

**FAST ACT REAUTHORIZATION:
TRANSPORTATION AND SAFETY ISSUES**

HEARING

BEFORE THE

COMMITTEE ON COMMERCE,
SCIENCE, AND TRANSPORTATION
UNITED STATES SENATE

ONE HUNDRED SIXTEENTH CONGRESS

FIRST SESSION

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JUNE 19, 2019
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SENATE COMMITTEE ON COMMERCE, SCIENCE, AND TRANSPORTATION

ONE HUNDRED SIXTEENTH CONGRESS

FIRST SESSION

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FAST ACT REAUTHORIZATION: TRANSPORTATION AND SAFETY ISSUES

WEDNESDAY, JUNE 19, 2019

U.S. SENATE,
COMMITTEE ON COMMERCE, SCIENCE, AND TRANSPORTATION,
Washington, DC.

The Committee met, pursuant to notice, at 10:03 a.m. in room 216, Hart Senate Office Building, Hon. Roger Wicker, Chairman of the Committee, presiding.

Present: Senators Wicker [presiding], Cantwell, Fischer, Thune, Schatz, Sullivan, Markey, Scott, Tester, Blackburn, Duckworth, Peters, and Udall.

OPENING STATEMENT OF HON. ROGER WICKER, U.S. SENATOR FROM MISSISSIPPI

Senator WICKER. Good morning. Today, the Committee convenes to consider FAST Act Reauthorization: Transportation Safety Issues.

Along with my friend and Ranking Member Senator Cantwell, let me welcome our distinguished panel of witnesses and thank them for appearing.

Today, we'll hear from Department of Transportation officials, including Joel Szabat, Assistant Secretary for Aviation and International Affairs; Ron Batory, Administrator of the Federal Railroad Administration; Ray Martinez, Administrator of the Federal Motor Carrier Safety Administration; and Heidi King, Deputy Administrator of the National Highway Traffic Safety Administration. Welcome to each of you.

The Fixing America's Surface Transportation Act of 2015, better known as the FAST Act, reauthorized many of the modal administrations responsible for ensuring the safety of our surface transportation system, including FMCSA, NHTSA, and FRA.

Today's hearing provides our witnesses with the opportunity to discuss the implementation of the FAST Act and to identify issues that this Committee should consider as we prepare for surface transportation reauthorization.

The FAST Act placed a greater focus on our Nation's multimodal freight network. That includes establishing the INFRA Grant Program. This program and others, such as BUILD Grants, formerly TIGER Grants, are critical to improve our Nation's transportation infrastructure.

I hope the witnesses will provide the Committee with an update on efforts to improve our infrastructure and how INFRA and BUILD Grants are being utilized.

As the Commerce Committee considers reauthorizing the FAST Act, I plan to work closely with Ranking Member Cantwell and our other distinguished members on both sides of the aisle to authorize the BUILD discretionary grants, reauthorize Amtrak and continue to enhance our freight and passenger rail network, facilitate innovative transportation technologies across modes through coordinated research, development, and deployment, advance highway safety initiatives, focus on our Nation's multimodal freight network through programs, like INFRA.

Senator Cantwell and I are also fully committed to working to improve our coastal and inland ports. Safety is a top priority for this committee and for the Department of Transportation, but with 37,000 highway deaths in 2017, more must be done.

Sadly, deaths in cars also happen when they are parked. Last month, I reintroduced the HOT CARS Act with Senator Blumenthal and Ranking Member Cantwell to prevent deaths of children left in unattended vehicles.

In my state of Mississippi alone, there were at least 18 such fatalities between 1998 and 2018. These tragedies should be addressed immediately through technological improvements and enhanced education efforts. The HOT CARS Act would move us in the right direction.

Technology will be a key part of solving future transportation challenges.

Let me take a moment to congratulate Secretary Chao for her efforts to prepare for those challenges by supporting emerging technologies, including by advancing the safe testing and deployment of autonomous vehicles.

Until such time as autonomous vehicles are pervasive on our roads and used commercially, there's still an urgent need for truck drivers to move our Nation's goods. I know the FMCSA is working on a pilot program to meet this need by studying the feasibility of allowing 18- to 20-year-old drivers with military experience to operate trucks in interstate commerce.

I think the Committee would benefit from an update on that pilot program and a conversation regarding what other steps can be taken to address the shortage of truck drivers.

There is much to discuss today as we assess the safety and reliability of our Nation's transportation system and prepare for reauthorization of the FAST Act and the future of surface transportation.

I look forward to the testimony of our panel of witnesses and I now recognize my friend, the Ranking Member, Senator Cantwell, for her opening remarks.

**STATEMENT OF HON. MARIA CANTWELL,
U.S. SENATOR FROM WASHINGTON**

Senator CANTWELL. Thank you, Chairman Wicker, and thanks for holding this important hearing today and to the witnesses for being here.

Every day, millions of ships, trains, planes, and vehicles move billions of dollars worth of goods all over our increasingly connected global marketplace. Our ports are at the very heart of this global marketplace which American farmers and manufacturers rely on to

get their products to market and speed is critical in the 21st Century economy.

When farmers and manufacturers can't move their goods efficiently, they don't just lose a sale, they lose a market share. They lose shelf space and they lose opportunity to compete.

Regardless of where you grow or make your product, whether it's in the Heartland or on a coast, a world-class port system is good for business. I know my colleague, the Chairman of the Committee, agrees on this important issue.

But right now, we are falling behind. If we don't modernize our ports, companies and countries all over the world will turn elsewhere. Ports all over America are facing competition from nations that are making robust long-term investments in infrastructure.

So I want to thank Chairman Wicker for recognizing the important role this plays in our economy and I look forward to working with him on a comprehensive package.

In the FAST Act, this committee fought for increased funding for multimodal freight infrastructure. Not only does this fuel job growth and American economic competitiveness, it also reduces congestion and increases safety.

In the state of Washington, just one congested railroad crossing in Seattle cost \$9.5 million a year in economic activity. By eliminating this choke point, we can speed up freight movements for goods coming from the Heartland to our ports and to those global markets.

Freight infrastructure initiatives, such as CRISI and INFRA, are designed to do just that. So in the FAST Act reauthorization, I hope that we'll look to increase levels of funding to meet the strong demand for these programs.

As we invest in transportation improvements, we also must keep safety at top of mind. According to preliminary NHTSA data, there were a staggering 36,750 traffic fatalities in 2018. That is an average of one hundred people dying each day on our national roadways.

While the overall crash fatality number drops slightly from 2017, NHTSA reported sharp increases in truck, pedestrian, and cyclist fatalities. So I support developing new vehicle safety technologies, like automated braking and other innovations, to be widely deployed through our fleets and to continue to make sure that we are meeting the challenge of pedestrian and cyclist safety.

We also need to incent and innovate in the area of transportation that is imperative in the area of global warming. According to the EPA, our transportation sector is responsible for 29 percent of the U.S. greenhouse gas emissions.

This is an area where smart policy combined with American ingenuity can make a difference. So this committee has been involved with this issue before the historic 2009 agreement on CAFE Standards reflected the consensus among auto industries, state regulators, bipartisan people here in this committee, and in the Congress.

So I don't agree with the Administration's proposal to roll back fuel efficiency standards. I think that takes us in the wrong direction, and I hope our committee will play a constructive role in moving us in the right direction.

So I look forward to hearing from the witnesses today and working with all of you on meeting our transportation, safety, efficiency, and infrastructure improvements for the future.

Thank you, Mr. Chairman.

Senator WICKER. Thank you very much, Senator Cantwell.

We will begin our testimony with Mr. Szabat and we'll just move down the table. You are recognized, sir. Welcome.

STATEMENT OF HON. JOEL SZABAT, ASSISTANT SECRETARY FOR AVIATION AND INTERNATIONAL AFFAIRS, OFFICE OF THE SECRETARY OF TRANSPORTATION

Mr. SZABAT. Thank you, Senator.

Chairman Wicker, Ranking Member Cantwell, Members of the Committee, thank you for inviting us to testify about our work to improve safety and lead innovation in our Nation's transportation system as well as our progress implementing the project delivery reforms in Fixing America's Surface Transportation or FAST Act. It is an honor to testify today before this committee.

Safety is Secretary Chao's Number One priority and the department's guiding star. We are committed to reducing transportation-related fatalities and serious injuries across the transportation system.

The department has adopted a systematic approach that mitigates risks and encourages change in infrastructure and behavior through data-driven risk identification. One approach is the department's Safety Data Initiative or SDI.

Through pilot projects, we are seeking to advance our ability to integrate existing data with new big data sources, use advanced analytics to provide new insights into safety risks, and create data visualizations to help decisionmakers arrive at safety solutions. We are wrapping up the first phase of the SDI pilot projects which seek new ways to find answers to fundamental traffic safety questions.

In another aspect of safety, the development and deployment of automated vehicle-related technology is moving rapidly. We only expect this pace to accelerate over the next decade.

The department released Preparing for the Future of Transportation, AV 3.0, which advances our commitment to supporting the safe integration of automation into the surface transportation system.

To ensure safety in automation, the department must protect the 5.9 gigahertz safety band of radio spectrum. This band is critically important for reducing crashes, injuries, and fatalities while mitigating congestion. All channels of the safety band are actively used today with more than 80 connected vehicle projects in the United States alone.

The department does not promote any particular technology over another and we encourage the automotive industry, wireless technology companies, and other innovators to continue developing multiple technologies that leverage the safety band.

In regards to implementation of FAST Act Project Delivery provisions, I am proud to report that the department has acted on all Project Delivery rules required by both Map 21 and the FAST Act.

Currently, the environmental review process is complex and inconsistent for project sponsors. It is critically important to protect the environment and safeguard our communities while reducing project delays.

If we make better and more timely decisions, transportation agencies can deliver critical infrastructure projects across the country and, most importantly, their associated safety benefits.

The department is taking additional actions that expand on these reforms by implementing One Federal Decision. These actions are designed to improve the process by increasing transparency and accountability while also expanding early coordination with agencies and stakeholders.

Additionally, new technologies may not always fit precisely into the department's existing regulatory structure, potentially resulting in a slower pace of transportation innovation.

The department announced the creation of the Non-Traditional and Emerging Transportation Technology or NETT Council. The Council is an internal deliberative team tasked with identifying and resolving jurisdictional and regulatory gaps. These gaps may impede the deployment of new technology, such as tunneling, autonomous vehicles, and other innovations.

The Council will address challenges and uncertainties in obtaining necessary authorizations and permits by ensuring that the traditional modal silos at DOT do not impede deployment of new technology.

In closing, safety remains the department's Number One priority and we are committed to improving safety while leading innovation in our Nation's transportation system.

Chairman and Ranking Member, Members, thank you for your time today, and I'll be pleased to answer any of your questions.

[The prepared statement of Mr. Szabat follows:]

PREPARED STATEMENT OF HON. JOEL SZABAT, ASSISTANT SECRETARY FOR AVIATION AND INTERNATIONAL AFFAIRS, OFFICE OF THE SECRETARY OF TRANSPORTATION

Chairman Wicker, Ranking Member Cantwell, Members of the Committee, thank you for inviting the Office of the Secretary of Transportation to testify about our work to improve safety and lead innovation in our Nation's transportation system, as well as our progress implementing the Fixing America's Surface Transportation (FAST) Act. It is an honor to testify today before this Committee.

Safety

Safety is the U.S. Department of Transportation's (DOT or Department) number one priority, and we are committed to reducing transportation-related fatalities and serious injuries across the transportation system. The Department has adopted a systemic, safety management systems approach that mitigates risks and encourages infrastructure and behavior change through data-driven risk identification, enhancement of standards and programs, and evaluation of effectiveness. In 2018, the Department released an updated strategic plan identifying the goals, objectives, and strategies we will pursue to improvement to safety, infrastructure, and innovation in our Nation's transportation system.

This plan highlights the Administration's commitment to the needs of rural America, specifically addressing the need to reduce the disproportionate transportation safety risks faced by rural communities. In 2017, the highway fatality rate on rural roads was more than double the rate on urban roads. The successful execution of a systemic safety approach requires quality information derived from sound analysis to enable the Department, as well as our states and local government partners, to apply a data-driven approach to determine the best solutions to address safety problems.

Safety Data Initiative

Through the Safety Data Initiative (SDI), the Department is seeking to advance our ability to integrate existing Department data with new “big data” sources, use advanced analytics to provide new insights into transportation safety risks, and create data visualizations to help policy makers arrive at safety solutions. We are wrapping up the first phase of the SDI, where we launched a series of pilot projects to seek new ways to find answers to fundamental traffic safety questions.

In the Waze Pilot Project, we leveraged near-real-time private sector data to gain new insights into traffic crashes by applying machine learning techniques to develop crash estimation models. The Waze Pilot Project consists of two case studies exploring state and local applications of the Waze models. We have been working with Tennessee Highway Patrol to integrate Waze data into their existing crash model structure to improve resolution. We are working with the City of Bellevue, Washington to test if Waze data can offer actionable insights that will inform the Bellevue Vision Zero action plan. Beyond the Waze pilot, to make the Department’s data more accessible, we worked with the National Highway Traffic Safety Administration (NHTSA) to convert traffic fatality data from their Fatality Analysis Reporting System into interactive visualizations related to speeding and pedestrian safety.

In addition to these pilot projects, the SDI includes the Solving for Safety Visualization Challenge, a multistage, \$350,000 national competition in which solvers developed analytical tools, powered by visualizations, to reduce serious crashes on the Nation’s roads and rails. Fifty-four solvers from universities, the private sector, and other innovative fields submitted proposals, five semi-finalists were selected, and two finalists are developing full working tools. The two finalists are Ford Motor Company and the University of Central Florida.

Roadway Safety Research

The Department’s safety research programs have significantly improved the safety of our roadways. FHWA conducts research to identify innovative roadway designs that can save lives. For example, replacing an intersection that uses stop signs or traffic signals with a roundabout can reduce crashes by around 80 percent. (<https://safety.fhwa.dot.gov/provencountermeasures/roundabouts/>)

Federal Highway Administration NHTSA estimates more than 600,000 lives have been saved between 1960 and 2012 through adoption of vehicle safety technologies. The Federal Motor Carrier Safety Administration (FMCSA) estimates that its data driven compliance and enforcement program saves more than 200 lives per year.

Transportation engineers rely on significant amounts of crash data to design and deploy safety counter measures. To continue reducing roadway fatalities, the Department needs more data and better quality data, especially on pedestrians, bicyclists, and motorcyclists. The SDISDI is a step forward in addressing some of the research gaps in our understanding of roadway safety. For example, pedestrian fatalities have increased over the past few years, though it remains difficult to determine if increased exposure (more people out walking) has contributed that increase.

NHTSA needs to better understand the true scope of drug-impaired driving. With actual and proposed changes to state and Federal law regarding marijuana, it is increasingly important that we address this critical safety issue. No chemical testing exists for drug impaired driving, similar to the blood alcohol test. Having clear standards is critical for law enforcement documenting accidents.

Similarly, it is currently difficult to determine the full impact of distracted driving. Some studies suggest that the number of distraction-related crashes and fatalities is higher than what can be determined by current methods. Moreover, new vehicle technology linking drivers in-vehicle to the Internet continues to expand and evolve at a rapid pace.

FMCSA finished a comprehensive large-truck crash causation study in 2003 to understand the factors that contribute to crashes involving at least one commercial vehicle. Since then, there have been many changes in technology, vehicle safety, driver behavior, and roadway design. FMCSA is interested in conducting a revised crash causation study and is seeking information on the most effective methodology for best collecting crash data.

5.9GHz Spectrum

The 5.9 GHz band of radio-spectrum (or “Safety Band”) is of critical importance to the Department for reducing crashes, injuries, and fatalities, while mitigating congestion. It is uniquely positioned today to support safety applications that could prevent or significantly reduce the severity of vehicle crashes in a manner not available through other existing vehicle technologies. The Safety Band already is used by state transportation departments for vehicle-to-vehicle (V2V) and pedestrian col-

lision avoidance, transit priority, traffic light control, traffic monitoring, travelers' alerts, automatic toll collection, traffic congestion detection, emergency vehicle signal preemption of traffic lights, truck platooning, and electronic inspection of moving trucks through data transmissions with roadside inspection facilities.

The Safety Band also governs numerous systems such as red-light violation warnings, reduced speed zone warnings, curve speed warnings, spot weather-impact warnings and other safety-critical applications. The Safety Band is actively being used today with more than 80 connected vehicle projects in the U.S. alone (54 currently operational). These sites are using all of the different channels to address different safety-related issues. A common path forward is needed to ensure that current deployments can continue without the risk of investment loss and/or jeopardizing the intended safety and mobility benefits.

As technology advances, it is clear that interoperability is central to enabling universal, nationwide and regionwide vehicle-to-everything (V2X) capability and benefits. Promising technology for interoperability between DSRC, CV2X, Bluetooth, and other forms of wireless communications has already emerged, as demonstrated at the recent ITS America Annual Meeting in Washington, D.C.

The Department does not promote any particular technology over another, and we encourage the automotive industry, wireless technology companies, and other innovators to continue developing multiple technologies that leverage the 5.9 GHz band of spectrum for transportation safety benefits. DOT must ensure that use of the Safety Band is protected for traffic safety so that automated light duty vehicles, trucks, motor coaches, rail, transit, and infrastructure and traffic devices across all surface modes can work in the safest possible way. Doing so can help reduce the annual number of 37,000 road deaths and 2.7 million injuries.

Intelligent Transportation Systems

The Intelligent Transportation Systems (ITS) Joint Program Office (JPO) serves as the Department's multi-modal technology research program, working toward improving transportation safety, mobility, and efficiency; and enhancing productivity through the integration of innovative technologies within our Nation's transportation system. ITS JPO's efforts address the Department's innovation strategic goal. By undertaking the research and deployment of innovative technologies, ITS JPO ensures the Department remains at the forefront of the latest technological advances.

The ITS JPO is responsible for coordinating the ITS Program and initiatives among all DOT operating administrations. The research builds on and leverages the technology and applications developed across all modes delivering cross-cutting research activities and technology transfer that support the entire Department. The ITS Program is directly aligned with DOT's mission of ensuring the Nation has the safest, most efficient and modern transportation system in the world. The program categories undertake the research and deployment of emerging ITS technologies and capabilities to leverage emerging public and private innovations. The program serves as an innovative hub for various aspects of American transportation, from automation and data to new communication systems and cybersecurity.

Movement of the Office of the Assistant Secretary for Research and Technology

With the passage of the Consolidated Appropriations Act, 2019 (P.L. 116-6; February 15, 2019), the Office of the Assistant Secretary for Research and Technology (OST-R) has been moved into the Office of the Under Secretary of Transportation for Policy (S-3). This transfer reinforces alignment of research and technology programs and evidence-based data collections with priorities of the *DOT Strategic Plan* analysis.

OST-R directly addresses the Secretary's innovation priority goals and indirectly impacts the achievement of the Secretary's safety and infrastructure goals, by working across all operating administrations (OAs) to ensure that research investments are directly aligned with Department priorities. OST-R programs identify synergies, gaps, and opportunities to apply research cross-modally, which prevents the duplication of research efforts and waste of Federal resources.

OST-R coordinates, facilitates, and reviews the Department's research and development programs and activities; coordinates and develops positioning, navigation, and timing (PNT) technology; maintains PNT policy, coordination, and spectrum management; and oversees and provides direction to the Bureau of Transportation Statistics, the Intelligent Transportation Systems Joint Program Office, the University Transportation Centers program, the Volpe National Transportation Systems Center (Cambridge, MA), and the Transportation Safety Institute (Oklahoma City, OK).

OST-R's mission is expanded to establish a comprehensive, Department-wide, research review and approval process. This enhanced oversight role, beginning in FY 2019, ensures that Operating Administrations' research portfolios are aligned with Secretarial priorities, comply with statutory mandates, and make effective and efficient use of the Department's research funds. OST-R is also DOT's primary facilitator of T2, or "technology transfer," maximizing the impact of Federal research investments by accelerating the deployment of new technologies and practices.

Accelerating Project Delivery

Our nation's economy relies on an infrastructure system that can deliver people and goods efficiently and on-time. As economic growth places increasing demands on our infrastructure systems, the growing state of disrepair poses threat to that growth. In 1933, ground was broken on the Golden Gate Bridge, which opened just 4 years later. Since then, layers of Federal bureaucracy and regulatory red-tape have placed countless obstacles to delivering transformative transportation projects. For some projects, the environmental review process can take more than 10 years to complete. We can do better. By improving the efficiency of the environmental review and permitting processes, we can accelerate project delivery and achieve better outcomes for communities and the environment.

One of the Department's strategic goals is to invest in infrastructure to ensure safety, mobility, and accessibility and to stimulate economic growth, productivity, and competitiveness for American workers and businesses. We seek to achieve this goal through strategies described in our strategic plan, including streamlining the environmental review process to deliver transportation projects, both large and small, more quickly and efficiently to provide timely benefits to users while safeguarding our communities and maintaining a healthy environment.

Currently, the environmental review process can be complex, inconsistent, and difficult for project sponsors to navigate. Protection of the environment and safeguarding of our communities is of critical importance, and can be achieved more effectively, thereby resulting in reducing project delays and costs, and realizing benefits of critical infrastructure projects sooner. We appreciate the tools that have been provided in past transportation authorizations. The Department implemented all project delivery rules required by the Moving Ahead for Progress in the 21st Century (MAP-21) Act and the FAST Act, except for a pending final rule implementing the FAST Act pilot to authorize states with National Environmental Policy Act (NEPA) assignment to substitute state environmental laws and regulations for NEPA.¹

Through its Infrastructure Permitting Improvement Center, the Department continues to take other actions that further the MAP-21 and FAST Act provisions, implement the One Federal Decision requirement under Executive Order 13807 and associated Memorandum of Understanding, and otherwise improve the project delivery process through increasing transparency and accountability, expanding early coordination with agencies and stakeholders, and increasing information sharing and coordination among the lead, cooperating, and participating agencies. The Department is reviewing and updating its policies and guidance with these objectives in mind, so we make better and more timely decisions, thereby being able to deliver critical infrastructure with associated benefits to the public in a more efficient and cost-effective manner, and while continuing to protect communities and the environment.

