it? What would be a good solution to this?

Ms. MARTINOVICH. I think there is opportunity to add to the list of exceptions, to look at things and really make sure that they work, it is viable. You don't want to put something out there and then not have it work. So you do need to go through a certain amount of study and vetting it out. But if it is shown to be successful, then allow it to move forward and give the States the flexibility.

Senator INHOFE. What I would like for you to do is come up with some language, language that AASHTO in general would agree with, not just Nevada or the States, and let us look at this. And this is the timing to do it, because we are developing ideas now for the reauthorization.

So why don't you do that, and channel that through our office, and we will see what we can do in terms of accommodating your concerns.

Ms. MARTINOVICH. We would be very happy to.

Senator INHOFE. Mr. Johns, I would like to not ask you the same question, but see if you have any comments. Judging from your opening statement, I know that you referred to AASHTO a couple of times. What do you think about this thing on proprietary products?

Mr. JOHNS. Senator, I am not familiar with the specifics, but generally, I certainly would agree with Ms. Martinovich that the States ought to have flexibility to innovative.

Senator INHOFE. That is something that has concerned me for a long time, Mr. Chairman. Maybe when we get some ideas in, we can sit down and talk to them, as we get our act together in preparation for 2009.

Thank you very much, Mr. Chairman.

Senator LAUTENBERG. Thanks, Senator Inhofe.

One of the questions that arises is, what is the connectivity of—

Senator INHOFE. Could I ask that you add this into the record?

Senator LAUTENBERG. Certainly, no objection.

[The referenced material was not received at time of print.]

Senator LAUTENBERG. Connectivity, one State to the other. In some States, for instance, there is no open can restrictions, alcohol included. We are very careful to try to arrest the flow of pollution in the air from one State to another. Shouldn't we also say that, look, much of our Country is dependent on the Federal highway system, but we have also, I think, a right and an obligation, we have had several comments, and thank you, Ms. Gillan, for remembering that I am, I was the author of 21, I was the author of the motorcycle helmet requirements, I was the author of limiting truck lengths and weights. I don't know whether I am considered the bad boy around here or the good guy.

Ms. GILLAN. Senator, you are our hero.

Senator LAUTENBERG. You read it just as I wrote it, thank you very much.

[Laughter.]

Senator LAUTENBERG. The question is, what do we do about the individual challenges? What more can, Mr. Johns, can Congress do to get the States to make real improvements in safety on our roads? We distribute highway funds through the formula and through debate and so forth. But what power should we be exercising or how can we exercise it to say, no, you have to do certain minimum things based on the performance, based on the measurements that we take from year to year about the results of deaths, injuries, costs, et cetera? How do we go to get the States to cooperate, or rather individuals? You know the most glaring example I see is the helmet law. We started seeing significant reductions in head and neck injury, and I think we were in force about 3 years. And as soon as they took it off, the head and neck injury incidence went way up.

So what can we do here to get the States to make real improvement in safety on our roads?

Mr. JOHNS. Mr. Chairman, I will start by offering some ideas and maybe other panelists would contribute as well. This is a very challenging public policy area. We all know that in our Country, there is a strong cultural value of individual rights. It is tied to the history of our Country. That value causes resistance to some of the measures being taken in Europe, for example, on surveillance systems, red light running and so on, that have had dramatic impacts on improving their safety record.

It is often a test of what is acceptable politically. I encourage the Federal Government to try to require some things and try to have incentives. Our State legislature came within just a whisker of passing a primary seat belt law this past session. The Governor is ready to sign it. It fell apart in the final negotiations that really had more to do with the wheeling and dealing, dealing with the State deficit.

But the incentive of additional money from the Federal Government was definitely a factor, given the lack of transportation funding. So those kinds of programs, incentives, requirements from the Federal Government is good. Where they don't work, I think then information is very important. Federal Government has great power in providing information, best practices, peer ratings that sometimes can embarrass States into action.

In the longer term, I think what we are dealing with is getting at those values. I think we have seen some change in values, particularly in seat belt usage, that has increased even without it being required. Smoking is a great example of a value change in this Country. That has to do with educating the public, involving many, many partners. Our Toward Zero Deaths program in Minnesota I think deserves credit not just for their technical strategies, but that outreach and involvement, publicity, media relations and so on that really try to change the public attitude.