Non-Traditional and Emerging Transportation Technology Council

The Department also needs to adapt so state, local, and private sector abilities to deliver innovative transportation projects are not harmed by the same challenges facing traditional transportation modes. At South by Southwest in March, Secretary Chao announced the creation of the Non-Traditional and Emerging Transportation Technology (NETT) Council, an internal deliberative body at the Department tasked with identifying and resolving jurisdictional and regulatory gaps that may impede the deployment of new technology, such as tunneling, hyperloop, autonomous vehicles, and other innovations.

Each of the Department's operating administrations has its own traditional jurisdiction over certain environmental and regulatory approvals. New technologies may not always fit precisely into the Department's existing regulatory structure, potentially resulting in a slower pace of transportation innovation.

Inventors and investors approach the Department to obtain necessary safety authorizations, permits, and funding and often face uncertainty about how to coordinate with the Department. The NETT Council will address these challenges by en-

¹This final rule is anticipated to be published this summer.

sure that the traditional modal silos at DOT do not impede the deployment of new technology. Furthermore, it will give project sponsors a single point of access to discuss plans and proposals.

The NETT Council represents a major step forward for the Department in reducing regulatory burdens and paving the way for emerging technologies in the transportation industry. The Council held its first formal meeting on March 14, 2019 and is currently working through non-traditional tunneling and hyperloop projects. The Council is set to have four meetings this year with additional meetings scheduled when appropriate.

Build America Bureau

In addition to supporting the development emerging technologies, the Department continues its work through several financing and grant programs to pursue its strategic goal to invest in infrastructure to ensure safety, mobility and accessibility and to stimulate economic growth.

The Department provides low cost, flexible loans and allocates tax exempt Private Activity Bonds (PAB) to finance transportation infrastructure projects through the Build America Bureau (Bureau). During this Administration, more than \$25 billion worth of transportation projects have been financed using over \$12 billion in loans and PAB allocations nationwide. The Bureau has recently increased its outreach efforts particularly to project sponsors who are not familiar with these programs to provide technical assistance and increase the level and scope of support we can provide early in the planning process. The Bureau is also focused on diversifying our portfolio by removing costly barriers to small or rural borrowers, providing credit subsidy for small and medium sized freight railroads and broadening the scope of project types and asset classes eligible for Bureau credit.

Infrastructure For Rebuilding America (INFRA) Grants

The Nationally Significant Freight and Highways Projects program—which we refer to as the INFRA grants program—is a critical source of funding for larger scale projects which generate economic, mobility, and safety benefits. Since 2016, this program has awarded \$2.3 billion to 54 projects across the country, unlocking \$11.8 billion in total investment. It remains a very popular program; the Department received nearly 200 applications requesting nearly \$9.8 billion in funding in response to the Fiscal Year (FY) 2019 solicitation. Approximately \$856 million is available for award, and the Department plans to notify Congress of its proposed selections soon.

The INFRA program selection criteria advance critical Administration goals such as supporting economic vitality, increasing non-federal leverage, rewarding innovation, and incentivizing performance and accountability among Federal grant recipients. Each project is evaluated according to these criteria, and these assessments support Departmental investment decisions. The FY 2020 budget proposal—which requested an additional \$1 billion in appropriated funding to supplement the FY 2020 amount authorized in the FAST Act—reflects the Administration’s high opinion of the program’s track record and future potential.

Better Utilizing Investments to Leverage Development (BUILD) Grants

Since enactment of the FAST Act, the Department awarded 173 projects with significant local or regional impact under the TIGER/BUILD program including 133 road, transit, rail, and maritime projects awarded under this Administration. Combined, these projects represent a \$2.5 billion investment in surface transportation projects across the country. To ensure the Department appropriately addresses rural transportation needs, the Department awarded a greater share of TIGER and BUILD funding in the past two rounds to projects to projects in rural areas than in urban areas.

The merit-based, competitive nature of the TIGER/BUILD program allows the Department to award projects that most align with selection criteria, including safety, economic competitiveness, state of good repair, environmental sustainability, and quality of life in order to impact the communities in which they are located. Investments under this program complement other transportation investment by supporting projects identified by local communities as those that best reflect their needs.

Automated Driving System (ADS) Demonstration Grants

The Consolidated Appropriations Act, 2018 (P.L. 115–141, March 23, 2018) provided \$60,000,000 for an Automated Driving System (ADS) Demonstration Grants Program to test the safe integration of ADS on our Nation’s roadways. The three goals of the ADS program are:

- *Safety*: Fund projects that demonstrate how challenges to the safe integration of ADS into the Nation’s on-road transportation system can be addressed.
- *Data for Safety Analysis and Rulemaking*: Ensure significant data gathering and sharing of project data with the Department and the public throughout the project.
- *Collaboration*: Create collaborative environments that harness the collective expertise, ingenuity, and knowledge of multiple stakeholders.

Each demonstration must focus on the research and development of automation and ADS technology, include a physical demonstration, include near-real-time gathering and sharing of relevant and required data with the Department throughout the project, include user interfaces are accessible to users with varied abilities, and address how the demonstration can be scaled to be applicable across the Nation.

The Department issued a Notice of Funding Opportunity on December 21, 2018 with applications closing on March 21, 2019. We expect to announce awardees in the coming weeks.

Automated Driving Systems

The development and deployment of automated vehicle-related technology is moving rapidly, and this pace is only expected to accelerate over the next decade. Historically, human error has been a factor in 94 percent of fatal crashes, which automated technology could help address. Automation is expected to bring many other benefits as well—such as increased independence for people with disabilities and older Americans, better delivery times, and more efficient movement of goods—making the whole economy more productive.

On October 4, 2018, the Department released “Preparing for the Future of Transportation: AV 3.0.” AV 3.0 advances DOT’s commitment to supporting the safe integration of automation into the broad multimodal surface transportation system. It also reiterates approaches to safety that were established in prior guidance, provides new multi modal safety guidance, and outlines a process for working with the Department as this new technology evolves. Fourteen companies have publicly released Voluntary Safety Self-Assessments to communicate their approaches to incorporating safety into the design and testing of automated driving systems.

DOT is partnering with the Department of Labor, the Department of Commerce, and the Department of Health and Human Services to conduct an analysis of known and emerging workforce impacts and operational safety issues for commercial drivers introduced by implementation of automation technology over time. We held an event on March 20, 2019, to receive stakeholder input into the development of the study and an accompanying report to Congress, expected summer 2019. With this study, our goal is to provide reliable information to policy makers and the public, to help our Nation prepare so that we all benefit from the introduction of new technologies.

Despite its promise and the progress that has been made, automated vehicle technology is still in its early stages of development. The public has concerns about the safety and security of this new technology. These concerns must be addressed, because without public acceptance, we know automated technology will never reach its full potential. The promise and safety of automated vehicles is only possible through open public-private participation and active community engagement.

Safety Applications of Unmanned Aircraft Systems

Another front of rapid innovation is in Unmanned Aircraft Systems (UAS), commonly known as drones. The Department has seen progress in UAS uses in recent years, particularly for safety applications. UAS are particularly useful for tasks that are time consuming, dangerous, or infeasible for people to perform manually. In agriculture, manned aircraft are used for crop-spraying and remote-sensing. UAS can fly lower, more precisely, and at a lower cost than manned aircraft, broadening the potential uses of aircraft in agriculture potentially reducing farmworker exposure to safety risks.

UAS carry distance, altitude, and frequency advantages over existing pipeline inspection methods. UAS could offer real-time, precise, and high-definition data that would be cost-prohibitive to collect with manned aircraft or on-the-ground inspectors. Certain companies in the rail industry, are trialing UAS beyond visual line-of-sight for inspections in select areas. UAS can ease inspection of traditionally hard-to-reach areas on bridges and may also protect rail workers from manual track inspection risks.

Thank you for your time today, and I am pleased to answer your questions.

Senator WICKER. Thank you, sir.

Mr. Batory.

**STATEMENT OF HON. RONALD L. BATORY, ADMINISTRATOR,
FEDERAL RAILROAD ADMINISTRATION, U.S. DEPARTMENT
OF TRANSPORTATION**

Mr. BATORY. Good morning, everyone.

Chairman Wicker, Ranking Member Cantwell, and Members of the Committee, thank you for the opportunity to testify today to discuss rail safety and the Federal Railroad Administration's role in ensuring safety and efficiency in our Nation's rail system.

The mission of FRA is to enable the safe, reliable, and efficient movement of people and goods for a strong America now and in the future.

With Secretary's Elaine L. Chao's leadership, FRA executes its mission in many ways. FRA enforces critical safety regulations and partners with industry to develop and promote regulatory and non-regulatory solutions to safety issues.

FRA also seeks to manage Federal investments in rail infrastructure in a cost-effective and efficient manner and pursues research and development to advance innovative technologies and best practices in railroad operations and maintenance.

In recent years, we have seen great advances in railroad safety. Both the train accident rate and the railroad employee injury rate have declined. Despite these advances, grade crossing and trespasser accidents remain the leading causes of all rail-related deaths.

As the demand for both freight and passenger rail transportation in the United States grows, FRA and the railroad industry are responsible for ensuring all of our rail system is the safest and most efficient network this country has ever seen.

Safety is FRA's top priority. FRA believes safety and innovation go hand in hand. FRA believes people and technology play a critical role. FRA addresses safety risks using risk-based proactive approaches, focusing resources on top safety issues while continuing innovative research to further advancements in rail technology and investing in rail infrastructure.

Last week, FRA announced the selection of \$326 million in grant funds under the Consolidated Rail Infrastructure and Safety Improvement Grant Program with significant investments directed toward grade crossing, track, signal, and bridge improvements.

Today, I would like to highlight the top safety initiatives FRA is prioritizing: PTC, trespasser prevention, grade crossing safety, and FRA's Close Call Reporting Program, commonly referred to as C³RS.

Now positive train control. Railroad's successful implementation of PTC remains at the top of our agenda. As I've said many times and before this hearing, implementation of PTC in rail operations represents the most fundamental change in rail safety technology in more than a century. With approximately 20 months remaining until the statutory deadline, the department and FRA will continue to provide extensive technical assistance and perform comprehensive oversight to both host and tenant railroads and hold each railroad accountable for the timely implementation of an interoperable PTC system on all lines subject to the statutory mandate.

Going to trespasser prevention and grade crossing, it is also a top FRA agenda and in preventing trespassing incidences on railroad property and increasing grade crossing safety.

Trespassing on railroad property is the leading cause of all rail-related deaths in the United States. Grade crossing incidents are the second. Together, over the past 10 years, they have accounted for more than 95 percent of all rail-related fatalities.

One of my top objectives is to lead, promote, and strengthen efforts among all public, private, and government stakeholders to increase awareness of grade crossing safety issues and trespass prevention strategies.

Last, confidential close call reporting systems, C³RS, is a voluntary FRA program enabling participating railroads and their employees to improve safety culture in their organizations and to proactively identify and address safety issues before accidents occur.

FRA first piloted the C³RS Program in 2007 with the train yard and engine craft employees at four railroads. Since then, the program has grown to 15 railroads with over 23 employees involved from the crafts.

Going forward, FRA is prioritizing the expansion of the C³RS Program along with other industry partnerships designed to ensure transparent sharing of information among all stakeholders and enabling the effective identification, analysis, mitigation, or elimination of risks throughout the rail operating environment.

In conclusion, FRA has a responsibility to the public, to the railroad employees, and to the railroads themselves to lead to the next generation of safety improvements. FRA is committed to continuing to work with all stakeholders to achieve this new level of safety.

Thank you.

[The prepared statement of Mr. Batory follows:]

PREPARED STATEMENT OF HON. RONALD L. BATORY, ADMINISTRATOR, FEDERAL RAILROAD ADMINISTRATION, U.S. DEPARTMENT OF TRANSPORTATION

Mr. Chairman, Ranking Member, and Members of the Committee,

Thank you for the opportunity to testify today to discuss rail safety and the Federal Railroad Administration's (FRA) role in ensuring the safety and efficiency of our Nation's rail system. The mission of FRA is to enable the safe, reliable, and efficient movement of people and goods for a strong America, now and in the future. With Secretary Elaine L. Chao's leadership, FRA executes its mission in many ways. FRA enforces critical safety regulations and partners with industry to develop and promote both regulatory and non-regulatory solutions to safety issues. FRA also seeks to manage Federal investments in rail infrastructure in a cost-effective and efficient manner, and pursues research and development to advance innovative technologies and best practices in railroad operations and maintenance.

In recent years, we have seen great advances in railroad safety—both the train accident rate and railroad employee injury rate have declined. Despite these advances, grade crossing and trespasser accidents remain leading causes of rail-related deaths. And human factor and track-caused accidents continue to occur. As the demand for both freight and passenger rail transportation in the U.S. grows, FRA, and the railroad industry, are responsible for ensuring our rail system is the safest and most efficient network this country has ever seen.

Safety is FRA's top priority. FRA believes safety and innovation go hand-in-hand. From implementation of Positive Train Control (PTC) technology, to proactively addressing safety risks through our voluntary close call reporting program, to initiatives addressing the persistent challenges of grade crossing safety and the prevention of trespassers on railroad property, FRA believes both people and technology play critical roles.

FRA addresses safety risks using a risk-based, proactive approach, focusing resources on the top safety issues while continuing innovative research to further advancements in rail technology and investing in rail infrastructure. Last week, FRA announced the selection of \$326 million in grant funds under the Consolidated Rail Infrastructure and Safety Improvements grant program, with significant investments directed towards grade crossing, track, signal, and bridge improvements.

Today, I would like to highlight the top safety issues FRA is prioritizing – PTC, trespassing prevention, grade crossing safety, and FRA’s Close Call Reporting Program (commonly referred to as C³RS).

Positive Train Control

Railroads’ successful implementation of PTC remains at the top of our agenda. As I’ve said before, implementation of PTC in rail operations represents the most fundamental change in rail safety technology in a century. PTC uses industry-designed emerging technologies to monitor speed and automatically stop trains to prevent specific human-error accidents. With the Secretary’s leadership, we have prioritized grant programs for PTC and helped railroads make significant progress towards full PTC implementation on the required main lines. As of March 31, 2019, PTC systems were in operation on over 48,000 of the nearly 58,000 route miles subject to the statutory mandate—with the majority of implementation occurring in the last two years. All 41 railroads subject to the statutory mandate complied with the December 31, 2018, requirements prescribed under the PTC Enforcement and Implementation Act of 2015. Specifically, four host railroads fully implemented FRA-certified and interoperable PTC systems on their required mainlines by December 31, 2018, and the other 37 railroads sufficiently demonstrated they met, and in many cases exceeded, the six statutory criteria necessary to qualify for an alternative schedule and sequence to reach full implementation by December 31, 2020.

With approximately 20 months remaining until the statutory deadline, the Department and FRA will continue to provide extensive technical assistance and perform comprehensive oversight, to both host and tenant railroads, and hold each railroad accountable for the timely implementation of an interoperable PTC system on all lines subject to the statutory mandate. Following the series of PTC symposia held throughout 2018, FRA has already held two of six collaboration sessions planned in 2019–2020. These sessions bring together stakeholders to share best practices and jointly address key challenges. FRA PTC field staff continue to prioritize technical assistance based on each of the 37 host railroads’ risks to full implementation, with a specific focus on testing, revenue service demonstration and interoperability. In support of our FRA PTC field staff, and to support railroads interoperability challenges, this summer FRA plans to meet with each of the 101 Class II and III tenant railroads required to implement PTC by their host railroad to offer technical assistance with respect to PTC system implementation.

Trespassing Prevention and Grade Crossing

Also at the top of FRA’s agenda is the prevention of trespassing incidents on railroad property and increasing grade crossing safety. Trespassing on railroad property is the leading cause of all rail-related deaths in the United States. Grade crossing incidents are the second. Together, over the past 10 years, they have accounted for more than 95 percent of all rail-related fatalities. One of my top objectives this year is to lead, promote, and strengthen efforts among all public, private, and government stakeholders to increase awareness of grade crossing safety issues and trespasser prevention strategies.

Trespassing Prevention

Last year, at Congress’s direction, FRA developed a national strategy to prevent trespassing incidents. FRA’s strategy recognizes that trespassing is a complex problem and solutions will necessarily differ based on localized circumstances. FRA identified the top 10 U.S. counties with the most railroad trespasser casualties in recent years.

FRA’s strategy focuses on four strategic areas: (1) data gathering and analysis; (2) community site visits; (3) funding; and (4) partnerships with affected stakeholders. Success of our national strategy, however, depends on meaningful input and participation by all stakeholders—including State and local governments, railroads, labor organizations, and the public—as well as the availability of funding.

FRA intends to hold trespasser prevention summits in each of the top 10 counties identified. The summits will include local community leaders, law enforcement, the railroads operating in and through the county, the public, and FRA, with the goal of identifying trespassing hotspots within the community, developing local improvement recommendations for trespass mitigation and fatality prevention, assisting with trespasser prevention outreach campaigns, and ensuring all stakeholders are

equipped with the necessary information on the availability and process for applying for various forms of FRA grants and other funding.

Improving Grade Crossing Safety

Highway-rail grade crossing incidents are the second leading cause of rail-related deaths, accounting for approximately 30 percent of all rail-related fatalities and are the top cause of all railroad accidents. Increasing grade crossing safety will not only reduce the number of fatalities, but it will also improve the safety and efficiency of the rail transportation network. FRA expects the risk of highway-rail grade crossing incidents to grow as both train and highway traffic increases during the next decade.

In October of last year, the Department hosted the first Highway-Rail Grade Crossing Safety and Trespass Prevention Summit. The event brought together safety advocates, railroads, labor organizations, law enforcement, and both Canadian and U.S. transportation officials to exchange ideas and begin developing best practices on implementing a coordinated national response to the growing problem of trespassing incidents on railroad property and to increase grade crossing safety. At the conclusion of the Summit, FRA committed to hosting a series of listening sessions to identify technology to improve the functioning of grade crossing warning systems and safety, as well as barriers to implementation.

This past spring, FRA hosted those listening sessions. We brought together railroads, labor organizations, signal equipment manufacturers, trade and advocacy groups, technology companies, and representatives from federal, state, and local governments to discuss ways of improving grade crossing safety through technology. Participants discussed demonstrated and emerging technologies that could be used to improve grade crossing safety and ideas for needed regulatory changes to help field new grade crossing technology. Ideas included both highly complex technological improvements and lower tech improvements. FRA is using all the information and ideas gathered through this symposium to develop a three-year plan to improve grade crossing safety. We will hold a follow-up symposium this fall to continue the dialogue with all stakeholders. We will continue to collaborate with our modal partners including the Federal Highway Administration, Federal Motor Carrier Safety Administration, and National Highway Traffic Safety Administration, to provide ongoing assistance to all stakeholders, and develop and promote new tools and resources to support grade crossing safety.

Confidential Close Call Reporting System (C³RS)

C³RS is a voluntary FRA program enabling participating railroads' and their employees to improve the safety culture of their organizations and to proactively identify and address safety issues before accidents occur. For properly reported and qualifying close calls, employees are protected from company discipline, and both employees and railroads are protected from FRA enforcement. Root cause analysis is conducted on individual close call events, and collectively, safety hazards are identified. Railroads are then empowered to develop solutions to proactively mitigate or eliminate the identified hazards, thus avoiding the costs and often devastating consequences of an accident or incident.

FRA first piloted the C³RS program in 2007 with the train, yard, and engine craft employees of 4 railroads. Since then, the program has grown to 15 railroads with over 23,000 employees involved from all crafts.

On participating railroads, several tangible safety improvements have resulted from the C³RS program thus far. Most notably, derailments caused by human factors are down 41 percent and derailments caused by run-through switches are down 50 percent. The program has also led to more qualitative benefits such as improved collaboration between labor and management on safety improvements, and in several instances, the discovery of multiple factors playing a role in a single event, leading to more systemic corrective actions. This level of collaboration and data analysis is often stifled in the traditional environment of railroad discipline.

FRA is actively working to increase railroad and employee participation in the program and to identify alternative funding sources for the program. Specifically, FRA is evaluating ways to allow industry to provide funding for the program and how to potentially leverage machine learning technology to effectively automate the processing of close call reports in the future.

Going forward, FRA is prioritizing the expansion of the C³RS program, along with other industry partnerships designed to ensure a transparent sharing of information among all stakeholders and enabling the effective identification, analysis, and mitigation or elimination of risks throughout the rail operating environment.

Conclusion

FRA has a responsibility to the public, to railroad employees, and to railroads themselves to lead industry to the next generation of safety improvements. FRA is committed to continuing to work with all stakeholders to achieve this new level of safety.

Senator WICKER. Thank you, Mr. Batory.
Mr. Martinez.

**STATEMENT OF HON. RAYMOND MARTINEZ, ADMINISTRATOR,
FEDERAL MOTOR CARRIER SAFETY ADMINISTRATION, U.S.
DEPARTMENT OF TRANSPORTATION**

Mr. MARTINEZ. Good morning.

Chairman Wicker, Ranking Member Cantwell, and members of the Committee, thank you for inviting me to testify about FMCSA's progress implementing the FAST Act. It's honor to testify before the Committee today.

As you know, FMCSA's primary focus is to improve safety among large trucks and buses on our Nation's roadways. Today, I'd like to update you on several key areas of focus for the agency.

First, we're moving forward on refining how we use motor carrier data. The National Academy of Sciences conducted the Correlations Study of the Compliance Safety Accountability Program and its Safety Management System and made recommendations to us in its July 2017 report.

We have accepted those recommendations and published our corrective action plan and we're continuing other efforts to complete our actions in this area.

How crashes are used in the Safety Management System has been a longstanding concern of drivers and motor carriers. So FMCSA launched a Crash Preventability Demonstration Program in July 2017 to review certain crash scenarios to determine if the driver could have prevented the crash.

To date, more than 5,300 preventability determinations have been made on eligible crashes and about 93 percent of them were found to be not preventable. This is good for the carrier, for the driver, and also for the FMCSA because we've eliminated bad data.

Secretary Chao recently announced that we can continue the program beyond its original July 2019 ending date. FMCSA will publish a Federal Register Notice explaining changes to the program.

Mr. Chairman, we're also implementing the Drug and Alcohol Clearinghouse, which identifies drivers who have committed either drug or alcohol violations, making them ineligible to operate commercial motor vehicles until they complete the required return to duty process. In January 2020, the clearinghouse will begin collecting positive test results and refusals.

The FMCSA's also finalizing implementation of the Electronic Logging Device or ELDs mandate in accordance with the FAST Act requirements. The rule requires most drivers to use ELDs to record information about their hours of service. Its first compliance date was December 18 of 2017. The rule's full enforcement began on April 1st of 2018. The last implementation deadline for companies using grandfathered automatic onboard recording devices or AOBRDs is December of this year.

Of the nearly 300,000 driver inspections that have been conducted since April 1st of 2018, less than 1 percent of drivers inspected have been cited for failing to have an ELD or a grandfathered AOB RD when they were required to have one.

Additionally, hours of service violations have decreased by 52 percent over the last year. The ELD's implementation has also highlighted some areas of current hours of service regulations that may need adjustment or improvement.

Last year, the FMCSA requested public comments on 4 hours of service areas. We received more than 5,200 public comments during the comment period. Also last year, we conducted five public listening sessions with our stakeholders concerning potential changes to the areas discussed in the notice.

Secretary Chao recently announced that the agency is moving forward with the proposed rule on hours of service changes. This proposed rule is currently under final stages of review.

We look forward to receiving comments on our proposal and then moving forward to make the needed regulatory changes.

Finally, Mr. Chairman, you asked FMCSA to suggest ways to expand on the FAST Act's achievements. A recommendation our agency proposes is to conduct an updated large crash causation study. Here's why.

Multiple studies and data indicate most large truck-involved crashes are the result of driver behaviors and errors. It further indicates that other motorists, not professional truck drivers, are more likely to be at fault.

Since the last truck crash causation study conducted by the FMCSA and NHTSA was between 2001 and 2003, changes in technology have occurred, vehicle safety and more have occurred affecting driver performance.

A new study will help the FMCSA identify factors that may contribute to the growth in fatal large truck crashes. Analyzing these factors will drive new initiatives to reduce crashes on our Nation's roadways.

Mr. Chairman, the public expects a safe and efficient transportation system. With the continued support of this committee, the FMCSA will continue sharing this solemn commitment to improve safety for all road users.

I'll be happy to answer any questions.

[The prepared statement of Mr. Martinez follows:]

PREPARED STATEMENT OF HON. RAYMOND MARTINEZ, ADMINISTRATOR, FEDERAL MOTOR CARRIER SAFETY ADMINISTRATION, U.S. DEPARTMENT OF TRANSPORTATION

Chairman Wicker, Ranking Member Cantwell, and members of the Committee, thank you for inviting me to testify about the Federal Motor Carrier Safety Administration's (FMCSA) work to improve motor carrier, driver, and commercial vehicle safety as we continue implementing the Fixing America's Surface Transportation Act (FAST Act, PL 114-94). It is an honor to testify today before the Committee.

As you know, the primary mission of FMCSA is to reduce crashes, injuries, and fatalities involving large trucks and buses.

FMCSA was established as a separate administration within the U.S. Department of Transportation on January 1, 2000, pursuant to the Motor Carrier Safety Improvement Act of 1999. For more than 19 years, the 1,100 men and women of FMCSA have worked hard to ensure that freight and people move safely by providing oversight of motor carriers, commercial motor vehicles, and commercial drivers in the United States.

We regulate more than half a million interstate motor carriers, including truck and motorcoach companies, household goods carriers, hazardous materials carriers and nearly 4.7 million active holders of commercial drivers' licenses.

FMCSA has worked diligently to implement rulemakings and make reports available to Congress, studies, and working groups as directed by the FAST Act as well as continue our ongoing safety and regulatory initiatives.

FMCSA is proceeding in the following ways.

One area, our Motor Carrier Safety Assistance Program, provides grant funding to support 13,000 State law enforcement partners who conduct 3.5 million commercial motor vehicle inspections each year. We thank Congress for the FAST Act changes that streamlined our grant programs and provided more flexibilities with the critical resources our State enforcement partners and other grantees use to carry out their important safety work.

We are also pleased to update you on our progress to refine how we use our motor carrier data. Section 5221 of the FAST Act required the National Academy of Sciences to conduct the Correlation Study of the Compliance, Safety, Accountability (CSA) program and its Safety Measurement System (SMS).

The Academy published its report in June 2017, including recommendations to improve FMCSA's analysis and the data that feeds our safety systems and programs. We accepted the Academy's recommendations and published our corrective action plan. In addition, we have gathered public input through a public meeting and established a standing committee with the National Academy to continue receiving their input and advice as we complete our actions.

How crashes are used in SMS has been a longstanding concern of drivers and motor carriers. To address those concerns, FMCSA launched a Crash Preventability Demonstration Program in July 2017 to review certain crashes scenarios to determine if the driver could have prevented the crash.

While we are not currently removing "not preventable" crash determinations from SMS, the determination is noted on the carrier's list of crashes on SMS and the motor carrier is provided with an alternative SMS measure and percentile without the "Not Preventable" crash or crashes.

To date, more than 5,300 preventability determinations have been made on eligible crashes—and about 93 percent of them were found to be "Not Preventable." While the current program is slated to run through July 2019, Secretary Elaine Chao recently indicated that we will be continuing the program and adding an additional group of crashes for consideration. FMCSA will be publishing a Federal Register notice explaining changes to the program and soliciting input from stakeholders.

Mr. Chairman, ensuring safe commercial motor vehicle operation means making sure drivers—both new drivers and experienced ones—are drug and alcohol free. The Drug and Alcohol Clearinghouse will move us closer to that goal.

As you know, in 2012, Congress directed the Secretary of Transportation to establish a national Clearinghouse containing commercial driver license holders' violations of FMCSA's drug and alcohol testing program as directed by Section 32402 of the Moving Ahead for Progress in the 21st Century Act (MAP-21). The final rule published in December 2016 established a January 2020 compliance date for the rule.

The Clearinghouse improves safety by identifying drivers who have committed either drug or alcohol violations that would make them ineligible to operate commercial motor vehicles, until they complete the required return-to-duty process.

In January 2020, the Clearinghouse will begin collecting positive test results and refusals. Once the Clearinghouse has three years of data, employers will only have to check the Clearinghouse for pre-employment and annual reviews. We have a dedicated website for those who want to learn more about the Clearinghouse and register to receive updates.

Along the same lines of making sure commercial vehicle drivers are operating safely, FMCSA is completing regulations to mandate Electronic Logging Devices (ELDs) to address Hours-of-Service (HOS) compliance, in accordance with FAST Act requirements.

The Congressionally-mandated ELD rule, published in December 2015, requires most drivers previously using paper logs to use ELDs to record information about their HOS. The final rule's first compliance date was December 18, 2017, and full enforcement of the ELD rule began on April 1, 2018.

Of the nearly 300,000 driver inspections that have been conducted since April 1, 2018, less than one percent of drivers inspected have been cited for failing to have an ELD or grandfathered Automatic On-Board Recording Device (AOBRD) when required. Additionally, HOS violations have decreased by 52 percent over the last year.

Since 2018, we have conducted numerous outreach events regarding ELD requirements around the country. The last implementation deadline for companies using grandfathered AOBDRs is December 16, 2019.

Mr. Chairman, the ELDs have supplied us with more data, and some of that data highlighted areas of the current Hours-of-Service regulations that we may need to adjust or improve.

Last year, FMCSA requested public comments on (1) the short-haul HOS limit; (2) the HOS exception for adverse driving conditions; (3) the 30-minute rest break provision; and (4) the rule requiring drivers to spend eight consecutive hours in a sleeper berth. In response, we received more than 5,200 public comments during the comment period. Also last year, we conducted five public listening sessions around the Nation concerning potential changes to the four HOS areas discussed in the notice.

As you may know, Secretary Chao announced recently that the Agency is moving forward with a proposed rule on HOS changes. Currently, this proposed rule is under review at the Office of Management and Budget. Please know that we want to provide greater flexibility for drivers while maintaining the highest degree of safety as we move forward with this work. We look forward to receiving comments on our proposal and then moving forward quickly to make the needed regulatory changes.

Collaborating with industry partners and safety stakeholders who represent the broad array of road users—including cars, trucks, buses, pedestrians, and cyclists—we amplify the message that we all can exist on our Nation’s roadways. We recently launched a new series of videos, online content, and public safety announcements, all aimed at raising awareness for motorists operating around large trucks and buses. FMCSA is excited about this opportunity to work with our partners and stakeholders about the ways we can all be safer road users.

Finally, Mr. Chairman, you asked FMCSA to suggest ways to expand upon the FAST Act’s achievements. We have a suggestion for your consideration that would further our mission and contribute to safer drivers and roadways.

We know that the trucking industry must take proactive steps to continually improve its safety record. A suggested step would include studying the causes of truck-involved crashes in order to take appropriate countermeasures to reduce such crashes.

According to multiple studies, data, and other indicators, most large truck-involved crashes are the result of driver behaviors and errors. The data further indicates that other motorists—not professional truck drivers—are more likely to be at fault.

FMCSA and the National Highway Traffic Safety Administration (NHTSA) conducted the Large Truck Crash Causation Study (LTCCS) in 2001 to 2003. The Congressionally-mandated study examined the reasons for serious crashes involving large trucks (trucks with a gross vehicle weight rating over 10,000 pounds).

In the more than 15 years since the original study, many changes in technology, vehicle safety, driver behavior, and roadway design have occurred that affect driver performance.

Since the study ended in 2003, fatal crashes involving large trucks decreased until 2009 when they hit their lowest point in recent years (2,893 fatal crashes). Since 2009, fatal crashes involving large trucks have steadily increased to 4,237 fatal crashes in 2017, a 46.5 percent increase when compared to 2009. From 2016 to 2017, the number of large trucks involved in fatal crashes increased 10 percent, from 4,251 to 4,657.

Mr. Chairman, we believe that it is time for another causation study. A new LTCCS can help FMCSA identify factors that are contributing to the growth in fatal large truck crashes, and in both injury and property damage only (PDO) crashes. Analyzing these factors will drive new initiatives to reduce crashes on our Nation’s roadways.

Mr. Chairman, the public expects a safe, efficient, and reliable transportation system. With your support, FMCSA employees—working with our partners and stakeholders—will continue to share this solemn commitment to preserving that reliable transportation system, as well as maintaining safety for all road users.

I would be happy to answer any questions you may have.

Senator WICKER. Thank you, Mr. Martinez.
Ms. King.

**STATEMENT OF HEIDI KING, DEPUTY ADMINISTRATOR,
NATIONAL HIGHWAY TRAFFIC SAFETY ADMINISTRATION,
U.S. DEPARTMENT OF TRANSPORTATION**

Ms. KING. Thank you very much for having myself and my colleagues here to testify this morning, Chairman Wicker and Ranking Member Cantwell. Good morning.

Since I testified before this committee last year, the National Highway Traffic Safety Administration, NHTSA, has advanced numerous initiatives to improve safety.

As you know, in each of recent years, about 37,000 or more lives have been lost needlessly in motor vehicle crashes across the United States. That is more than a statistic. For you and for me, that is friends, that is neighbors, that is colleagues, those are constituents, and those are people we care a great deal about.

At NHTSA, we all continue to employ risk management best practices to best identify, assess, mitigate and continuously improve our management of roadway safety risks.

I appreciate the opportunity to provide you with an update on NHTSA's work to enhance motor vehicle safety and roadway safety for all Americans.

Last year, NHTSA challenged the Nation to save lives by addressing the growing risk of drug-impaired driving. The agency launched the campaign "*If You Feel Different, You Drive Different,*" a public education campaign and an enforcement campaign "*Drive High, Get a DUI.*"

I would like to commend this committee for its ongoing support of high-visibility enforcement campaigns and I look forward to our continued collaboration on these.

NHTSA has also awarded grant funds to states to support training for law enforcement officers to recognize drivers who are impaired by drugs, including opioids and marijuana. This is just one example of NHTSA's critical partnerships with the law enforcement community.

For more than 30 years, NHTSA has supported the development of comprehensive emergency medical services or EMS. I feel fortunate to have had the blessing earlier in my career to serve as a 9-1-1 dispatcher and also as an emergency medical technician, driving an ambulance and providing patient care, and I know how important these life-saving services are in our neighborhoods and in our communities.

In January of this year, NHTSA, after years of work, together with stakeholders, published *Agenda 2050* to provide national leadership in creating a more people-centered EMS system vision for the future.

NHTSA also works closely with the Department of Commerce on grants to support state, local, and tribal efforts in delivering optimal and stronger 9-1-1 services, including migration to next generation 9-1-1 services. The agencies together expect to award more than \$100 million in next generation 9-1-1 grant funding soon.

NHTSA's regulatory priorities for 2019 include several rulemakings to increase safety and reduce economic burden in our communities. NHTSA intends to remove existing regulatory barriers that prevent vehicles from adopting innovative safety features, including finalizing a rule to allow for adaptive beam headlamps.

NHTSA also intends to move forward with a rulemaking on rear seatbelt warning systems to increase seatbelt usage, including rear seat passengers, to improve crash protection of those backseat occupants.

NHTSA plans to standardize electronic disclosure of odometer information which may help state motor vehicle departments facilitate a completely paperless transaction for vehicle registration.

One of NHTSA's most important regulations addressing safety is the Safer Affordable Fuel-Efficient Vehicles Rule or the SAFE Rule. Because newer cars are safer than older cars, NHTSA and EPA together are carefully studying whether costly standards discourage consumers from replacing their older car with a newer car that is safer, cleaner, and more fuel-efficient.

The proposed rule was published last year and the agencies are working together to issue a final rule soon.

NHTSA is committed to ensuring safety while encouraging innovation. We will continue working with other Federal agencies to support the United States global leadership in the safe testing, validation, and deployment of automated vehicles and other life-saving technologies.

Thank you for your time today. I am pleased to answer your questions.

[The prepared statement of Ms. King follows:]

PREPARED STATEMENT OF HEIDI KING, DEPUTY ADMINISTRATOR, NATIONAL HIGHWAY TRAFFIC SAFETY ADMINISTRATION, U.S. DEPARTMENT OF TRANSPORTATION

Chairman Wicker, Ranking Member Cantwell, and Members of the Committee, thank you for inviting me to testify today. Since I testified before this Committee last year, the National Highway Traffic Safety Administration (NHTSA) has advanced numerous initiatives to improve safety.

In recent years, more than 37 thousand lives were lost needlessly in motor vehicle crashes across the Nation each year. That is more than a statistic: because of these crashes, we have each lost friends, neighbors, and family.

At NHTSA, we continue to employ risk management best practices to identify, assess, mitigate, and continuously improve our collective management of roadway safety risks. I appreciate the opportunity to provide you with an update on the work of NHTSA to enhance motor vehicle and roadway safety for all Americans.

Drug-Impaired Driving

Last year, NHTSA challenged the Nation to save lives by addressing the growing risks of drug-impaired driving. The agency launched the *"If You Feel Different, You Drive Different"* public education campaign and an enforcement campaign, *"Drive High, Get a DUI."* I would like to commend this Committee for its support of the High Visibility Traffic Safety Enforcement program and look forward to our continued collaboration to raise awareness of important safety campaigns.

NHTSA has also awarded grant funds to the states to support training of additional Drug Recognition Experts (DRE) and Advanced Roadside Impaired Driving Enforcement (ARIDE) traffic safety officers. This will increase the number of officers trained to recognize drivers who are impaired by drugs, including opioids and marijuana.

Emergency Medical Services and Law Enforcement

NHTSA has supported the development of comprehensive Emergency Medical Services (EMS) systems for more than 40 years. I feel fortunate to have served earlier in my career as a 9-1-1 dispatcher, an Emergency Medical Technician, and as a law enforcement officer, and I know how important these services are to the safety and well-being of our communities.

In January 2019, NHTSA's Office of EMS published *Agenda 2050* to help individuals, EMS leaders, and communities create a more people-centered EMS system. It is the product of a collaborative and inclusive two-year effort to create a bold plan for the Nation's EMS system over the next several decades.

Additionally, NHTSA has been working closely with the Department of Commerce to advance grants that would support state, local, and tribal efforts to deliver optimal 9-1-1 services, including migration to adoption and operation of Next Generation 9-1-1 services. The agencies expect to award more than \$100 million in grant funding for Next Generation 9-1-1 in the near future.

Like EMS, NHTSA's partnership with law enforcement is critical to our safety agenda. NHTSA will continue to engage with law enforcement officers, prosecutors, and judges. These partnerships are crucial to the success of the agency's efforts to encourage safe traffic behaviors.

Safety Rules

NHTSA's regulatory priorities for 2019 include several rulemakings and other actions to increase safety and reduce economic burden. NHTSA will explore removing existing regulatory barriers that prevent vehicles from adopting innovative safety features, including plans to finalize a rule that will allow for adaptive driving beam headlamps. The agency also intends to consider a rulemaking on rear seat belt warning systems to increase seat belt usage and potentially improve crash protection of back seat occupants. NHTSA plans to consider standardizing the electronic disclosure of odometer information, which might provide an opportunity for state Motor Vehicle Departments to facilitate completely paperless transactions for vehicle registrations.

One of NHTSA's most important regulations addressing safety is the Safer Affordable Fuel Efficient Vehicles Rule, or SAFE Vehicles Rule. Because newer cars are safer than older cars, NHTSA and EPA are carefully studying whether costly standards discourage consumers from replacing their older car with a new car that is safer, cleaner, and more fuel efficient. The proposed rule was published last year and the agencies are working together toward issuing a final rule soon.

Automated Vehicles/ADAS

NHTSA is committed to ensuring safety while encouraging advances in innovation. NHTSA, together with other Federal agencies, will continue undertaking activities that support and maintain the United States' global leadership in the safe deployment of automated vehicles, with a focus on collaboration, uniformity, and interoperability to accelerate testing, validation and deployment of new life-saving technologies.

Thank you for your time today, and I am pleased to answer your questions.

Senator WICKER. Thank you, and thank you to all of the witnesses for staying within the time limit.

We are delighted to begin our questions. Let me just begin with Mr. Batory.

It has been a decade of litigation that seems to be over. The U.S. Supreme Court recently denied an appeal from the Association of American Railroads to review a lower court ruling addressing whether Amtrak and FRA may jointly develop on-time performance metrics and standards for trains. Now that the litigation is over, Amtrak and FRA may issue metrics.

What can we expect to see with regard to the new metrics on on-time performance?

Mr. BATORY. Thank you for that, Senator Wicker. You know, I can sit here before all of you and tell you that during Amtrak's history, I've lived the entire history myself in the railroad industry and have been highly involved in the dispatching of passenger and freight trains.

With that said, what evolved out of Part B of the Rail Safety Improvement Act (RSIA) was standards and metrics. FRA developed with Amtrak nearly a decade ago some standards and metrics. We are now engaging with a small commission with outside support to evaluate the legitimacy and the accuracy of those standards and metrics.

The standards and metrics come easy. It's more about the schedule, how you measure the schedule, and how you delineate what

contributes to the delay, and I'm pleased to share with you that that commission started two days ago and it was very productive. It's chaperoned with our Policy and Development Section as well as our Legal Section and I'll share this piece of trivia that is factual.

For the first four months, Amtrak performance nationwide was 77.9 percent. 87.9 percent of that was on the Northeast Corridor, the balance of it was on freight railroads, whether it be state support or long distance, and you couldn't have made this up, but our 77.9 percent in the rail transport sector of passenger was identical to what the airlines reported for the first four months of their on-time performance which was 77.9 percent.

Senator WICKER. What did you mean by how you measure?

Mr. BATORY. What I mean by how you measure is, first of all, capacity and demand. Are the schedules accurate? What we know is there are some schedules out there that go back to 1960 and the world's changed since 1960.

In one instance, the train operates from a different station. There's no longer any double track. There's no longer any automatic train control, and they no longer operate at 90-mile-an-hour, but they still have a five-hour-and-30-minute schedule.

That's the type of due diligence that's required and to just take what somebody developed 10 years ago I think would be a flawed mistake and so as a result, we are doing our due diligence to review what our predecessors came up with 10 years ago and come up with a product that the consumer can rely on.

Senator WICKER. Now you began a new process 2 days ago.

Mr. BATORY. Two days ago.

Senator WICKER. And when do you think we'll see the final outcome?

Mr. BATORY. Timeline at this juncture should be somewhere in, say, the second quarter, end of second quarter of next year. We are scheduling a two or three day meeting with Amtrak to understand the Amtrak position and the data that supports that position.

We then intend to address each of the host railroad carriers, from the best-performing carrier to the worst-performing carrier, to learn what the issues are from a freight perspective. With those sessions then completed, we'll reaffirm or validate, if you will, the train schedules that Amtrak and the host railroads have come up with.

Once those schedules have been validated between Amtrak and the host railroads, then it's our intention to identify how we are going to measure? We can't keep using human measurements, human-invoked measurements. We start to have to look at technology, GPS technology, and we're going to engage that process so we have good measurement tools and once we have good measurement tools, we'll then get into the appropriate standards and metrics and then once we have that, what we need to focus on most of all is the consumer on-time performance.

With that consumer on-time performance, that's what I was referring to yesterday when Amtrak reported their 4 months at 77.9. The airline industry was also at 77.9.

Senator WICKER. Thank you very much, sir.

Senator Cantwell.

Senator CANTWELL. Thank you, Mr. Chairman.

Mr. Szabat, I'd like to start with you about the freight issue that I mentioned in my opening comments. This is obviously something important to the Pacific Northwest but it's also important to the Nation because we ship about 18 billion tons of freight worth over \$19 trillion and by 2035, the amount of freight moving through our Nation is expected to increase to 27 percent, so more than what it is today.

So the needs for our infrastructure are great and obviously with INFRA and the Freight Act, we've been able to track investment to where job creation actually is.

So my understanding is the Department of Transportation received 234 eligible applications. That was about, I think, \$12 billion in requests but only 26 projects were selected.

So given the high demand, do you believe that we should be working toward higher levels of funds? Do you have any kind of economic analysis of what our economic return would be if we did make that investment?

Mr. SZABAT. Senator, thank you for raising this important issue.