Senator LAUTENBERG. Thank you. Oddly enough, I am the author of no smoking in airplanes, and that changed the tobacco culture across the world. Why am I feeling good?

[Laughter.]

Senator LAUTENBERG. Yes, Ms. Gillan.

Ms. GILLAN. Senator Lautenberg, can I just add something? I think that the lack of uniformity in State traffic safety laws is really hampering our ability to make significant reductions. In the next reauthorization, we need to look at sanctions. I know that is a dirty word for States. But I will tell you, every time Congress has imposed a sanction, whether it was .08, zero tolerance for youth BAC, or the 21 drinking age, every State complied. Not a single State lost a dollar, and we ended up saving lives.

Now, at the expense of ruining my sister's career in Montana, who is a State senator, she has said to me frequently when I talk with her about why you don't have a primary enforcement seat belt law, she will say to me, show me a sanction and I will show you a law. I think that when we pass sanctions, we get the laws that we need. It makes no sense that you can fly into every single airport in the United States and you have to wear a seat belt for take-off and landing, and yet when you drive across the Country, we have this patchwork quilt of seat belt laws. So I think the only way we are going to achieve this, I agree incentives work, but only if they are in combination with a sanction.

Senator LAUTENBERG. Thank you.

Ms. Martinovich, do you want to comment?

Ms. MARTINOVICH. Thank you, Senator. I would just like to add, in support of what has been said, but I would also add a national focus. In building with what Mr. Paniati said, I think a lot of the fatalities have gone down in the last couple years because there has been more of a focus. That just needs to be brought to light, more attention on the issue from top down helps bring it from the bottom back up.

Senator LAUTENBERG. Yes. Not to throw rain on the parade that was a reassuring direction, but in terms of still leaving well over 40,000 dying on the highways is hardly a level that we would like to stay at. And we know that there are things, the seat belt question, there is no longer a question. It is just either, will you or won't you.

So I believe that the Federal Government has an obligation to protect us, whether it is from terrorists outside our Country, whether it is from violence across State borders or things of that nature. The fact of the matter is, it is the Federal Government's responsibility.

Unfortunately, we saw in the case of 21 age drinking that the incentives never quite carried it. When we said, OK, you are going to lose something, then understand it, the longer you take the more you lose. And it happened. And as you said, Ms. Gillan, and I appreciate, the fact is no State lost any money. They all finally conformed. One of the last to conform was D.C., the District of Columbia. I guess there must have been a thought that we would lose some revenues if the bars closed too early and too much attention was paid to drunken behavior.

But here we are, we look at the number of fatalities that occur on the roads, and we see that the ages, the motor vehicle crash is the leading cause of death of all Americans between, this one is the age of 4 and 34, and every day, 117 people are killed on America's highways. About 5,000 in this age group die annually from cancer. And we rightfully have fortunes spent on finding the cause of cancer. And why aren't the deaths that occur on our highways reaching the level of outrage that they should?

Ms. Martinovich, one way, I think, is to make sure that you reduce the fatalities and injuries in Nevada travel, high speed trains from Los Angeles, California to Las Vegas.

Thank you all for your participation. We appreciate your service. This hearing is ended.

[Whereupon, at 11:40 a.m., the committee was adjourned.]

STATEMENT OF HON. CHRISTOPHER S. BOND, U.S. SENATOR
FROM THE STATE OF MISSOURI

Thank you Chairman Boxer and Ranking Member Inhofe for holding this hearing today. This hearing is a great opportunity to examine the progress we have made in regards to safety on our roads and begin to work to build a new plan to address concerns that are consistent with the new safety challenges that we face today.

In addition, thank you to all the witnesses for appearing before us today. Your work on this issue is important to develop a better understanding of safety on our roads and sculpting innovative and effective safety policy that works toward our ultimate goal of saving lives.

In order to create effective safety policy, we must examine and understand some of the successes in the past and the challenges for the future. In 2005, SAFETEA-LU made significant initial steps in the efforts to increase safety on roads across America. As a result, we have seen fatality rates on our nation's roads steadily decrease since 2005.

In Missouri, we have been fortunate to see some of these same results. Since 2005, fatalities have fallen by over 20 percent in the last 2 years despite the fact that our vehicle miles traveled have continued to increase.

Despite this success, my major safety concerns remain the deterioration of our current infrastructure and the dwindling investment in our future infrastructure.

For decades now the stress on our current infrastructure as been on the rise with lane miles not keeping pace with vehicle miles traveled. From my State, our highway transportation department estimated for the year 2006 that nearly one out of three people killed on our highways was a result of inadequate infrastructure.

Currently in Missouri, 28 percent of bridges are considered structurally or functionally obsolete, only 60 percent of minor roads are considered to be in good shape, and there are too many two-lane roads across the State currently carrying the traffic capacity typically seen on four-lane roads.

As a new reauthorization approaches, our best tool to increase safety is to invest in our infrastructure. There is nothing that saves lives and increases safety on our nation's highways like better roads and bridges that can meet this nation's growing needs. While it is important to create programs and implement safety plans, we will not see the significant improvements in safety until we make the necessary investment in our infrastructure.

Undoubtedly, we have seen some progress in regards to safety over the last couple years; SAFTEA-LU has gone a long way to put our country on the right track. How-

ever, our transportation infrastructure still faces many safety challenges and we need to focus on a plan that relieves the stress on our nation's infrastructure.

Again, I thank the chair, ranking member and the witnesses for their hard work. I look forward to hearing your perspectives and working together to craft a safety plan that will move us forward in saving lives on our nation's highways.

STATEMENT OF HON. MAX BAUCUS U.S. SENATOR
FROM THE STATE OF MONTANA

"Men occasionally stumble over the truth, but most of them pick themselves up and hurry off as if nothing happened," said Winston Churchill.

I don't think Churchill was specifically referring to highway fatalities when he said. But he might as well have been.

Mr. Chairman, as you have noted, we suffer more than 40,000 highway deaths each year. That's a staggering number. Somehow, we fail to properly recognize the scope of the loss—probably because the individual fatalities occur often at a rate of one or two at a time. But the outcome is no less tragic.

For that reason, Mr. Chairman, I commend you and Chairman Boxer for holding this hearing. Highway safety is an issue that is too easily overlooked. To paraphrase Churchill, we might stumble over this problem, but it's seemingly too easy to disregard, as if nothing has happened.

It is important to recognize that the percentage of highway deaths per miles traveled is much lower than it once was. We have made real gains in the frequency of drunk driving accidents, as I know you are acutely aware, Mr. Chairman, because you have been a real leader on that issue. But the number of cars on the road has increased tremendously and the number of miles traveled has also increased. As a result, the number of accidents and fatalities remains stubbornly high.

Chairman Lautenberg, you provided a number of compelling statistics in your statement. I also take special note of your declaration that we need to upgrade and repair our infrastructure as a means to improving our safety. As I noted in a hearing of the Subcommittee on Transportation and Infrastructure, as that subcommittee's chairman, approximately a third of all highway fatalities are related to shoddy infrastructure conditions. Clearly, that description encompasses a lot of things from design to construction to maintenance to signage, but it reflects a cause-and-effect that we can't merely stumble over and then conveniently forget.

My own State of Montana has an unacceptably high road fatality and injury record. Much of Montana is rural and my constituents frequently travel long distances across rural roads. As I think our witnesses will note, highway accidents bearing tragic consequences occur more frequently on rural roads than elsewhere. Some of those accidents occur on Federal Lands' Highways, sometimes on Indian Reservation Roads.

I am especially interested in hearing the testimony of witnesses such as Mr. Paniati on Federal Highways' insights regarding the merits of programs such as the Highway Safety Improvement Program. I'm also aware of the Rural Safety Initiative that Federal Highways has undertaken.

Drawing upon technology in all its forms to improve our infrastructure and our road safety is something I am interested in. Toward this end, Federal Highways' Rural Safety Innovation Program is something that interests me.

I am also interested to hear about efforts in states and in other countries that may have proven successful, and from which we may be able to learn valuable lessons. Or, maybe certain efforts haven't been successful, but we can learn from that, as well.

I think a key question for our witnesses is what else can we be doing, or should we be doing, to improve highway safety?

With that, Mr. Chairman, I thank you for the time, I thank our witnesses for joining us today, I thank you and Chairman Boxer for holding this hearing, and I look forward to the testimony and the discussion.