I know the department agrees with you on the importance of freight in our transportation network. I think from our perspective, a couple of the major accomplishments that occurred with the passage of the FAST Act was, first off, we codified the changes that happened starting in 2009 with the Discretionary Grant Programs, especially grant programs now that we can direct toward freight-type of projects.

And, second, with the requirement that we develop a national multimodal freight network and a national freight strategic plan, we helped break through the modal silos that are established sometimes by process and sometimes by statute.

These were all excellent accomplishments of the FAST Act and we look forward to seeing that continue in the reauthorization.

You mentioned, you know, 234 projects applied, 26 projects have been approved. This will always be a function of what we can afford and how we rank our priorities against our other transportation projects. That's a conversation I know we in the department are having and will continue to have with you and the other members of the Committee.

Senator CANTWELL. I believe that it's a job creation activity. When you make these investments, you create more jobs. So I would like to work with the department to make sure that we have an available number about what we would anticipate the job creation would be if we actually funded the freight requests or at least at a higher level than what we're currently doing.

Administrator Batory, increasing safety needs at grade crossings is the same issue. Obviously as we compete in a global economy and move more product to Asian markets and all over, we have at-grade crossings.

I'm not sure. Should we be doing something more specifically to target resources at-grade crossings? I feel like every community in my state has a request for help with an at-grade crossing.

Mr. BATORY. Excellent question, Senator, and I totally agree with you.

Let me just address it from two perspectives for you. As far as grade crossing safety, the communities and the industry have

worked very well in achieving the desired results that we are able to report today.

First, it's kind of interesting is that over nearly the last three decades motor vehicle registration in this country has increased by 40 percent, so we got more cars and trucks on the road. We've reduced the amount of grade crossings cooperatively either through underpasses, overpasses, or closing the crossings themselves with the communities and government and the railroad industry involved, 27 percent.

The number of train-motor vehicle accidents have decreased 72 percent over that time. Now, unfortunately, even though we had a significant decrease, the number of fatalities have decreased by 80 percent, there have been 125 as of last year, it's 125 too many, but we need to put together a program and it's currently underway. It started off on October 31 of last year at DOT where we brought all the agencies together that are involved with grade crossings, led by FRA, and we had the Summit which led into listening sessions and now we're going into Symposiums to lay out the three-to-five-year plan to address this issue.

I do believe, though, the U.S. Government has spent over \$4 billion of highway money going to the states, through Section 130, and we really need to look at that 130 Section and identify whether or not there are ways in which to entice communities and industry to strengthen the protection at grade crossings using more technology.

Basically what we have out there is nothing more than what we've had over the last 30 years.

Senator CANTWELL. Well, I'm certainly for improving it and will look forward to working with you on that and I know my time has expired, but I wanted to let Mr. Batory answer that question.

But for Ms. King, having fuel efficiency and pollutants offset are very important goals. So I look forward to continuing to hear from you about what we can do to save Gap A.

Thank you.

Senator WICKER. Technology rather than the traditional methods, what do you mean by that?

Mr. BATORY. It's an open field and we have great opportunity in our industry to exploit avenues of technology to reduce risk and enhance safety and with that, it resides both in the transportation department of railroads, it resides in the mechanical departments of railroads, and engineering departments of railroads, and collectively we can be a stronger, safer industry. Even though we think we're safe today, we can be safer tomorrow.

I'll give a couple of examples. Autonomous track inspection is one, autonomous freight car inspection. The type of technology that we're now bringing onboard in the cab of locomotives that enhances the knowledge of the operator to strengthen his skill sets as a result of what's going on as far as the train dynamics within his consist. There's a lot of good opportunity out there.

Grade crossing protection, for instance, visualize this. There are some exceptions because of how we developed the technology but it's not uniform yet but that grade crossing protection that you approach every day in your community and you look at the gates and the flashers and what controls it, it's basically a dummy apparatus

that is self-sustaining to itself and it has the potential to be expanded where you can have self-diagnostics 7X24X365 communicating to the railroad, communicating maybe perhaps in some instances when it's activated or when it's failed to the community.

There are a lot of good things that can emerge from this. So what we've asked the railroads to do is promote as much as they can in the way of need for waivers or pilot projects, not to rush into writing regs but developing facts and then learning from those facts as far as how we can strengthen this industry and then perhaps go to performance-based rulemaking.

It opens up all kinds of avenues of safety and efficiency for the rail transport industry and the communities in this country that relies on it.

Senator WICKER. Thank you very much. I appreciate the Committee indulging us on elaborating there.

I now recognize Senator Fischer who is Chair of the Transportation and Safety Subcommittee.

Senator Fischer.

**STATEMENT OF HON. DEB FISCHER,
U.S. SENATOR FROM NEBRASKA**

Senator FISCHER. Thank you, Mr. Chairman.

Administrator Martinez, one of the primary issues that I've heard about from drivers and carriers relating to trucking regulations is the need for more flexible hours of service requirements.

As you noted in your testimony, FMCSA is in the process of completing a notice of proposed rulemaking related to the hours of service.

When do you expect to submit that NPRM for public comment?

Mr. MARTINEZ. Thank you for that question, Senator. This has been an interesting process. We had gone out with an ANPRM to our stakeholders and received, as I said, over 5,200 substantive comments that really informed the agency.

We, I believe, are in the final stages. As you know, it's a process, iterative, with the Office of Management and Budget, but I really do believe that we are in the very final stages of that process and I'm hopeful that it will be in short order. I hesitate to put a date certain on it, but I am—

Senator FISCHER. Short order would be good.

Mr. MARTINEZ. Yes.

Senator FISCHER. I met yesterday with our state director of agriculture and in that meeting, we had stakeholders from the ag industry all across Nebraska represented. We talked about the need for flexible hours of service, especially for livestock haulers when they have live and perishable product, the issues that they face there.

Will the hours of service from the NPRM provide flexibility for our livestock haulers?

Mr. MARTINEZ. First of all, again this has been a tremendous process because we have been fully engaged with the associations representing not just livestock but agriculture as a whole and also our sister department at the Department of Agriculture to learn more about what the needs are of the agriculture and the livestock community.

So the hours of service, I believe, changes will apply across the board, but we are also have prepared an advanced notice of proposed rulemaking, an ANPRM, that would seek public comment on the definition of agricultural commodity which will inform us further on this area.

Senator FISCHER. OK. Thank you. I would hope that you will continue to be open with me and work with me when we can address that flexibility issue that I think is desperately needed.

Also, as you know, the FAST Act requires the FMCSA to remove certain compliance, safety, and accountability program information from the CSA site until the agency has completed a review of that program.

As part of the review, the FMCSA must correct any deficiencies in that CSA Program identified by the National Academy of Sciences before those scores can be made public again.

Can you provide an update on the agency's work to review the CSA scores?

Mr. MARTINEZ. Certainly. We have been actively engaged with the National Academy of Sciences. We have accepted their recommendations. We have put forward our corrective action plan.

One of the areas, of course, that we've looked at is they had put forward the concept of using an item response theory and seeing whether that could apply to the trucking industry. That is still a work in progress but it shows signs of better informing the agency in how we can prioritize because that's really what it was about.

Until that time, the scores should not be public but also we have worked with, as I said in my opening statement, a crash preventability program which essentially deals with crashes that the driver and the carrier had no ability to prevent and we now are able to eliminate those if it's brought to our attention.

Senator FISCHER. Thank you.

Administrator King, I have just a few seconds left, but I've been very concerned about drug-impaired driving and what we are seeing there. Nebraska State Patrol has arrested more than 100 drugged drivers.

Can you elaborate on what NHTSA's work is to address drug-impaired driving? How can we, for example, look at addressing limitations in understanding of drug-related fatality data that's out there?

Ms. KING. Thank you for asking.

It's critically important because we're seeing such a growth in use not only in opioids, marijuana, but also in pharmaceuticals. What we're finding is that we need to address five myths: that it's safe to drive when under the use of a substance, that they're not going to get stopped, not going to be arrested, not going to be prosecuted, not going to be convicted.

We are supporting through grant funds, providing education materials, and fostering dialogue among the stakeholders who can influence this to address each of those five links in the chain to combat drug-impaired drivers.

We find that public awareness is a critical part of that. That's why we've been pushing so very hard on our public education campaign. Most users of marijuana that have participated in market research we have developed are saying that they believe they drive

safer when they're high because they're very focused and they're being very cautious, but we know from the driver simulator studies it's not true.

So we are doing everything we can, putting out more grant funds and supporting the communities where the rubber hits the road to make sure we get ahead of the problem and that we educate consumers to make better decisions.

Senator FISCHER. Thank you. As I mentioned earlier, the Nebraska State Patrol has huge issues with this that we see coming from the West entering our state and so it is a big, big problem. Thank you.

Ms. KING. I'd be happy to do anything to partner.

Senator FISCHER. Thank you.

Senator WICKER. Thank you, Senator Fischer.

Senator Thune.

**STATEMENT OF HON. JOHN THUNE,
U.S. SENATOR FROM SOUTH DAKOTA**

Senator THUNE. Thank you, Mr. Chairman.

I want to thank you for holding this important hearing, look forward to working with you as we build on the accomplishments of the FAST Act and move forward with the next reauthorization.

There are few issues that impact South Dakota more than highway bills. Rural states, like South Dakota, rely on Federal investment in transportation infrastructure to ensure the efficient flow of goods to domestic and global markets.

Freight corridors within rural areas are a critical component of the national transportation system, connecting major highways and railways to the regions which produce many agricultural and industrial commodities.

The FAST Act required the DOT to designate a national multimodal freight network meant to provide a comprehensive representation of the national freight transportation system. The interim network, published in 2016, was widely criticized by nearly every state as incomplete since it excluded important highway and rail freight corridors across the Nation.

Mr. Szabat, can you commit to thoroughly reviewing comments from states to ensure that all freight corridors, including those in rural areas, are well represented in the final national multimodal freight network?

Mr. SZABAT. Senator Thune, thank you for the question and, yes, I can commit that we will. I can go beyond that to commit that we already are, that as of the end of the comment period in 2018, we had received 123 total comments from states and other users looking for improvements in the plan, and we are thoroughly evaluating those.

Senator THUNE. Thank you.

Ms. King, NHTSA's State and Community Highway Safety Program provides grants to all states to improve driver behavior and reduce deaths and injuries from motor vehicle-related crashes.

States like South Dakota prefer this program to grants issued under the National Priority Safety Program for which certain states cannot qualify. As this committee looks toward the reauthorization of the grant programs, can you commit to working with me

to build on the work done in the FAST Act to increase the flexibility of these programs and improve highway safety?

Ms. KING. Absolutely. It's critically important to get the money out where it can be assuring safety in our communities.

Senator THUNE. Thank you.

Mr. Martinez, in October 2018, Senator Fischer and I represented a lot of the same constituencies and she asked a related question, but in October 2018, a coalition of livestock haulers submitted a petition to FMCSA requesting an exemption from certain provisions of hours of service regulations and together with former Senator Nelson, I sent a letter to FMCSA in support of the agency's full consideration of this petition.

In response, FMCSA provided official notice and requested public comments on the petition in February of this year.

Could you provide an update on the current status of this petition and do you have a timeline for when you expect FMCSA to take further action?

Mr. MARTINEZ. Yes, so the comment period is now closed on that petition. We are currently reviewing the comments which number over 350 comments. So we will evaluate them.

I hesitate to give a specific timeframe, but obviously we will try to expedite the review as quickly as possible.

Senator THUNE. I would encourage that.

Mr. Batory, on May 14, I sent a letter along with Senators Blunt, Moran, and Young requesting an update on several pending regulatory actions at FRA aimed at better incorporating emerging rail technologies into the regulatory framework.

Could you speak to actions that FRA's taken on the rulemaking initiatives mentioned in the letters, specifically continuous rail testing or air brake interval modernization?

Mr. BATORY. Thank you, Senator Thune.

When I received your letter, I was very pleased with the reading of it because it's something that I feel, as I shared with Senator Wicker a few moments ago, technology is the key to our success as far as reducing risk and enhancing safety.

One technology that has developed considerably in the past year has to do with autonomous track inspection and FRA naturally has a fleet of its own cars but the railroad industry has fleets of equipment for autonomous track inspection and just to characterize it, it would take me probably about 30 seconds to put into context what autonomous track inspection is.

If some of us were to leave here and go down New Jersey Avenue, down the Virginia Avenue Tunnel, get on the railroad track and be protected and walk toward Long Bridge on the Potomac, we might find just for talking purposes 10 issues associated with the track structure and of those 10 issues, two of them might be imminent that we have to address within 24 hours. The other eight perhaps would take—you have 30 days in which to address.

Behind us, you run an autonomous track vehicle. It might come up with a hundred items, not only defects but also weaknesses. What would you rather have, the 10 that you and I found or the hundred insofar as reducing risk and enhancing safety? It still takes human beings to go out there to confirm it.

We have engaged the Class 1 railroad community to give us either petitions for waivers or petitions for pilot projects that span autonomous track inspection to develop facts so that we can then establish performance-based rulemakings and we'll always have the prescriptive minimum rulemakings at the bottom insofar as track geometry standards.

That's an example of exploiting technology for the betterment of our country and the betterment of our industry.

Senator THUNE. Thank you. Thank you, Mr. Chairman, and I would just say that we encourage the continued use of those pilot programs and I would ask for the record a question about any ideas you might have for us as Congress to encourage greater use of pilot programs at FRA.

Senator WICKER. Thank you very much, Senator Thune.
Senator Schatz.

**STATEMENT OF HON. BRIAN SCHATZ,
U.S. SENATOR FROM HAWAII**

Senator SCHATZ. Thank you, Mr. Chairman. Thank you for the testifiers.

First, for Ms. King, a lot of the advanced safety features that went into the development of autonomous cars, lane departure warnings, blind spot detection, rear automatic braking, automatic emergency braking, they all significantly reduce crashes, and I think one of the promises of autonomous vehicles, one of the reasons that people get excited about it is imaging a world with significantly fewer car crashes and car-based fatalities, and something has happened along the way where a lot of those pieces of tech can be implemented right now with cars that are driven by humans.

And so the question I have for you is to the extent that there's enough data that shows that we can save lives now, why are we in a voluntary regime where these automakers are so slow to adopt these things that will certainly save lives?

The idea that a person has to—you know, you can buy a \$22,000 car but if you want a certain thing that will make it less likely for you to die in a car crash, that'll be extra. I'm not sure why we shouldn't just make that mandatory.

Ms. KING. That's a really good question. I'm glad you asked it.

When something does become mandatory, it must have a very consistent repeatable test procedure and what we find is when a technology is new, for instance, a certain kind of alert or blind spot detection, we learn a lot from the fact there's a little bit of a difference in different folks that are adopting it or different manufacturers who are designing different systems. That's a time of learning and then if it seems appropriate to adopt it as a mandatory standard, we can then identify which of them is best.

So that is one of the reasons why when a technology is first introduced, we allow some consumer experience and some innovation before a mandate is—

Senator SCHATZ. Couldn't we just make it mandatory and give them the flexibility to do it however it makes sense while you're testing this?

Ms. KING. Under the laws that we execute, we actually have to have a consistent test procedure. So we can't say do it and we'll figure out later whether or not we can confirm you've done it.

We can talk a little bit more about that offline, but when we have Federal Motor Vehicle Safety Standards, it will have a test procedure and a consistent engineering description for execution which means there's only one way or a narrower set of alternatives.

We're very excited to see the consumers are adopting the technologies. An example would be I mentioned blind spot—

Senator SCHATZ. OK. I've got a couple other questions.

Ms. KING. Sure.

Senator SCHATZ. In 2018, there's a small overall reduction in road deaths but a 4-percent increase in cycling deaths—excuse me—pedestrian deaths rose by 4 percent and cycling deaths went up by 10 percent. What is going on and what are you going to do about it?

Ms. KING. There are two pieces to that, one is recognizing the data that was just released was an early projection. Those numbers will change twice, once when we issue the numbers for 2018 with a fuller sample submitted by the states, and—

Senator SCHATZ. OK. What are we—is this data valid?

Ms. KING. So the data is indicative of a trend, yes. We've seen an increase in fatalities of pedestrians and bicyclists. In our work with states, in our grant programs, in our development of programs that states implement at the local level, we are supporting local programs to improve pedestrian and bicyclist safety.

Largely two-thirds of our budget is going to states for them to implement programs that are appropriate for their condition.

As you know here in the District of Columbia, more than 50 percent of the fatalities in traffic situations are pedestrians. That's also true in Nevada. But it's not true everywhere. So some states will choose to use their state grant funds to execute programs that address pedestrian risk that is high in their area. Other places, it will be a speeding risk or an impaired driving risk, and we develop program—

Senator SCHATZ. So your answer is that you have a grant program and you let states and counties and municipal transportation planning organizations do what they see fit?

Ms. KING. We develop programs that they—

Senator SCHATZ. You develop programs?

Ms. KING. We do research that supports them, yes.

Senator SCHATZ. OK. Is there no place for NHTSA to develop best practices and implement them as opposed to just pushing money to states and counties?

Ms. KING. No, we absolutely do that. We do research, behavioral research, mechanical research. We develop programs. We develop public education materials.

Senator SCHATZ. Let me ask you a personal question. Is this alarming to you?

Ms. KING. As a former law enforcement officer who has worked crashes and taken care of people who were injured or killed, as a former 9-1-1 dispatcher, and a former EMT working in my community, yes, it is absolutely alarming and every single man and

woman of NHTSA is committed 24/7 to doing everything that we can to support local traffic safety.

We develop programs, some of which are appropriate for distribution and application nationwide. Sometimes we need to address problems locally. I mentioned drug-impaired driving earlier. There are areas where opioids are the larger problem. There are parts of the country where meth is the larger problem. There are other areas where—

Senator SCHATZ. My time has expired, but I have no idea what this has to do with pedestrian deaths and cyclist deaths going up precipitously.

Thank you.

**STATEMENT OF HON. DAN SULLIVAN,
U.S. SENATOR FROM ALASKA**

Senator SULLIVAN. So the Chairman has stepped out. So I'm going to take the gavel and call on myself.

So I appreciate this hearing and I'm assuming that all the witnesses are supportive of what we did four years ago which was actually a long-term FAST Act. It was a five-year authorization. Prior to that, there had been 36 short-term reauthorizations which I don't think anybody regards as helpful.

Do you all agree that we should be working on another long-term reauthorization in terms of highway transportation?

[Witnesses nodding heads in the affirmative.]

Senator SULLIVAN. I see noddings of all the heads.

Ms. KING. We look forward to continuing to work with you.

Senator SULLIVAN. OK. Good. Let me ask a couple questions that relate to, you know, one of the things that I'm going to be focusing on in this reauthorization is the permanent streamlining, which I know Secretary Chat has been very focused on. It shouldn't take 8 years to build a bridge or to permit a bridge in America, 19 years almost from planning to construction of our highways. We need to fix a broken Federal permitting system. So we're going to continue that.

I know the Secretary's focused on that, but the hearing here is focused more on safety which is appropriate.

Mr. Szabat, I want to ask you in terms of the consideration of grants to be distributed by the Build America Bureau, you might know, but a lot of the members of this committee are also members of the Armed Services Committee.

Does the agency take into consideration the role the commercial ports play with regard to national defense, in particular Department of Defense-designated strategic ports, such as the Port of Anchorage, and should Congress consider this during the reauthorization of the FAST Act?

As you know, a lot of our commercial issues are deeply integrated with regard to our national security issues.

Mr. SZABAT. Senator, thank you for that question and thank you for a question that touches on my previous role in the department.

Senator THUNE. That's why I asked you.

Mr. SZABAT. I assumed that you had an ulterior motive, sir, but I was 7 years as the Executive Director of the Maritime Administration.

I think as you're aware in asking the question, there is no statutory authority for the department to consider the strategic nature of the ports.

Senator SULLIVAN. Do you know, I mean, whether you need the statutory consideration or not?

Mr. SZABAT. It's what we would consider to be a plus factor when you look at it. Should Congress wish to make that a mandatory factor that would have to be done statutorily.

Senator SULLIVAN. Do you think that's a good idea?

Mr. SZABAT. That's certainly an issue that we would look forward to working with you, the Committee staff, committee members that are interested in this to find a way forward.

Senator SULLIVAN. OK. Good. Well, I look forward to working with you on that if you view it as a plus factor. I think most of us view it as a plus factor and maybe getting it in statute would put an emphasis on that.

Ms. King, I want to follow up on a couple issues that you've talked about in the questioning. You mentioned the education materials and public education campaign for impaired driving, particularly with, you know, drugs beyond just alcohol-impaired driving.

Are you focusing that in particular with regard to states, like Alaska, or, I was just talking to Senator Gardner, Colorado, that have legalized marijuana? Is there an area that you're focusing on to help those states in particular?

Ms. KING. Our initial work has been driving public education with respect to marijuana impairment because we have found in our market research that users feel that they drive better.

Senator SULLIVAN. But do you focus on states that—you know, there are certain states that have legalized this where there is more activity there. Have you given thought to focusing in those areas?

Ms. KING. Yes, we have actually first traveled to Washington. We later traveled to Denver in Colorado to have meetings and learn from them and learn best practices.

Senator SULLIVAN. Have you traveled to Alaska yet?

Ms. KING. I have not yet because—

Senator SULLIVAN. I look forward to seeing you there soon.

Ms. KING. I would look forward to that. But we're sharing best practices.

One of the things we find is the states who have been early legalizers of marijuana products, like Washington and Colorado, they have a great deal to learn. Other states that were early medical marijuana adopters, like the state of California, also have something to share and so we've visited places, Iowa, New Jersey, other places. We just had a meeting in Florida.

Senator SULLIVAN. Can I get your commitment to get to Alaska soon? You know, we have these issues and I think it's important.

Ms. KING. I would love that. Thank you for the honor to do so.

Senator SULLIVAN. Great. Let me ask a related question Senator Schatz was talking about in terms of bicycle traffic fatalities. We also have a big community, a cycling community. The Municipality of Anchorage and Bike Alaska, they have a program they've put together called Vision Zero which is working on a coordinated ap-

proach, data driven, to have a public education, best practices, as you mentioned, with regard to these higher fatality rates and injury rates for bicyclists.

Is NHTSA doing work with local partners, like Vision Zero, to identify best practices, what you're learning, and how do we get involved in that at the local level? I think it's really important that you're learning from them and they're learning from you.

Ms. KING. Absolutely. One of the advantages of the local community groups working through Vision Zero or Road to Zero, which is more international learning, is that the solutions can be best adapted to local conditions.

For instance, the infrastructure needs might be a part of it, public education or traffic patterns might be a part of it. So all of that can be incorporated and encouraged for adoption in local laws where the local jurisdiction is stronger.

NHTSA is supportive of all of those efforts and welcomes any opportunity to support those efforts to drive local traffic safety.

Senator SULLIVAN. Right. Thank you. Thank you, Mr. Chairman.

Senator WICKER. Thank you, Senator Sullivan.

Senator Markey.

**STATEMENT OF HON. EDWARD MARKEY,
U.S. SENATOR FROM MASSACHUSETTS**

Senator MARKEY. Thank you, Mr. Chairman.

Administrator King, I'm very disturbed with the Administration's rollback of the fuel economy standards from 54.5 miles per gallon to 37 miles per gallon. I think that it states that the Trump Administration are technological nihilists.

These recommendations that the Obama Administration put on the books would back out three million barrels of oil a day, which is still the equivalent of what we're importing from overseas, and especially when we see incidents in the Gulf of Hormuz and the other areas of the Middle East, we can see how quickly the United States could get drawn into essentially a war over oil.

And so our answer has to be that we are the technological giants and we're going to win back the vehicles that back out the need for oil and we will strengthen our hand diplomatically in the Middle East very dramatically if we do that. Otherwise, we're over there primarily because of the oil. Let's just be honest about it.

So I don't understand, Ms. King, what your logic is in rolling back these fuel economy standards, but I will tell you that ultimately you're on weak ground because, amongst other things, pretty much the entire auto industry is protesting that you're taking this action, that you're going to create a divide in the country between all of the American states that follow the California waiver and the Trump Administration, and they are saying it's going to be very bad for business.

So I guess what I would ask you to do is to explain whether or not you believe it is possible for the United States to reach 54.5 miles per gallon and is it wise for us to just stop dead—let me ask the question this way.

In your opinion, is it wise just to stop at 2020 and not to advance all the way out to 2025 in an improvement of the fuel economy standards? Do you agree with that?

Ms. KING. Senator Markey, I'm so pleased that you asked. I have good news that we have proposed a rule but have not yet finalized it and in that proposal, we solicited comment, the EPA and NHTSA, on a wide range of options, including the current standard that was issued in 2012.

So we are reviewing the comments now and have not yet selected a final. There is no rollback. There is consideration of 650,000 to 700,000 comments on a very complicated and very important rule.

I'm very pleased to have your enthusiasm for that. To answer your question—

Senator MARKEY. No, no. My enthusiasm is for the auto industry to reach 54.5 miles per gallon. My enthusiasm is not for 650,000 comments to be heard over this question. It is just to continue on the course to solve this problem.

Ms. KING. I am pleased to be representing consumers' interests, as well. I recognize the auto manufacturers have a very important voice. We also want to make sure that consumers' needs and safety are considered as Congress directed me and directed the EPA to consider.

Senator MARKEY. I would just say this, that 13 Federal agencies in November 2018 concluded that if we continue with business as usual, the planet's going to warm by nine degrees Fahrenheit by the year 2100. So from my perspective, this is just not an option.

It also says that the seas are going to rise by 11 feet if we don't take action. So we have the blueprint from all of our own Federal agencies as to the danger. We know that greenhouse gases are the largest cause of it and we also know that this is the largest single reduction that's ever been proposed by any law of any country in the history of the world.

So I just disagree with you, given the urgency of the problem, and if I may say that fuel economy is also pro consumer, it's pro safety, and the rules that are on the books right now are the answer.

I just also want to say to you, Mr. Batory, I know that there has been a withdrawal of the two-person crew rule, but I want to tell you that I'm going to introduce the Safe Freight Act. That legislation would mandate two-person crew safety standards going forward. I think that your agency has abdicated its responsibility to provide oversight and safety rules, but to actively declare that no state could take action, as well, just leaves a regulatory black hole that endangers safety.

Mr. Chairman, I thank you so much.

Senator WICKER. Thank you, Senator Markey.

I have Senator Scott and then Senator Tester.

**STATEMENT OF HON. RICK SCOTT,
U.S. SENATOR FROM FLORIDA**

Senator SCOTT. Thank you, Mr. Chairman.

Mr. Szabat, can you tell me under the—first of all, thank you all for being here and thanks for your hard work.

On INFRA, I guess it allocated \$4.5 billion in grants over the life of the FAST Act for special projects. How much has been spent? Do you know? Any of you know?

Mr. SZABAT. We have that information, Senator. My apologies for not having it here in front of me but we can get that back to you for the record.

Senator SCOTT. If you can get it to me and if you can get it to me by state.

Mr. SZABAT. Of course.

Senator SCOTT. OK. And do you take into consideration the amount of tax revenues, gas tax revenues that come in and how you allocate those \$4.5 billion or not?

Mr. SZABAT. The Discretionary Grant Program—Senator, thank you for the question. This is a good one.

One of the factors that we look at is the local match as opposed to what is being proposed for the grant itself as opposed to the overall tax rate of the state.

Senator SCOTT. Thanks. Mr. Martinez, my father was a truck driver. He'd be real excited now because truck drivers get paid a lot more than what he got paid when I was growing up.

In Florida, you can drive in state from 18 to 20 but you can't cross state lines. I co-sponsored a bill that Senator Young has that allows people to start driving at 18 nationally. What do you think about that?

Mr. MARTINEZ. Thank you, Senator. As you know, the good news is that we have recently undertaken the Under 21 Military Pilot Program at the direction of Congress to study those who've had military experience driving heavy trucks either as they come out of the military, National Guard, Reserves, and we have started engaging with carriers and we need at least 200 participants to begin that pilot program.

We also have an advanced notice of proposed rulemaking out asking for input from the industry as to what should we look at if we were going to move beyond that to a broader population.

Senator SCOTT. So will you take a position on Senator Young's bill or not? I mean, is it typical—I'm new. I've been here 6 months.

Mr. MARTINEZ. Yes. We generally—

Senator SCOTT. Could I ask you all to take a position and give feedback or not?

Mr. MARTINEZ. We generally would not do that. What we will do, as we are doing now, is conduct a pilot program or study to see if we can get some data before we move forward on that, but obviously we want to engage with Congress on this issue because I hear it every day from stakeholders all around the country and we understand that there is a shortage of drivers. So we want to be helpful there but our primary focus remains safety.

Senator SCOTT. Do you have any data to suggest the states that have reduced it to 18, like Florida, that there are, you know, more issues there?

Mr. MARTINEZ. That is the problem that we face, that we don't have hard data on that and that's what we're hoping to get from this pilot program. I take your point that in large geographic states, Florida, California, New York where I'm from originally, you can drive all over the state but you can't cross state borders, and it makes you scratch your head.

The rule has been in place since the 1930s. So it deserves a good hard look now because things have changed. We have new tech-

nologies that may be able to monitor and tell us not all drivers under 21 are the same.

Senator SCOTT. You have a lot more monitoring now. My father would not like to have to fill out all the log books. I think he'd generally fill them out when he got home. So it was probably not the exact way you probably would like.

All right. Thank you, Mr. Chairman.

Senator WICKER. Thank you.

Senator Tester.

**STATEMENT OF HON. JON TESTER,
U.S. SENATOR FROM MONTANA**

Senator TESTER. Thank you, Mr. Chairman.

I want to follow up on what Senator Scott was asking about. Your pilot program deals with 18-year-olds?

Mr. MARTINEZ. It would be under 21, 18 to 20.

Senator TESTER. 18 to 20. Can you tell me what you're measuring since they can't drive across state lines?

Mr. MARTINEZ. So in this pilot program, we would be looking for individuals who have had—they must have had this prior experience in the military.

Senator TESTER. But you're not—look, if they had prior experience in the military, they're not 18 years old anymore.

Mr. MARTINEZ. True.

Senator TESTER. OK. So the point is, is this, because I'm actually a co-sponsor of that bill with Senator Young, if we're going to be able to do this and you want to get accurate information on whether this is right, that pilot program isn't going to tell you what you need to know, I hate to tell you, because you're talking with people probably that had experience driving a truck in the military, Number 1, and, Number 2, they're probably eligible to drive across state lines right now if they want to.

Mr. MARTINEZ. I understand that and that is one of the challenges of the pilot program, honestly.

Senator TESTER. So what I would recommend is because there's an education component to that bill that Senator Young and I have is that you guys try to come forward with an idea on whether you're going to support that or not because I will tell you if the department doesn't support it, we're not going to get it passed in my opinion because everybody's concerned about safety. Just a sidebar.

I just want to say one thing, Ms. King, because I haven't got to any of my questions yet, but Senator Markey talked about the mileage standards and you talked about consumers.

I can tell you when the mileage standards were dropped, I don't know what consumer benefit they got. Oil companies got a benefit. I've got a Peterbilt and I've got a Prius, eight miles versus about 99 miles a gallon because it's a hybrid. I just think this is a huge step—climate change aside, this is a huge step against the consumer.

I mean, gasoline has gone up significantly and, quite frankly, it cuts a pretty good hole in my pocketbook when I fill up my Peterbilt. In fact, you've got to have a damn thick checkbook.

And so I would encourage you to reinstate it where it was. It doesn't make any sense. Everybody else is heading in that direc-

tion. We're the greatest country in the world until we elected President Trump and now we're taking a backseat to everybody. This is crazy and I just can't—Markey and I don't agree on everything, I'll tell you that, but we sure in hell agree on this. This is important.

So, Mr. Batory, I want to talk to you a little bit about Amtrak. There is a component in the FAST Act that allows you to work with on state-supported routes, work with a pretty broad coalition of people on how that's going to work.

Is there the same kind of a committee—you know what I'm saying. I'll explain it out more if you don't. But is there the same kind of a committee for long-distance routes, for Amtrak's long-distance routes to talk about, you know, where you're going?

Mr. BATORY. Senator Tester, I really appreciate that question. It's something that's come to my mind. Now keep in mind—

Senator TESTER. But do we have a committee?

Mr. BATORY. We don't.

Senator TESTER. OK.

Mr. BATORY. And that's—

Senator TESTER. Would you support the establishment of a committee?

Mr. BATORY. I think there's an opportunity.

Senator TESTER. So you'd support it?

Mr. BATORY. You have state-supported under 750 miles. So take that business model, learn from it, maybe expand it.

Senator TESTER. Yes. So you would support it?

Mr. BATORY. I would.

Senator TESTER. OK, good. Can you tell me what the long-term vision is for Amtrak? Now, look, I've been to Europe once and I was at the University of Normandy 5 years ago, but I've got people who go over all the time and they come back and they rave about the train system. It happened again this weekend. They absolutely rave about timeliness, cleanliness, and user-friendliness.

Are we looking to do away with our train service for passenger purposes, with the exception of what's going on in the Eastern Seaboard? Are we looking to expand it and make it better and serve states like Montana to a greater degree because there have been some actions taken by Amtrak and I love the CEO, I understood him and I loved him when he was Delta's president, but he's done some stuff that's really made me upset. Let's just put it that way.

So do we have a long-term plan? Is it to privatize it, do away with it, or is it to make it better?

Mr. BATORY. All you'll get from me is opinion. I can't give you—

Senator TESTER. OK.

Mr. BATORY. I think Amtrak can best answer that question.

Senator TESTER. OK. All right. So last thing. I live four blocks from here. OK. I get in that Prius that gets 99 miles a gallon and I drive here and every time I drive those four blocks, somebody's looking at their damn cell phone when the light turns green and it backs traffic up. Are we doing anything about that and if we are, what are we doing? Excuse me for running over, Mr. Chairman.

Ms. KING. Yes, we are. At NHTSA, we have quite a bit of research. We have programs to educate consumers and support local law enforcement. You know, it's illegal to drive while texting. So

there are distracted drivers in the car. There are distracted drivers on the roads. Some jurisdictions in the U.S. have actually put restrictions on the use of phones while pedestrians are in the road.

So again the local—

Senator TESTER. So other than education, have you done anything?

Ms. KING. Yes, there's education, research on the psychology of the human factors and what policies work to address the problem. They are adopted and implemented with NHTSA support at the local level through our grant programs.

Senator TESTER. OK. Are we doing anything like partnering with insurance companies or high schools or things like that?

Ms. KING. We are talking to insurance companies. With high schools, yes, there are various organizations that use the community of younger people to drive better decisionmaking, whether it be on distracted driving or on impaired driving. We are just now increasing our support because of the importance for youth for driving better decisions.

Senator TESTER. Well, I would just say this and just a sidebar comment. I mean, drunken driving is a huge problem in this country.

Ms. KING. Yes.

Senator TESTER. Text driving may even be above it, to be honest with you, because you got people who have got their hands off the wheel. They got their eyes off the road. It's insanity. We've got to figure out how to do a better job educating folks that this is not tolerated.

Ms. KING. Yes.

Senator TESTER. Thank you very much.

Ms. KING. Thank you.

Senator WICKER. Thank you, Senator Tester.

Senator Blackburn.

**STATEMENT OF HON. MARSHA BLACKBURN,
U.S. SENATOR FROM TENNESSEE**

Senator BLACKBURN. Thank you, Mr. Chairman, and I want to thank each of you for being here and look forward to the work we're going to do with the FAST Act.

Ms. King, I want to come to you first and talk a little bit about autonomous vehicles. When I was over in the House, we had passed the legislation to put in place some parameters and we looked forward to the Senate—I know Senator Thune and Senator Peters have filed legislation that would deal with the AVs, and we know this technology is coming.

We know that some of the pilot projects are going to be taking place, but Congress needs to act and build that framework out. I think it's also an important step for us to take because when it comes to the AVs and the EVs, we want to set the standards for this. We do not want China setting the standards for this. If we don't take that action, we know who will take that action.

So if you will just speak for a minute about NHTSA's involvement, where you are, what's important for you all to engage from the manufacturing process through, well, the design process, the

manufacturing process, and then the rules of the road, if you'll give me 1 minute on that.

Ms. KING. Absolutely. I'm watching my clock. At NHTSA, everything starts with research. We feel very strongly that safety relies on data, science, and engineering, and we have quite a number of research projects not only on the technologies themselves, how they work and maybe where they still need to improve, but also on how humans interact with those technologies because it's important to make sure that human drivers or operators are engaged when they need to be and that systems are safe if a driver is able to disengage.

One of the challenges we have, of course, is that currently there are some advanced technologies that I call fancy cruise control that are on our roads now. They support a driver but the human must still be actively engaged. There is no self-driving car for sale in the United States today.

But those systems, the highly automated vehicles are under development. We're learning together and in anticipation of that, we are at NHTSA evaluating and are taking comment on and assessing our current regulatory regime to make sure we're prepared to safely update regulations.

Senator BLACKBURN. OK. And your pilot project, you're looking at some AVS pilot projects, and where are you in that?

Ms. KING. That's right. We've received comments on a pilot project that could allow for sharing of information and community engagement with the testing of highly automated vehicles and our comments, I'll say roughly that we find there's some confusion about what the purpose of the pilot project is.

So we're reviewing those comments now and will again go back to the public for engagement before we take the next steps.

Senator BLACKBURN. Wonderful. I know Senator Fischer mentioned the hours of service and this is very important and, Mr. Martinez, let me come to you on this.

I'm fully aware that Farm Bureau and other entities have weighed in with you all. Tennessee is a big ag state. Tennessee and Kentucky produce more beef than anyone else east of the Mississippi and what we are hopeful of is that you all will arrive at something that is going to be supported by the ag community, will be workable and just common sense for them and allow some flexibility.

Mr. MARTINEZ. Understood, Senator, and we have been fully engaged with the industry representatives here in Washington and also with our colleagues over at the Department of Agriculture to make sure that we are sensitive to the specific needs of those in the agriculture community and specifically to the livestock community. So we are fully engaged in that.

Senator BLACKBURN. Thank you. I appreciate that and before I let you go and my time runs out, the CDL issue and looking at those that are under 21 being able to drive across state lines, and I appreciate your comments to Mr. Scott, but this is something I think that again common sense needs to be engaged in. The pilot project that you all are moving forward with we'll look forward to hearing about some results on that issue.

Mr. MARTINEZ. Thank you. We will, as soon as we can, get the results out, but also, you know, those in the National Guard and Reserves are under 21. We're hoping to get at least 200 participants that we can monitor and, in addition to that, we do have requests out for more information from stakeholders if we were going to broaden that beyond those who have served in the military to see what we should be looking at.

Senator BLACKBURN. Appreciate that. Thank you.

Senator WICKER. Thank you, Senator Blackburn.

Senator Duckworth.

**STATEMENT OF HON. TAMMY DUCKWORTH,
U.S. SENATOR FROM ILLINOIS**

Senator DUCKWORTH. Thank you, Mr. Chairman. Thank you for holding today's hearing.

As Ranking Member on the Transportation and Safety Subcommittee, I'd appreciate the opportunity to learn more about each of your specific ideas about FAST Act Reauthorization, and I was hoping, Administrator Batory and Mr. Martinez and Ms. King, would you each be willing to commit to meeting with me in the coming weeks to discuss ideas on priorities that you may have for reauthorization?

Mr. BATORY. Yes, Senator, I will.

Mr. SZABAT. Yes, ma'am.

Ms. KING. I would look forward to it.

Senator DUCKWORTH. Thank you. Administrator Batory, as you know, the Illinois Department of Transportation is working closely with Iowa Interstate Railroad to advance the Chicago to Quad Cities Passenger Rail Project.

Will you commit to providing stakeholders with appropriate flexibility to ensure they finalize a deal? I know it's a long time coming, but they need some flexibility. Would you work with me on that?

Mr. BATORY. Yes, Senator. I have been very involved in that since the spring of last year and I think we see light at the end of the tunnel.

Senator DUCKWORTH. Thank you. Mr. Szabat, unless you have an answer at your fingertips, would you get back to me in writing as to whether or not U.S. DOT has any plans whatsoever to claw back Federal funding for this critical rail project?

Mr. SZABAT. We'll be happy to get back to you, Senator.

Senator DUCKWORTH. Thank you. Obviously I would strongly object to any such action. I hope it's only a rumor and a false one at that.

Ms. King and Mr. Martinez, the Road to Zero Coalition, led by the National Safety Council and in partnership with NHTSA, FMCSA and over 900 other members, is laying out strategies to end roadway deaths by 2050.

Yes or no. Are you both still 100 percent committed to eliminating roadway deaths by 2050 as a goal?

Ms. KING. We continue to partner with that very important group. They come up with innovative strategies and the combined power of the partners are where I think a lot of the innovations will come to get us to the zero goal.

Senator DUCKWORTH. Thank you. Mr. Martinez?

Mr. MARTINEZ. That remains our goal. One death is one too many.

Senator DUCKWORTH. Thank you. And is it still, Ms. King, NHTSA's policy that every child on every school bus should have a three-point safety seatbelt?

Ms. KING. So it is our policy that everybody should be safe on our roads. As Mr. Martinez said, Administrator Martinez, one death is one too many, yes.

Senator DUCKWORTH. Thank you. Administrator Batory, as you know, Senator Durbin and I have been working with Amtrak, Canadian National, and IDOT, the Illinois Department of Transportation, to address signal activation issues, known as short shunting, on the rail corridor in Illinois that impacts Amtrak's on-time performance.

While all stakeholders are working in good faith, most observers agree that more active and direct involvement by FRA is necessary to identify permanent long-term solutions because different people have different explanations as to why. I do think FRA's heightened increased involvement is really going to be vital to us moving forward on this.

Will you direct your staff to play a more active role in these discussions?

Mr. BATORY. Yes, Senator. They're already actively involved and when it came to my knowledge last year, I was highly surprised about how long the tail is on this, over 5 years,——

Senator DUCKWORTH. Yes.

Mr. BATORY.—and it's frustrating. I speak personally about that.

Senator DUCKWORTH. I've been on those trains. It's very frustrating when you're on them.

Mr. BATORY. Well, the thing of it is, something needs to be resolved, and at this juncture, my outlook on it, it has taken on a life of soap opera and you only have to study things so much, finally you got to do something.

Senator DUCKWORTH. I think your leadership, FRA's leadership is going to be really critical on that. So perhaps you could commit to asking your staff to double down and let's get this resolved.

Mr. BATORY. Yes, ma'am.

Senator DUCKWORTH. Thank you.

Mr. Szabat, the President's Executive Order 13771 requires Federal agencies to eliminate two regulations for every new regulation that's created.

Can you guarantee that this Executive Order has not delayed implementation of critical safety-related regulations at DOT?

Mr. SZABAT. Senator, yes, I can. I think we in the department are very proud of our record, in fact, of deregulation and of the deregulation actions that we've taken, our actions save money as well as either do not adversely affect or actually promote more safety.

So, I mean, just one out of dozens of examples, FAA's Rotorcraft Pilot Compartment View, we eliminated a requirement to save more than \$525 million for the operators and yet actually makes it easier for them to achieve safety standards.

Senator DUCKWORTH. So are you saying that no safety regulation has been delayed in implementation because you're looking for two other regulations to eliminate first?

Mr. SZABAT. That is true, to my knowledge. If I find out otherwise, I will get back to you.

Senator DUCKWORTH. Thank you. Mr. Szabat, Senator Perdue and I included a requirement in last year's FAA Reauthorization Act for U.S. DOT to report to Congress within 9 months on the benefits of expanding the TIFIA Program to include certain airport projects. Reauthorization passed more than 8 months ago.

Do you expect the report to be completed on time and will you commit to delivering copies to my office and to Senator Perdue's office when it's finalized?

Mr. SZABAT. In reverse order, Senator, yes, we will commit to delivering copies of the report both to you, to Senator Perdue, and to any other Member of Congress who's interested in seeing that.

We are currently working on the draft of the report. So I cannot commit that we will exactly meet the deadline but if we miss it, we won't miss it by much.

Senator DUCKWORTH. Thank you. I'm over time, Mr. Chairman.

I do have more questions but in the interest of time, I will submit them for written responses.

Senator WICKER. Thank you, Senator Duckworth.

Senator Blumenthal.

**STATEMENT OF HON. RICHARD BLUMENTHAL,
U.S. SENATOR FROM CONNECTICUT**

Senator BLUMENTHAL. Thanks, Mr. Chairman. Thank you all for being here.

Administrator Batory, you and I last October discussed the Gateway Project and if you will recall during that hearing before this committee, you told me we should expect to see a final environmental impact statement and record of decision, and I'm quoting, "in the first or second quarter of 2019."

You also committed to provide me with a more specific answer in writing. We're 8 months later, almost halfway into 2019. I have still heard nothing on the final EIS and the record of decision for Gateway.

The completion of the EIS is critical to preventing costly delays and ensuring that the project moves forward quickly to construction and the further delays risk the shutdown of one or both of the existing 108-year-old tunnels.

I don't think I need to emphasize or even articulate to you or anyone else in this room the importance of this project. They are 108 years old. They would have required this project even without the storms that did further damage to this vital artery.

I would like to ask again and would you please be more specific when we can expect that the final EIS and the record of decision for the Gateway Tunnel Project will be done?

Mr. BATORY. Yes, Senator. Two things, and one, I want to just take 15 seconds and apologize to you.

The last time we had a hearing, inadvertently I shared with you everything I knew about that subject matter and I kind of ran the clock on you. You said you were going to send me a letter and then I followed up to find out that letter had never been responded to. So I have to wear it. I failed.

Senator BLUMENTHAL. Well, I more than accept your apology, but—

Mr. BATORY. Now here's the thing.

Senator BLUMENTHAL.—I'm interested in the—

Mr. BATORY. Exactly. We've assembled a timeline and, by the way, Hudson Tunnel had its three-year birthday last month, starting May 2016.

Last fall, I asked for documentation to walk me through from May of 2016 all the steps that had been completed and what steps had to be completed. I get updated monthly. It resides in the Policy and Development, in the Legal Sections of FRA, as far as doing, if you will, further vetting of the Draft EIS.

We have 95 processing steps completed behind us. There are another 27 yet to be completed. One could do the math and say does that mean another year? I don't know. But I can look you in the eye and everybody that's interested about this Hudson Tunnel that it is actively being worked on. It's not on my desk with a paperweight on it. It's not upstairs on the 9th Floor anywhere in OST with a paperweight on it. Everybody's working.

Now just one piece of color. The Portal Bridge is a 10-year NEPA process for \$1.6 billion. It's ready to go but there's no funding and right up the street where the Virginia Avenue Tunnel started out with an EA, ended up with an EIS, 120 million private funds, ran over 400 million, and it took 10 years for an EIS.

Now one of the things I find interesting and somewhat frustrating is the process and the time in which these NEPA projects take, not just the Hudson Tunnel, all of them.

Senator BLUMENTHAL. The general complaint, and I apologize for cutting you off, but I have limits on my time, and I'm trying to tell you I'm disappointed in this response because you have not given me a time by which any of this work will be done and time is essential to this project.

This is a vital artery under the Hudson that carries commerce, freight, passengers, rail, and it is in danger of physically collapsing. It would cripple the economies of New York, New Jersey, and states that adjoin them, maybe the entire East Coast, and I will give you another chance to respond in writing with a more definite date.

I don't mean to be unfair. I'm not blaming you alone, but the buck has to stop somewhere on this project, and I will put this point again in writing to you and I hope that you will respond.

I'd like to ask finally all the members of the panel. As you know, I've been an advocate of prompt deadlines to meet full implementation of positive train control. The FAST Act Reauthorization presents an opportunity for Congress to prompt railroads to complete this work through additional fines, penalties, and other means of encouragement.

What do members of this panel believe should happen if railroads fail to meet that deadline that is the 2020 deadline?

Mr. BATORY. First, I'm not looking forward to any failures. That's not to say there may not be some failures and we are being very proactive. Starting with First Quarter 2017, we've made several inroads.

As far as any particular railroad that fails to complete the statutory and regulatory requirements, I have been an advocate from day one that the FRA should assess nothing less than, my quote, “full retail” in the way of fines and violations.

Now you could question that, but if a railroad fails come 1/1/21, all we can do is send violations and assess fines. It is on January 1, 2022 statutorily that FRA can then start invoking conditions of operation on railroads that still don’t have PTC in place.

The one thing that I am very pleased to report to you is that the men and women of this country that are employed in this railroad industry and that lead, maintain, and operate it daily are doing an exceptionally good job in their fulfillment of operating a safe network and the commuter railroads have improved considerably.

Now on July 12, and this is one that really has a lot of my concern, we’re going to have a meeting with everybody that resides in a corner office, starting with Amtrak and all the commuter railroads on the Northeast Corridor, and in some instances, the chairman will be there, Chairman Coscia will be there, Chairman Foy will be there, and the issue is to apprise everybody where we’re at and let them go back to their home offices and if they think they’re going to fail on delivering on 1/1/21, then they need to start thinking about coming up here and meeting with yourself and your colleagues and explaining to them why they’re going to fail.

But I’m not going to wait till the fourth quarter of next year to raise that flack.

Senator WICKER. Mr. Blumenthal, will it be all right if anyone else wants to answer, if they do so on the record?

Senator BLUMENTHAL. I would appreciate that, and I apologize, Mr. Chairman. I’ve gone over my time. Thank you.

Senator WICKER. Thank you very much. A good series of questions.

Senator Peters.

**STATEMENT OF HON. GARY PETERS,
U.S. SENATOR FROM MICHIGAN**

Senator PETERS. Thank you, Chairman Wicker, and to our folks who are testifying here today.

First, I want to express my appreciation to you, Mr. Chairman, as well as to Ranking Member Cantwell, for your support of legislation that I’m writing and working closely with Senator Thune related to the deployment of self-driving vehicles. I appreciate your interest in that topic and your willingness to work closely with us.

I’m glad that we’ve been able to have some bicameral, bipartisan discussions with colleagues in the House, as well, and I look forward to our continuing work together through the Surface Reauthorization effort to make some meaningful progress in this area, if possible.

My first question is to Deputy Administrator King. I understand there are now at least three petitions to NHTSA for exemptions from Federal Motor Vehicle Safety Standards for self-driving technologies and I’m sure you’re going to have many more to come in the weeks, months, and years ahead.

But I’m concerned that under current law and the currently available exemption process will not enable the agency to acquire

the robust data that's needed to inform safety regulations in the future nor does it provide a stable regulatory signal to help spur business investment in this rapidly-emerging area.

So my question to you is what other options does NHTSA have under existing authority to help facilitate the safe testing and deployment of autonomous vehicles?

Ms. KING. Senator, thank you for that question.

I agree with you, I share that concern because we're also excited about the potential of these technologies to assure safety on our roadways as well as to create economic benefits, give us some time back.

I'm aware of only two petitions for exemption from FMVSS and those two have been open for public comment. We are learning from the public comments submitted to us now, but to answer more directly your question about what other tools NHTSA has in its toolbox, we are already opening the dialogue around how do we update our processes, which are cumbersome and outdated.

We've already removed the completion step and review of the two petitions we just discussed. We are also considering other tools in our regulatory toolbox where under our existing congressional authorities we can streamline the processes.

As you mentioned, data engineering is absolutely going to be required to assure that we make safe decisions while allowing new technologies to come to our roadways. We have both the opportunity perform our own research, which we continue to do, also to learn from the field experiences from those who are testing on our roadways, and in pulling that information together, we can identify gaps, fill those gaps, and move forward together more quickly.

We are still in the testing and development phase. We're still learning and we're hesitant to make conclusions too quickly during this testing and development phase because we don't want to discourage the innovation, but we prioritized safety overall and continue to learn together.

Senator PETERS. Thank you. Another question for you. As you know, the FCC, Chairman Pai has announced interest in taking a "fresh look" at the 5.9 gigahertz band, yet as NHTSA has publicly noted, the 5.9 band consists of seven channels, all of which are currently used not just by the auto industry but by states, by municipalities for purposes of testing vehicles to everything, V2X, communications which will enhance public safety dramatically.

These safety investments have been funded in part through tens if not hundreds of millions of dollars in Federal taxpayer money, as well.

So if you could for the record share NHTSA's perspective on the potential interference concerns associated with spectrum sharing in the 5.9 gigahertz band that'd be appreciated.

Ms. KING. Absolutely. We are very committed to preserving all seven channels, all 75 megahertz for transportation safety applications across the transportation system.

We are still doing research on interference together with FCC and NTIA. We are now in Phase 2 and that's a track testing. We expect to have some findings by late summer and then we'll move into Phase 3 should those findings be positive.

I want to flag that someone very, very visionary 20 years ago held this spectrum. That was back in the day when we were still dreaming of 3G. We held that spectrum. We have had experts not only within the Federal system but also in the private sector designing protocols, building technologies, designing boxes and only last year finally issuing registration and security requirement protocols.

Now after 20 years of designing and building this fantastic life-saving technology, it would be a terrible thing to see it reallocated to other uses. One doesn't decide to build a dream house, design and build the dream house, furnish it, and then decide not to move in because you weren't living there while it was being designed.

So now is the time after 20 years of effort to take advantage of this life-saving technology, to fully occupy that technology. The one thing we need is to remove a technology requirement that is in FCC's regulations that restricts only DSRC technologies to be used on the band and allow for other technologies, to technology-neutral so that superior technology can deploy.

Senator PETERS. Well, I'm out of time, Ms. King.

Ms. KING. I'm sorry.

Senator PETERS. A quick question, which I think will require a really quick answer because it's based on what you just said—

Ms. KING. I'll try.

Senator PETERS.—about the testing phase. Chairman Pai suggested last week that Phases 2 and 3 of testing of the 5.9 band to assess interference had not taken place because the Department of Transportation had not elected to do so. It sounds like you are actually doing it. You are doing Phase 2 and 3 and you expect to complete those for the record?

Ms. KING. Phases 2 and 3 were supposed to be and will and are informed by Phase 1. The FCC had ownership of managing Phase 1. That report was only issued, I think it was late last year, at which time we agreed with FCC, why don't you let DOT lead the next one? So we're moving quickly because we care a lot.

Senator PETERS. Great. Thank you.

Senator WICKER. Thank you very much.

Senator Udall.

**STATEMENT OF HON. TOM UDALL,
U.S. SENATOR FROM NEW MEXICO**

Senator UDALL. Thank you, Mr. Chairman. Really appreciate you doing this hearing.

In 2017, 10,874 people died of drunk driving. That's nearly 30 percent of all traffic fatalities. That's thousands of lives needlessly lost and families destroyed.

I've been working to bring down the number of drunk driving deaths since I was Attorney General of New Mexico in the 1990s.

There's now a technology that could bring this number closer to zero than we have ever seen. My legislation, the ROAD SAFE Act, authorized and funded the testing of Driver Alcohol Detection System for Safety, otherwise known as DADSS. This technology automatically detects when a driver is intoxicated with a blood alcohol concentration above the legal limit and prevents the car from moving.

On April 12 of this year, I wrote to all car manufacturers that they have represented that they have an interest in making the technology available to their customers. I asked whether they are working with the National Highway Traffic Safety Administration to test the technology and if they are not planning to use this technology to prevent drunk driving, I asked their reasons for not doing so and whether they are pursuing other measures to reduce drunk driving fatalities.

I request that a copy of my letter and the responses that I received be placed in the hearing record, Mr. Chairman.

Senator WICKER. Without objection.
[The information referred to follows:]

April 12, 2019

ANDERS GUSTAFSSON,
House of Sweden,
Washington, DC.

Dear Mr. Gustafsson:

Alcohol-impaired driving continues to be the leading cause of highway fatalities—10,874 out of 37,133 in 2017, the last year for which data is available from the National Highway Traffic Safety Administration (NHTSA) and costs approximately \$194 billion. This represents 29 percent of highway deaths in that year. While this level of tragedy is below past decades, thanks to tireless advocacy work, this scale of preventable death should be totally unacceptable to our society, and I am extremely concerned that drunk driving fatalities are once again on the rise.

I have been involved in drunk driving prevention throughout my time in public service, and continue to have a strong interest in eliminating drunk driving through my work on the Senate Commerce, Science and Transportation and the Senate Appropriation Committees. With recent technology advances, I believe this goal is within reach.

The concept of an advanced drunk driving prevention research and development project was launched in New Mexico at a Mothers Against Drunk Driving Conference in 2006, with formal work beginning in 2008. I was pleased to work with all stakeholders, including automakers, to advance this exciting project by authoring the ROADS SAFE Act, which authorized and funded the program now known as DADSS (Driver Alcohol Detection System for Safety). This legislation, which was supported by a wide variety of interests, including automakers and elements of the alcohol industry, is one of my proudest legislative achievements.

Since 2008, the DADSS program has been undertaken by NHTSA and auto manufacturers, including your company, through the Automotive Coalition for Traffic Safety (ACTS). It began with equal funding from the public and private sectors, but is now primarily supported with government funds.

As the research phase nears its completion in Fiscal Year 2020, I strongly urge your company to capitalize on that progress and integrate this life saving technology into as many vehicles available to the car buying public as soon as possible. There is a potential to save as many as seven thousand lives annually, potentially the greatest automotive safety improvement since the universal deployment of seatbelts, making this effort well worth your serious attention and investment. Including this technology is especially important as each of your companies expand work and deployment of semi-autonomous vehicles which may encourage increased drunk driving.

As you may be aware, following a tragic crash in which five members of a Detroit area family were killed by a wrong way drunk driver in Kentucky, Representative Debbie Dingell of Michigan has introduced legislation which calls for a standard to prevent intoxicated drivers from operating a vehicle within a year of enactment. I am strongly considering proposing similar legislation in the Senate to advance drunk driving protection technology in the marketplace.

To assist the Senate Commerce Committee's understanding of the results of the DADSS program and legislative options to commercialize this technology, I respectfully request your company's response to the following:

- What plans does your company have to incorporate the DADSS technology, or other similar technology to prevent the intoxicated operation of a motor vehicle, into your commercially available vehicles?

- How has your company worked with NHTSA to test such technology?
- When could your company deploy this technology in all of your commercially available vehicles?
- If your company does not have a current plan for mass deployment, please cite the reasons why and other efforts you are undertaking to reduce drunk driving fatalities.

Please respond to this request in 30 days.

I look forward to your response and encourage you to contact me or Meagan Foster of my staff at 202-224-6621 for any questions or follow up discussion.

TOM UDALL,
United States Senator.

CAR COMPANIES RESPONSES TO DADDS LETTER

BMW:

Supports the ACTS letter and “BMW NA has been a supporter of its research into the development of noninvasive technologies to prevent alcohol-impaired driving fatalities on U.S. roadways. The DADSS program research has made progress in the development of two technologies: a touch—based and a breath—based system. BMW is closely monitoring the progression of these technologies towards commercially viable solutions.”

“For successful deployment in privately owned and operated vehicles, several years of additional research will be required beyond 2020 for the technologies to mature to achieve DADSS performance specifications. Continued joint funding of the DADSS program, in part through extending the FAST act authorization is important to bringing the years of research to a successful culmination. BMW NA will continue to support and actively monitor the research and development of DADSS research program.”

Fiat Chrysler:

No Response

Ford:

Supported the ACTS response as well as provided a very detailed response to the questions posed. While they have been an active participant in the testing program—they do not have any plans for integration into their vehicles. Their Ford Fusion vehicles will be used in the Maryland trials and Ford is providing technical and program guidance to the DADDS team. They believe that the software should be available for private cars by 2023 or 2024.

General Motors:

Support the ACTS letter. They have donated 41 Chevrolet Malibu cars to the field testing program for DADDS.

Honda:

Stated they have been a long supporter of the DADDS program and participated directly with the ACTS coalition, but does not detail their contributions. Additionally, they used the same language that the ACTS response did as it relates to concerns about public rejection of the technology if it is done incorrectly.

“Once the research on these technologies is completed, the next issue will be how best to deploy it. We are mindful of the strong public backlash in the 1970s to ignition interlocks that prevented a vehicle from being started without the front seatbelts being buckled. In fact, the outcry was so great that Congress passed a law prohibiting the Department of Transportation from mandating those systems in future vehicles. Before deploying DADSS technology, or other similar drunk driving protection technology in every vehicle, we need to be certain that the public will not reject them.”

Hyundai:

No Response

Jaguar Land Rover:

No Response

Kia:

Their affiliate company, the Hyundai-Kia Technical Center in Ann Arbor has committed over a million dollars and technical resources to the DADDS program. They

believe that the integrated system should be ready by the end of 2024. They cautioned against forced integration with the following language:

“We will need to study the technology and understand its shortcomings before committing to a plan for mass deployment. We are mindful of the public backlash created when the Federal government mandated seatbelt interlocks, which undermined the rollout of that technology. We support a voluntary deployment of a commercially viable program that is driven by consumer demand. We are proud of our participation in DADSS and believe our efforts in that regard will reduce drunk driving fatalities.”

Mazda:

Participates in the ACTS coalition, but does not specify the amount of money or time they have given to the testing.

Mercedes Benz:

“The development of DADSS technologies is moving forward. Significant progress has been made, but much work is left to do to ensure technologies are accepted and used by consumers.”

“MBUSA fully aligns with the sentiments expressed by Automotive Coalition for Traffic Safety (ACTS)—[of which MBUSA is a member]—in their letter.”

Mitsubishi:

No response

Nissan:

“While DADSS has made significant progress on developing the base alcohol detection and measurement technology, important development steps remain to prove the technology’s operation and reliability in the automotive environment. Additionally, the footprint of the existing prototypes must be reduced given automotive packaging considerations, and the ability of the supply chain to manufacture the technology at scale must be proven out.”

“Nissan supports the letter submitted by ACTS—[of which Nissan is a member]—in response to your request, and requests that strong consideration is given to the legislative options offered in that submission. In particular, it is imperative that Congress continue to support budgetary measures that ensure the continuation of the ongoing work of the DADSS program; this includes lifting the FAST Act 2020 funding cap for the DADSS Program, as well as supporting the extension of the current budgetary authorization for at least four years.”

Porsche:

No response

Subaru:

“Subaru is a member of the DADSS Program, a collaborative project with National Highway Traffic Safety Administration, and has contributed funding as well as in-kind manpower from our engineering staff to support the DADSS Program.”

“At this time, we [Subaru] have no concrete deployment plan for the technology as further research is necessary for widespread deployment of the technology and consumer acceptance has not yet been proven to be sufficient level to influence driver behavior.”

Toyota:

“The DADSS Program is in the invention phase, with current testing estimated to deliver a technology transfer of a fleet and accessory specification version in 2020 to vehicle integrators.”

“Toyota plans to continue to evaluate this and any other technologies that can address this safety issue. We believe that carefully incorporating technologies in a way that maximizes customer acceptance will also lead to the most safety benefits.”

“We support the content of the enclosed letter from ACTS. . . .”

Volkswagen:

No response

Volvo:

“Volvo Cars believes intoxication and distraction should be addressed by installing in-car cameras and other sensors that monitor the driver and allow the car to intervene if a clearly intoxicated or distracted driver does not respond to warning signals and is at risk. That intervention could involve limiting the car’s speed, alerting the Volvo on Call assistance service and, as a final course of action, the car would eventually intervene and safely park on the side of the road.”

“Volvo Cars is part of the ACTS which has been working with NHTSA to research, test and validate the DADSS technology. Volvo Cars fully informs NHTSA on our current and future technology and research plans on a regular basis.”

“Volvo Cars will continue to evaluate the DADSS technology, once the necessary verification and validation testing and research are complete.”

FORD WORLD HEADQUARTERS
Dearborn, MI, May 09, 2019

Hon. TOM UDALL,
U.S. Senate,
Washington, DC.

Dear Senator Udall:

Re: Letter Dated April 12, 2019, to Ford Motor Company CEO Jim Hackett Regarding Alcohol-Impaired Driving

Thank you for your recent letter and long-standing leadership and dedication to preventing alcohol-impaired driving. We welcome the opportunity to share how we continue to make vehicle safety a top priority for Ford. The Automotive Coalition for Traffic Safety, Inc. (ACTS) is also providing a response to your letter on behalf of its members, and Ford, as an ACTS member, supports that response.

As the response from ACTS details, the Driver Alcohol Detection System for Safety (DADSS) technology referenced in your letter is still in the “invention stage,” and therefore, it is not ready for implementation across the commercially available fleet of vehicles in the United States. The readiness of DADSS-like technology for incorporation into privately-owned and operated motor vehicles is several years away and would be further enabled by extension and/or enhancement of the FAST Act authorization to support ongoing research and development of reliable, automotive-grade technologies for detecting alcohol impairment of a vehicle operator.

Ford, individually and as a member of ACTS, will continue to support and contribute to the development of DADSS and/or other similar technologies by conducting scientific studies at our Research and Innovation Center, providing technical and financial support, and supplying vehicles for testing. Additionally, Ford supports the legislative options outlined in the response from ACTS that can be pursued now as the automotive safety community addresses the technical and practical challenges associated with developing and validating reliable, mass-production driver alcohol-level detection systems.

I want to assure you that the safety of our customers is a primary focus at Ford. One example of our commitment to helping people become safer drivers is Ford’s “Driving Skills for Life” (Ford DSFL) program that was formed sixteen years ago, in partnership with the Governors Highway Safety Association. This program aims to reduce the number of people killed in vehicle crashes, the leading cause of death for teenagers in the United States and much of the world. Ford DSFL teaches newly licensed drivers necessary skills beyond standard driver education programs. Lessons on speed awareness, distracted driving, vehicle handling, and the simulated effects of drugs and alcohol are delivered through hands-on courses, classroom sessions and an interactive online training center. Ford DSFL is currently active in forty-three countries.

With respect to impaired driving, Ford DSFL includes sessions on the dangers of driving under the influence, and participants at many of our clinics can try our innovative “Drunk Driving Suits” and “Drug Driving Suits,” and in some courses, the “Hangover Suit.” These ‘suits’ simulate the sensations of substance abuse that can alter a person’s ability to safely operate a motor vehicle, such as reduced reaction times, impaired vision, and compromised coordination.

Ford’s responses to your questions are provided in Attachment I to this letter. We appreciate the opportunity to engage with you and other policymakers on the important issues related to safety on our Nation’s roadways. If you should have any questions, please contact Desi Ujkashevich (313-845-4320, dujkashe@ford.com) or Curt Magleby (202-962-5392, cmagleb1@ford.com).

Sincerely,

KIMBERLY PITTEL,
Group Vice President,
Sustainability, Environment
& Safety Engineering,
Ford Motor Company.

Attachment

Question 1. What plans does your company have to incorporate the DADSS technology, or other similar technology to prevent the intoxicated operation of a motor vehicle, into your commercially available vehicles?

Ford has been a very active participant in the DADSS Program since its inception. Ford, together with other original equipment manufacturers (OEMs), has developed a comprehensive “DADD Performance Specifications for Automotive Applications,” which is critical to validating the reliability and robustness of the technology.

To enable early adoption, Ford along with other DADSS members, have developed a roadmap for the first release of a DADSS commercial derivative for fleet vehicles and accessory applications of the breath-based DADSS technology. Ford is in the process of building a DADSS demonstration platform to share the technology capability and awareness with the fleet customers. Additionally, Ford is exploring proprietary methods to enable communication with third-party alcohol detection devices.

As detailed in the ACTS response, the development and validation of DADSS is still early in the process. Based on this status, Ford does not have plans to implement DADSS and/or similar technologies into vehicles at this time. However, we are actively supporting the DADSS Program, and although we do not have DADSS technology in our current product plans, we will reevaluate as the technology advances.

Question 2. Has your company worked with NHTSA to test such technology?

Ford has been working extensively with NHTSA and other OEMs through the DADSS Program. We are currently assisting the DADSS Program with installation of the technology in Ford Fusion sedans for a Maryland Department of Transportation field trial. Ford will continue to evaluate and monitor the progress of this DADSS initiative.

In addition, Ford has provided technical and program guidance to the DADSS team, including helping to develop:

- Performance specifications, including device measurement and robustness targets
- Technology assessments
- Development and analysis of ‘real-world’ fleet trials
- Engagement with the supplier base to help facilitate deployment after the technology is fully developed and validated
- Human response studies at McLean Hospital (Harvard Medical School Affiliate).

Questions 3 and 4. When could your company deploy this technology in all of your commercially available vehicles?

If your company does not have a current plan for mass deployment, please cite the reasons why and other efforts you are undertaking to reduce drunk driving fatalities?

Based on the early development status of DADSS and/or similar technologies, there is no reliable, validated, automotive-grade, commercially available driver alcohol-level detection system that OEMs can mass deploy at this time. However, Ford remains committed to the DADSS Program, and as the prove-out of this technology advances, we will reevaluate the future implementation readiness of DADSS and/or similar systems.

As outlined in the ACTS response, the DADSS Program is currently targeting the release of a derivative for privately-owned and operated vehicles for the breath-based technology by 2023 to 2024 based on the reauthorization of the FAST Act. Ford will continue to monitor and work to support the success of the DADSS Program.

Through partnership with other OEMs, NHTSA, MADD, and other key stakeholders, Ford will work to increase awareness of DADSS technology among fleet operators and the public, and we support the legislative options outlined in the ACTS response.

Ford also believes that getting the message about the dangers of impaired driving to the next generation of drivers is imperative. Therefore, our Ford “Driving Skills for Life” (Ford DSFL) teenage driver education program includes sessions on the dangers of driving under the influence, and participants at many of our clinics can try our innovative “Drunk Driving Suits” and “Drug Driving Suits,” and in some courses, the “Hangover Suit.” These ‘suits’ simulate the sensations of substance abuse that can alter a person’s ability to safely operate a motor vehicle, such as reduced reaction times, impaired vision and compromised coordination.

Ford DSFL was formed sixteen years ago, in partnership with the Governors Highway Safety Association. This program aims to reduce the number of people killed in vehicle crashes, the leading cause of death for teenagers in the United

States and much of the world. Ford DSFL teaches newly licensed drivers necessary skills beyond standard driver education programs. Lessons on speed awareness, distracted driving, vehicle handling, and the simulated effects of drugs and alcohol are delivered through hands-on courses, classroom sessions and an interactive online training center. The program's training sessions are adapted to reflect the unique environments, cultures, and driving conditions in different markets around the world. Ford DSFL is currently active in forty-three countries.

HONDA
HONDA NORTH AMERICA, INC.
Washington, DC, May 24, 2019

Hon. TOM UDALL,
United States Senate,
Washington, DC.

Dear Senator Udall:

Mr. Shinji Aoyama asked that I respond to your letter of April 12, 2019 regarding countermeasures to address the tragedy of deaths and injuries on our Nation's highways attributed to alcohol-related driving. You are justifiably proud of your efforts to address this problem, including the ROADS SAFE Act.

Alcohol-related crashes have plagued our highways from the beginning of the automobile. It was for this reason that Honda and virtually the entire auto industry have been enthusiastic about the development of a technological solution to address the problem. Honda has been a long-standing contributor to the NHTSA–ACTS partnership and has participated directly in the evolution of the project and the underlying technologies.

As you know, two separate technologies are being explored for the Driver Alcohol Detection System for Safety (DADSS)—one system which passively analyzes the driver's breath and a second based on assessing blood alcohol content based on touch. While progress is being made, significant research is still needed to address the remaining challenges with both technologies, including reliability, packaging and cost, before they can be considered for deployment. Our assessment is that while the breath-based system is further along on the development continuum, there is still work to be done on both.

Once the research on these technologies is completed, the next issue will be how best to deploy it. We are mindful of the strong public backlash in the 1970s to ignition interlocks that prevented a vehicle from being started without the front seatbelts being buckled. In fact, the outcry was so great that Congress passed a law prohibiting the Department of Transportation from mandating those systems in future vehicles. Before deploying DADSS technology, or other similar drunk driving protection technology in every vehicle, we need to be certain that the public will not reject them.

We share your commitment to rid the roads of alcohol-related deaths and injuries. Towards this end, we intend to continue working with other automakers and NHTSA to identify the most effective and viable solutions.

EDWARD B. COHEN,
Vice President,
Government & Industry Relations.

NISSAN NORTH AMERICA, INC.
Franklin, TN, May 24, 2019

Our Ref: W-2090-B

Hon. TOM UDALL,
U.S. Senate,
Washington, DC.

Re: Driver Alcohol Detection System for Safety (DADSS)

Dear Senator Udall,

Nissan North America, Inc. ("Nissan") welcomes the opportunity to respond to the questions posed in your letter to Hirota Saikawa dated April 12, 2019. Your letter discussed alcohol-impaired driving and the work of the Driver Alcohol Detection System for Safety (DADSS) program, and posed questions regarding Nissan's plans to deploy technology developed by the DADSS program.

Nissan appreciates your continued leadership toward the elimination of drunk driving. Alcohol-impaired crashes are a significant motor vehicle safety issue. In addition to supporting the development of advanced alcohol detection technology through the DADSS program, Nissan is a sponsor of a teen driver safety initiative called "ThinkFast!" to help educate teens about safe driving practices, including the risks associated with impaired driving.

Nissan is a member of the Automotive Coalition for Traffic Safety (ACTS), and has supported the DADSS program since its inception. From the beginning, DADSS was understood to be a significant undertaking given the technical development challenges and consumer acceptance requirements for the performance of the technology. When complete, the output of DADSS will be the very definition of cutting-edge, with a performance envelope unmatched by any existing in-vehicle alcohol detection equipment.

While DADSS has made significant progress on developing the base alcohol detection and measurement technology, important development steps remain to prove the technology's operation and reliability in the automotive environment. Additionally, the footprint of the existing prototypes must be reduced given automotive packaging considerations, and the ability of the supply chain to manufacture the technology at scale must be proven out.

Nissan supports the letter submitted by ACTS in response to your request, and requests that strong consideration is given to the legislative options offered in that submission. In particular, it is imperative that Congress continue to support budgetary measures that ensure the continuation of the ongoing work of the DADSS program; this includes lifting the FAST ACT 2020 funding cap for the DADSS Program, as well as supporting the extension of the current budgetary authorization for at least four years.

Nissan cannot determine a plan to incorporate the DADSS technology into our customers' vehicles until the technology has completed the development process, including a careful evaluation of consumer acceptance. We look forward to supporting the DADSS program through the next phase of development and would appreciate your continued support of the program.

Sincerely,

SELIM HAMMOUD,
*Director, NNA Safety Officer,
 Product Safety, Environmental, FOA,*
 Nissan North America, Inc.

NORTH AMERICAN SUBARU, INC.
Camden, NJ, May 10, 2019

Hon. TOM UDALL,
 United States Senate,
 Washington, DC.

Dear Senator Udall:

North American Subaru, Inc., on behalf of SUBARU Corporation and Subaru of America, Inc. (collectively herein "Subaru"), hereby provides an attached response to your letter dated April 12, 2019, concerning our efforts for preventing drunk driving.

Safety is our first and foremost priority at Subaru and we commend your strong leadership, including your support for the Driver Alcohol Detection System for Safety ("DADSS") Program authorization and funding to eliminate drunk driving. As you alarmed in your letter, drunk driving remains to be a significant safety concern, claiming approximately 10,000 lives and costing \$194 billion every year in the U.S. The tragic deaths of the Abbas family (Issam (42), Rima (38), Ali (13), Isabella (12), and Giselle (7)) is an important reminder that crashes are preventable which strengthens our commitment to continue rigorously working towards our overarching zero-fatality vision.

We appreciate an opportunity to express our approach for this critical issue and as a member of the Automotive Coalition for Traffic Safety, Inc. ("ACTS")¹, Subaru supports a response submitted by the ACTS.

¹ACTS is wholly funded by a diverse membership which includes companies headquartered in the U.S., Europe and Asia—BMW, Fiat Chrysler Automobiles, Ford, General Motors, Honda, Hyundai, Jaguar Land Rover, Kia, Mazda, Mercedes-Benz, Mitsubishi, Nissan, Porsche, Subaru, Toyota, Volkswagen and Volvo

Should you have any questions regarding our response, please contact me at (856) 571-4058 or hkam@subaru.com.

Sincerely,

HIRO KAMAGAMI,
Vice President, Government Relations,
Washington, DC Office,
North American Subaru, Inc.

HK/ms Attachment

Attachment

In order to realize our vision, Subaru has been working on driver assist technology for nearly 30 years. In 2012, Subaru introduced driver-assist technology called EyeSight to the U.S. market, which uses the world's first stereo-camera one technology with numerous functionalities for improving safety, including ACC (Adaptive Cruise Control), FCW (Forward Collision Warning), AEB (Automatic Emergency Braking), LDW (Lane Departure Warning), and Active Lane Keeping. All Subaru vehicles will have EyeSight as standard equipment by 2022 to help improve the Nation's road safety.

We believe that existing advanced driver assist systems (ADAS) such as EyeSight, and improved ADAS with better latitudinal and longitudinal controls (*e.g.*, automatic lane change and automatic deceleration at curves) could identify numerous crash scenarios. Subaru is taking a step-by-step approach for realizing the ultimate ADAS in which the driver will be always in the loop in our development process.

Since 2014, Subaru has been a member of the DADSS Program, a public-private partnership between the Automotive Coalition for Traffic Safety Inc. ("ACTS") and NHTSA, to develop vehicle-integrated technologies to prevent drunk driving.

In addition to financial contribution, we have been providing in-kind contributions of our subject matter experts to work on two passive technologies under the DADSS Program—a touch-based and a breath-based system. Thus far, a significant part of our efforts has been aimed at the research needed to meet the DADSS Performance Specifications related to speed, accuracy, precision and reliability of the BAC (blood alcohol concentration) measurement, which require that every piece of safety equipment installed in passenger vehicles as original equipment performs precisely 99.9997 percent of the time to ensure that no driver at or above 0.08 percent BAC is allowed to drive, while also ensuring that sober drivers are not hassled.

The Program is targeting the end of 2020² for the hand-off of the first commercial derivative of the breath-based technology for use in fleets and as an accessory device to technology implementers such as automakers, suppliers, accessory device manufacturers. It is important to emphasize that the fleet/accessory derivative will not meet the DADSS Performance Specifications needed for widespread deployment in consumer vehicles and additional research in the years after 2020 will be necessary to achieve that goal. Should the DADSS authorization be extended, it is expected that the consumer derivative of the DADSS technology to be ready by approximately 2024 at which time the technology could be considered into vehicle integration process that is at least 2 years in duration.

It is our strong belief that establishing consumer acceptance of this technology is as critical as developing fault-free systems and the release of the fleet and accessory derivative would capitalize on the research's progress by contributing invaluable field performance data and experience needed to commercialize consumer derivatives while raising consumer awareness, acceptance, and ultimately demand for the technology.

Below is a list of our responses to your questions:

- *What plans does your company have to incorporate the DADSS technology, or other similar technology to prevent the intoxicated operation of a motor vehicle, into your commercially available vehicles?*

²For Current Efforts and Technology Roadmap of the DADSS Program, please refer to *Enhancing Vehicle Technology to Prevent Drunk Driving, Hearing before the Sub committee on Consumer Protection and Commerce, of the Committee on Energy and Commerce, House, 116th Cong. 5-10. (2019)* (testimony of Robert Strassburger, President and CEO, The Automotive Coalition for Traffic Safety, Inc., available at <https://energycommerce.house.gov/committee-activity/hearings/hearing-on-enhancing-vehicle-technology-to-prevent-drunk-driving>, last accessed on April 22, 2019)

As a step toward help reducing numbers of avoidable crashes to achieve our vision, we have introduced the Driver Monitoring System called DriverFocus³, which monitors the driver to help ensure their attention is focused on the road ahead. Subaru is one of the first auto brands to offer this state-of-the art technology, which can provide added safety and extra convenience for both new and experienced drivers. DriverFocus is a driver recognition technology, using an infrared LED and camera, the system delivers visual and auditory alerts if their attention to the road wavers or if the driver's face appears to turn away.

Although the current system does not directly address drunk drivers, various literatures and studies link behavioral similarities between drowsy drivers and drunk drivers⁴, and with additional safety features provided by EyeSight, *e.g.*, Lane Departure and Sway Warning, we are making efforts to raise drivers' situational awareness so that he or she may realize that it is not suitable to continue driving.

As for the DADSS technology, we support technology roadmap drafted by the Program, which estimates that first DADSS commercial derivative for fleet vehicles and accessory applications of the breath-based DADSS technology will be released in 2020 and should the FAST Act authorization be extended to 2024, the release of the derivative for privately owned and operated vehicles for the breath-based technology is expected by 2023 to 2024.

- *How has your company worked with NHTSA to test such technology?*

As stated previously, Subaru is a member of the DADSS Program, a collaborative project with NHTSA, and has contributed funding as well as in-kind manpower from our engineering staff to support the DADSS Program.

- *When could your company deploy this technology in all of your commercially available vehicles?*

Subaru is committed to our zero-fatality vision and providing top-level safety systems with our customers in an affordable manner. As noted, Subaru is taking a step-by-step approach for eliminating crashes in the real world by enhancing capabilities (from longitudinal and latitudinal directions) of our core-technology EyeSight which will be standard for all of our vehicles in 2022. At this time, we have no concrete deployment plan for the technology as further research is necessary for widespread deployment of the technology and consumer acceptance has not yet been proven to be sufficient level to influence driver behavior.

- *If your company does not have a current plan for mass deployment, please cite the reasons why and other efforts you are undertaking to reduce drunk driving fatalities.*

We have not considered the technology in our current development plan at this moment as its accuracy, redundancy, speed and other critical elements need further research for wide deployment in privately operated vehicles. In addition, the DADSS Program has been actively implementing consumer education, however, the level of consumer acceptance has not been matured yet to influence driver behavior for ensuring wide deployment of the technology. Subaru is offering the DriverFocus system as described in this letter, which recognizes the status of the driver to provide warnings and alerts. Currently, we are working on the next generation of the DriverFocus which enhances driver monitoring capabilities to expand the scope of the impaired driving.

³DriverFocus is currently available in 2019 MY Forester and 2020 MY Legacy and Outback. The system can recognize up to five individual drivers, memorizing their preset preferences and adjusting the cabin environment for both their safety and comfort.

⁴For example, AAA Foundation for Traffic Safety study found that the crash rate for drivers who slept only four or five hours was "similar to the U.S. government's estimates of the risk associated with driving with a blood alcohol concentration equal to or slightly above the legal limit for alcohol in the U.S." Tefft, Brian. 2016. *Acute Sleep Deprivation and Risk of Motor Vehicle Crash Involvement*, AAA Foundation for Traffic Safety.

Progress Report

DTNH22-13-H-00433

October 1, 2015 through
September 30, 2016

2016

This report describes the progress made in a cooperative research program, known as the Driver Alcohol Detection System for Safety (DADSS), which is exploring the feasibility, the potential benefits of, and the public policy challenges associated with a more widespread use of non-invasive technology to prevent alcohol-impaired driving. This report also includes a general accounting for the use of Federal funds obligated or expended in FY 2016 in carrying out this effort.

In-Vehicle Alcohol Detection Research

Executive Summary

The National Highway Traffic Safety Administration (NHTSA) and the Automotive Coalition for Traffic Safety (ACTS) began research in February 2008 to try to find potential in-vehicle approaches to the problem of alcohol-impaired driving. Members of ACTS comprise motor vehicle manufacturers representing approximately 99 percent of light vehicle sales in the U.S. This cooperative research partnership, known as the Driver Alcohol Detection System for Safety (DADSS) Program, is exploring the feasibility, the potential benefits, and the public policy challenges of more widespread use of non-invasive technology to prevent alcohol-impaired driving. The 2008 Cooperative Agreement between NHTSA and ACTS (2008 Cooperative Agreement) for Phases I and II outlined a program of research to assess the state of detection technologies that are capable of measuring blood alcohol concentration (BAC) or breath alcohol concentration (BrAC) and to support the creation and testing of prototypes and subsequent hardware that could be installed in vehicles.

Moving Ahead for Progress in the 21st Century (MAP-21) authorized additional research into the DADSS technology. This additional research is being implemented through a new cooperative agreement between NHTSA and ACTS that began in October 2013 (2013 Cooperative Agreement). The 2013 Cooperative Agreement covers Phase III of the research. It involves continued research into the DADSS technology and test instruments as well as basic and applied research to understand human interaction with the DADSS sensors both physiologically and ergonomically – that is, how these technologies might operate in a vehicle environment. At the culmination of this effort will be a device or devices that will allow a determination to be made regarding whether the DADSS technologies can ultimately be commercialized. If it is determined that one or more of these technologies can be commercialized, it is anticipated that the private sector will engage in further product development and integration into motor vehicles.

During the fiscal year ending September 30, 2016, the following accomplishments were realized:

- Breath-based DADSS Subsystem Research
 - Completed the design, development, and manufacturing of the 3rd Generation DADSS sensor
 - Improvement to the startup time, dynamic accuracy and measurement performance at very low temperatures
 - Completed an initial series of verification and validation tests as per the DADSS Performance Specification

- Initial tests were favorable; however, additional work remains in sensor operation at low temperatures and passive detection
- Further improvements required on accuracy and precision to meet the DADSS Performance Specification
- Performed in-vehicle experiments, both simulated and with human subjects, that showed that passive breath alcohol detection is feasible, where adequate signal levels can be reached under favorable circumstances
- Integrated the 3rd Generation DADSS sensor into the DADSS X1 and X2 Research Vehicles for use with a directed breath
- Continue to improve manufacturing process of the 3rd Generation sensor through improved quality control of key components
- Completed research, build, and validation testing of prototype breathing manikin capable of passive breathing and directed breath for vehicle cabin aerodynamic studies
- Continued sensing system algorithm development, testing, and validation with focus on passive alcohol detection



Figure 1. Third Generation breath-based sensor integrated into DADSS X2 research vehicle steering column (left) and driver door panel (right)

- Touch-based DADSS Subsystem Research
 - Completed the design, development, and manufacturing of the multi-laser butterfly packages that interrogate the 40 wavelengths required for the touch-based sensors
 - 4 multi-laser butterfly packages are required to interrogate all 40 wavelengths
 - Each multi-laser butterfly package includes 10 laser diodes at 10 unique wavelengths
 - Integrated the 4th Generation DADSS touch-based sensor into the DADSS X2 Research Vehicle (Figure 2)

- Initiated a clinical calibration trial with 100 subjects to support the development of the mathematical model
- Initiated the development of the tunable laser system that will allow for a significant reduction in the number of required lasers and therefore in overall sensor size
- Initiated redesign of touch-based sensor, with emphasis on the multi-laser package, focused on scalability and cost for automotive application



Figure 2. Fourth Generation touch-based sensor integrated in the DADSS X2 research vehicle center stack

- Standard Calibration Devices Research
 - Breath-based Standard Calibration Device (SCD) validated with testing against new, state-of-the-art Fourier transform infrared (FTIR) spectroscopy instrumentation packages for accuracy and precision.
 - Researched processes to accurately mix dry gases for calibration of new FTIR instrumentation
 - Dry gas delivery system optimized to minimize impact of physical and chemical variables on precision
 - Humidified gas mixing and delivery system tested over range of breath alcohol concentrations (0.020 %BrAC – 0.120 %BrAC) using new FTIR instrumentation
 - Updated programming of Touch-based SCD using robotic pipetting system that mixes tissue-based SCD
 - Researched and created precise calibration curve on High Performance Liquid Chromatography (HPLC) to quantify ethanol in tissue-based SCD
- Human Subject Testing
 - Secured Institutional Review Board (IRB) approval
 - Initiated alcohol dosing scenario protocols
 - Continued collection of data for lag time alcohol dosing protocol

- Continued collection of data for social alcohol dosing protocol
 - Continued collection of data for social brunching alcohol dosing protocol
 - Continued collection of data for exercise and alcohol dosing protocol
 - Continued collection of data for “last call” alcohol dosing protocol
- Patent Prosecution
 - One patent issued in the United States of America; System and Method for Controlling Collated Multiple Wavelength Tuned Lasers (US 9,281,658).
 - Submitted provisional patents applications for the following three patents:
 - Highly Accurate Breath Test System
 - Heater-On-Heatspreader
 - Integrated Breath Alcohol Sensor System
 - Intellectual property developed under the DADSS Research Program will be licensed on equal terms to all requesters with ability to manufacture original equipment level DADSS subsystems
 - Initiated efforts to prepare and prosecute patent applications in the main auto-producing regions of the world, that is, the United States, Europe, Japan, Canada, Hong Kong, China, and South Africa
 - Consumer Acceptance Research
 - Tracking relevant studies
 - Planning for future research
 - In September 2016, Virginia became the first state to enter into a voluntary partnership with the DADSS program to help further develop and deploy DADSS in Virginia.

Total NHTSA expenditures in fiscal year 2016 totaled \$5,493,906 for this research.

Introduction

Since 2008, researchers have been working under an auto industry partnership with the U.S. Department of Transportation’s National Highway Traffic Safety Administration (NHTSA) known as the Driver Alcohol Detection System for Safety Program or simply, the DADSS Program. The goal of the DADSS Program is to research in-vehicle technology aimed at preventing drunk driving.

In 2015, 10,265 lives were lost to an alcohol-impaired driver (i.e., fatality involving a driver with a blood alcohol concentration (BAC) of 0.08 percent or greater), or 29 percent of all the people who died in motor vehicle crashes that year. An analysis prepared by the Insurance Institute for Highway Safety (IIHS) has shown that in that year, had driver BACs been limited by a device like DADSS to no more than 0.08 percent – the illegal *per se* limit in all 50 states – 6,904 deaths could have been prevented.¹ This is the number of deaths involving drivers with BACs at or above 0.08 percent, i.e., the number of deaths that could have been prevented via specific deterrence.

Another IIHS study showed that the public is receptive to in-vehicle alcohol-detection technology like DADSS. Two-thirds of those surveyed by the Institute considered the use of advanced technology to keep drunk drivers off the roads to be a “good” or “very good” idea, and more than 40 percent said they would want the technology in their own cars.² More detailed research into how consumers would respond to DADSS is planned as part of this cooperative research effort.

The surface transportation reauthorization enacted in 2015, known as Fixing America’s Surface Transportation (FAST) Act, amended section 403 of title 23 of the United States Code to authorize additional DADSS research.³ As required by the FAST Act, this report describes the progress made from Oct 1, 2015 to Sept 30, 2016 by this cooperative research program, which is exploring the feasibility, potential benefits, and public policy challenges associated with a more widespread use of non-invasive technology to prevent alcohol-impaired driving. This report also includes a general accounting for the use of Federal funds obligated or expended in fiscal year 2016 in carrying out this effort.

Background

Alcohol-impaired driving is one of the primary causes of motor vehicle fatalities on U.S. roads every year and in 2015 alone resulted in more than 10,000 deaths. There are a variety of countermeasures that have been effective in reducing this excessive toll, many of which center around strong laws, visible enforcement, and appropriate consequences.

¹ Lund, A.K., McCart, A.T., and Farmer, C.M., “*Contribution of Alcohol–Impaired Driving to Motor Vehicle Crash Deaths in 2010*,” Insurance Institute for Highway Safety, May 2012, updated April 2015.

² McCart, A.T., Wells, J.K. and Teoh, E.R., “*Attitudes toward in-vehicle advanced alcohol detection technology*,” Traffic Injury Prevention, March 2010.

³ See section 403(h) of title 23 of the United States Code as amended by Public Law 112–141, December 4, 2015.

Separate from these successful countermeasures, NHTSA and ACTS⁴ began research in February 2008 to try to find potential in-vehicle approaches to the problem of alcohol-impaired driving.

The 2008 cooperative agreement between NHTSA and ACTS covering Phases I and II of the research outlined a program to assess the state of detection technologies that are capable of measuring BAC or BrAC and to support the creation and testing of prototypes and subsequent hardware that could be installed in vehicles.

Since the program's inception it has been clearly understood that for in-vehicle alcohol detection technologies to be acceptable for use among drivers, many of whom do not drink and drive, they must be both seamless with the driving task and non-intrusive (that is, accurate, fast, reliable, durable, and require little or no maintenance). To that end, the DADSS program is developing non-intrusive technologies that could prevent the vehicle from being driven when the device registers that the driver's BAC meets or exceeds the illegal limit (currently at or above 0.08 grams per deciliter (g/dL) or 0.08 percent).⁵

To achieve these challenging technology goals, very stringent performance specifications (the current version of which is set forth in the DADSS Performance Specifications) have been established that provide the template for the research effort. Another important challenge will be to ensure that the driving public accepts in-vehicle alcohol detection technology that meets the stringent criteria for in-vehicle use. An effort is underway to engage the driving public in discussions about the technologies being researched so that their feedback can be incorporated into the DADSS Performance Specifications as early as possible. The challenges to meeting these requirements are considerable, but the potential life-saving benefits are significant.

The three year initial effort began with a comprehensive review of emerging and existing state-of-the-art technologies for alcohol detection in order to identify promising technologies. Phase I, completed in early 2011, focused on the creation of proof-of-principle prototypes. The objective of Phase I was to determine whether there were any

⁴ ACTS is classified as a 501(c)(4) nonprofit corporation by the U.S. Internal Revenue Service. Funding for ACTS is provided by motor vehicle manufacturers, who make up its membership. ACTS' current members are: BMW Group, FCA US LLC, Ford Motor Company, General Motors Company, Honda Research & Development, Jaguar Land Rover, Mazda North America Operations, Hyundai America Technical Center Inc., Mercedes Benz USA, Mitsubishi Motors, Nissan North America, Inc., Porsche, Subaru of America, Inc., Toyota Motor Sales, U.S.A., Inc., Volkswagen of America, Inc., and Volvo Cars. These ACTS members account for the majority of new light vehicle sales in the U.S. market.

⁵ From inception in 2008, the DADSS research project has been based on a BAC threshold of 0.08 percent or greater. The MAP-21 authorization to continue the DADSS research explicitly specified that this threshold be used. Please see section 403(h) of title 23 of the United States Code.

promising technologies on the horizon. Three prototypes were delivered and tested at the DADSS laboratory, and two yielded promising results.

The technological approaches that were chosen for DADSS are founded on a clear understanding of the processes by which alcohol is absorbed into the blood stream, distributed within the human body, and eliminated from it. Not only must technologies under consideration quickly and accurately measure BAC, but the medium through which it is measured (e.g., breath, tissue, sweat) must provide a valid and reliable estimation of actual BAC levels. Based on an understanding of the way in which the human body processes alcohol, ACTS formulated a typology of four potential technological approaches:

1. electrochemical systems,
2. tissue spectrometry systems,
3. distant/offset spectrometry systems, and
4. behavioral systems.

However, after a thorough review of the literature and technical approaches, it was determined that only two of the approaches held merit at the time for quick and accurate measurement of driver BAC. These were tissue spectrometry and distant, breath-based spectrometry systems. In essence, tissue spectroscopy systems allow estimation of BAC by measuring alcohol concentrations in tissue. This is achieved through detection of light absorption at a particular wavelength from a beam of Near-Infrared (NIR) light reflected from within the subject's tissue. Distant spectrometry systems use a similar approach, in that an Infrared (IR) beam is used to analyze Breath Alcohol Concentration (BrAC). Expired breath mixed with the vehicle cabin air is drawn into an optical cavity where an IR beam is used to analyze the alcohol concentration in the subject's exhaled breath.

The Phase II effort, begun in late 2011, continued research on technology needed to narrow gaps in performance between the DADSS prototypes and the DADSS Performance Specifications. The Phase II effort also produced a research vehicle into which the DADSS technologies were installed to allow first look at how such technology might work within the vehicle environment.

Phase III involves continued research into the DADSS technology and test instruments as well as basic and applied research to understand human interaction with the DADSS sensors both physiologically and ergonomically – that is, how these technologies might operate in a vehicle environment. The culmination of this effort (currently authorized through 2020) will be a device or devices that will allow a determination to be made regarding whether the DADSS technologies can ultimately be commercialized. If it is determined that one or more of these technologies can be commercialized, it is currently

anticipated that the private sector will engage in further product development and integration into motor vehicles.⁶

Phased Research Plan with Technical Review Gates

From inception, the DADSS program has been structured to minimize risk by separating the research into phases with technical review gates between phases. The 2008 Cooperative Agreement covers Phases I and II. The 2013 Cooperative Agreement covers Phase III of the research.

The intent of Phase I was to research prototypes capable of rapidly and accurately measuring a driver's BAC in a non-intrusive manner. The prototypes constructed during this Phase, were designed to address accuracy, precision, and speed of measurement specifications only. The prototypes did not attempt to address repeatability and reliability. Phase I results indicated that both touch- and breath-based technologies showed sufficient promise to suggest they may ultimately be capable of meeting the DADSS Performance Specifications with respect to measurement speed, accuracy, and precision in future iterations. The research effort that comprised the 2008 Cooperative Agreement began with a comprehensive review of emerging and existing state-of-the-art technologies for alcohol detection in order to identify promising technologies. This first phase, completed in early 2011, focused on the creation of proof-of-principle prototypes (1st Generation). During this phase, device prototypes of the candidate technologies were evaluated for measurement speed, accuracy, and precision to see if the devices showed promise for ultimately meeting the DADSS Program's stringent performance requirements. Three prototypes were delivered and tested at the DADSS laboratory that yielded promising results for two of the three technologies (Figure 3).

For Phase II, the DADSS technology providers were required to work to resolve the performance gaps identified in Phase I and research a BAC sensor/subsystem with the intent to meet all sections of the DADSS Performance Specifications. The second phase, begun in late 2011, continued the research of the DADSS technologies to narrow gaps in performance against the DADSS Performance Specifications and meet the DADSS Performance Specifications of an in-vehicle environment. Device prototypes constructed as a result of this phase (2nd Generation) allow a practical demonstration of one or more alcohol detection subsystems suitable for installation in one or more research vehicles and continued development.

⁶ Associated technical papers and updates on DADSS research can be found at www.dadss.org.



Figure 3. DADSS Research Laboratory

The third phase, begun in 2013, continued research into the DADSS technologies and test instruments as well as basic and applied research to understand human interaction with the DADSS sensors both physiologically and ergonomically – that is, how these technologies might operate in a vehicle environment. Prototypes from this phase were integrated into two research concept vehicles, the DADSS X1 shown in Figure 4, and DADSS X2 shown in Figure 5 and Figure 6. These vehicles were used as development and verification platforms of the Pilot Field Operational Tests (PFOT) of vehicles intended to evaluate the DADSS prototypes long term performance and understand the driver's behavior in a naturalistic setting.

During this period, the DADSS team developed an instrumentation package for the DADSS X2 research concept vehicle (Figure 7). The instrumentation package is being used to assess whether the DADSS sensors and instrumentation perform as intended when they're integrated into vehicles and to identify areas for system improvement with the objective to ensure system repeatability, robustness and readiness for field operational testing.



Figure 4. DADSS X1 Research Concept Vehicle



Figure 5. DADSS X2 Research Concept Vehicle



Figure 6. DADSS X2 interior with steering column breath-based sensor (top left), touch-based sensor (bottom right), and control monitor (top right)

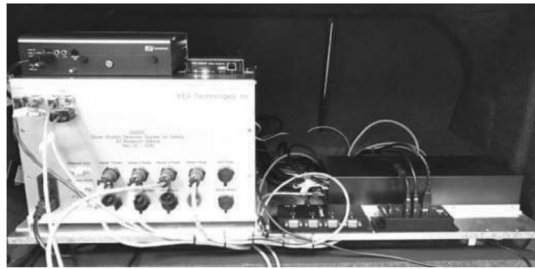


Figure 7. DADSS X2 Instrumentation located in the vehicle trunk

Additional phases of research – the focus of a new Cooperative Agreement begun in September 2013 – will permit further refinement of the technology and test instruments as well as basic and applied research to understand human interaction with the sensors both physiologically and ergonomically. At the culmination of the 2013 Agreement, in September 2020, a determination will be made regarding whether the DADSS technologies can ultimately be commercialized. If it is determined that one or more of these technologies can be commercialized, it is currently anticipated that the private sector will engage in further product development and integration into motor vehicles.

DADSS Subsystem Technological Approaches

Two DADSS approaches are being pursued that have considerable promise in measuring driver BAC non-invasively within the time and accuracy constraints established:

- **Distant/Offset Spectrometry, a breath-based approach** that measures the concentrations of alcohol and carbon dioxide in the breath simultaneously. The known quantity of carbon dioxide in human breath is an indicator of the degree of dilution of the alcohol concentration in expired air. Molecules of alcohol and those of tracers such carbon dioxide absorb infrared radiation at specific wavelengths. The device directs infrared light beams on the breath sample and analyzes the wavelengths returned to quickly and accurately calculate the alcohol concentration.
- **Tissue Spectrometry, a touch-based approach** that analyzes alcohol found in the driver's fingertip tissue (or more specifically, the blood alcohol concentration detected in the capillaries). This is done by shining a near infrared light on the driver's skin, similar to a low power flashlight, which propagates into the tissue. A portion of the light is reflected back to the skin's surface, where it is collected by the touch pad. This light transmits information on the skin's unique chemical properties, including the concentration of alcohol.

The Phase II effort begun in late 2011, spanned two years, and required technology providers to make significant improvements to device accuracy, reliability, and speed of measurement. The effort also examined an extensive array of performance requirements common in the automotive industry over a wide range of environmental conditions. The devices' accuracy, precision, and speed of measurement will not be fully quantified until the completion of all required testing. Phase III is focusing on fast-tracking the DADSS sensors research with the objective that the devices ultimately meet or exceed the DADSS Performance Specifications.

Breath-based Subsystem

The third generation (Figure 8) of the breath-based sensor has been updated in Phase III. The sensor has been adapted for installation in two research vehicles in two different positions: above the steering column and in the driver's door panel. The different positions improved understanding of the impact of cabin air flow and the driver's position on alcohol measurements. The current implementation of the sensors requires a directed breath. Current effort is focused on implementing algorithm updates to support a "sniffer

function” that provides the capability for the sensor to passively detect the presence of alcohol.

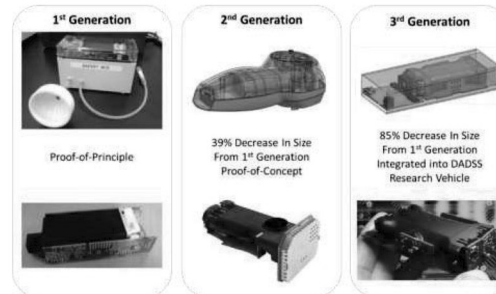


Figure 8. Evolution of breath-based DADSS Sensor

Additional sensors were bench-tested in laboratory conditions with the current standard calibration devices to establish accuracy and precision performance benchmarks of the latest sensor iteration.

Specific tasks that may be needed (based on the results of testing) to accelerate the current state of the breath-based sensor technology include the following:

- Continue to improve the sensor’s accuracy and precision to resolve identified non-compliances to the DADSS Performance Specifications
- Continue to improve the sensor’s robustness to resolve identified non-compliances to the DADSS Performance Specifications
- Continue the in-depth research of the human breath aerodynamics within the occupant compartment of various sized vehicles under a variety of environmental conditions
- Continue to research the optimal placement parameters for breath-based sensors within the carrying geometry of vehicle cabins
- Research air inlet design parameters for optical sensor performance
- Evaluate potential of and design strategy intended to prevent user manipulation of device

Touch-based Subsystem

The initial implementation of the solid-state architecture of the touch-based sensor has been completed. A new supplier, Nanoplus, was selected to continue the

developmental work and manufacturing previously started; this greatly improved the rate of progress. A Mark 2B system has been developed for implementation in one research vehicle (Figure 9).

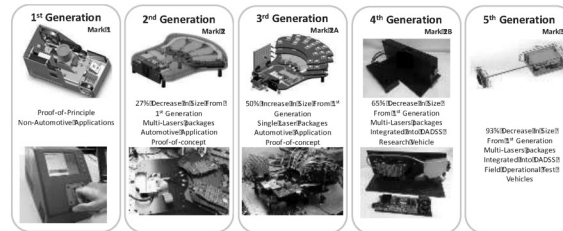


Figure 9. Evolution of touch-based DADSS Sensor

The next iteration of the solid-state architecture will reduce the number of laser diodes required, which has significant impact on the power consumption, size, and eventually, cost.

In Phase III, additional research is being pursued to improve functionality and in-vehicle performance. Specific tasks that may be needed (based on the results of testing) to accelerate the current state of technology development of the touch-based sensor include:

- Research designed to improve sensor's accuracy and precision to resolve identified non-compliances from the Phase II target
- Research designed to improve sensor's robustness to resolve identified non-compliances from the Phase II environmental simulation
- Scale up supplier processes in an effort to meet potential high volume demand, specifically as it relates to wafer processing of the laser diodes which are currently needed in lower volume applications
- Optimize Phase II integrated sensor package (size and shape) for standardization and high volume applications
- Redesign main processing system for standardization and high volume applications.
- Research sensor serviceability techniques
- Evaluate potential of design strategy intended to prevent user manipulation of device
- Research an Application Specific Integrated Circuit (ASIC) specification for the laser drive/receive system

DADSS Performance Specifications

A significant part of this effort has been the establishment of DADSS Performance Specifications which set the bar high by existing alcohol measurement standards for breath alcohol measurement. Such stringent standards are intended to allow driver BAC measurements to be performed unobtrusively. The DADSS Performance Specifications document is continuously reviewed and updated based on research findings. As Phase III and later phases progress, the DADSS Performance Specifications will require continued updating. In particular, the specifications will be revised to include new research findings and technology updates that are designed to address the following:

- Prevent manipulation (tamper resistance) and circumvention
- Clear identification of driver sample as well as differentiation of driver sample from all vehicle passengers' samples, interfering substances, and other ways to attempt to circumvent the system
- Protection of data (cybersecurity)
- Integrity and security of communication between DADSS sensor and vehicle.

Figure 10 illustrates the progress made on the breath-based sensor for both passive and directed breath (driver provides a directed breath at a short distance from the sensor) alcohol detection for the critical performance specifications of speed, accuracy, precision and physical size. It should be noted that the directed breath based sensor, a necessary stepping stone in the development of the passive sensor, is not for automotive application and is more suitable for workplace enforcement.

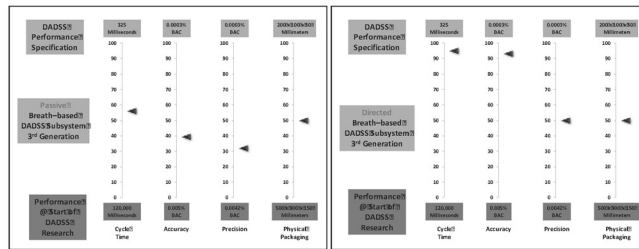


Figure 10. Progress towards main Performance Specifications on the breath-based sensor for Passive (left) and directed breath (right) alcohol detection

Figure 11 illustrates the progress made on the touch-based sensor for both laser spectrometer (suitable for automotive application) and interferometer (initial prototype)

developed to show feasibility of touch-based system, but not suitable for automotive application) alcohol detection for the critical performance specifications of speed, accuracy, precision and physical size.

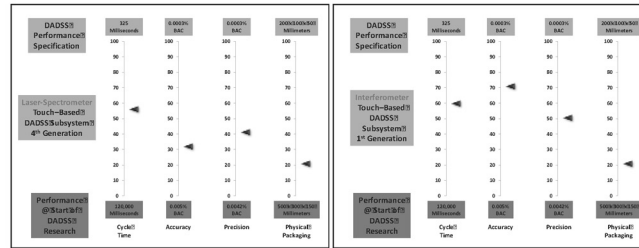


Figure 11. Progress towards main Performance Specifications on the touch-based sensor for the laser spectrometer (left) and interferometer (right) alcohol detection

Human Subject Testing

Human subject testing is a critical part of understanding how the DADSS sensors will perform in the real world when confronted with large individual variations in the absorption, distribution, and elimination of alcohol in the various compartments within the human body (blood, breath, tissue) over the myriad factors that can affect BAC. There has been extensive research to understand these relationships with respect to venous (blood) alcohol and breath alcohol when samples of deep lung air are used. However, the new measurement methods being researched as part of the DADSS program that determine alcohol levels from diluted breath samples and within human tissue are not well understood. In particular, the rate of distribution of alcohol throughout the various compartments of the body under a variety of scenarios requires further study.

The purpose of human subject testing is:

- To quantify the rate of distribution of alcohol throughout the various compartments of the body (blood, breath, tissue) under a variety of scenarios. Particular attention will be paid to the less well-known kinetics of tissue alcohol.
- To quantify alcohol absorption and elimination curves among a wide cross section of individuals of different ages, body mass index (BMI), race/ethnicity, and sex using the different scenarios

Significant progress was achieved in conducting human subject testing at the DADSS Satellite Lab at McLean Hospital in Belmont, Massachusetts (See Figure 12). Data was collected during five developed scenarios in an effort to quantify alcohol absorption and elimination. The set scenarios explore a variety of conditions that are designed to mimic real-life situations. The five scenarios are as follows:

- Lag time to appearance of alcohol in three compartments: blood, breath, or tissue. The aim of this scenario is to determine the lag time to first appearance of alcohol in each of the three compartments. One of the most basic question to answer is in which compartment (blood, breath or tissue) will alcohol first appear after consuming a single large dose of alcohol. This information is critical to calibrating any temporal offsets and setting the timing of how the two prototypes will be implemented in the vehicle.
- Social drinking over extended period of time. The aim of this scenario is to determine the profile of alcohol pharmacokinetics during a very common pattern of drinking, steady drinking over an extended time, while eating only a small amount of snack-type food.
- Social drinking with a full meal. The aim of this scenario is to quantify the time course of alcohol pharmacokinetics under a variety of conditions that include the consumption of food along with alcohol. Participants will be exposed to a routine that is present in most restaurants where they will be first served alcohol (on an empty stomach), followed by appetizers and then full meal that is served with additional alcohol.
- A single large dose of alcohol at the end of a continuous, steady drinking session. This scenario is designed to simulate "Last Call" and will be conducted by having participants drink several drinks at a programmed rate for a set period of time. When "Last Call" is made, the participant consumes additional drinks.
- Drinking during exercise. The effects of different intensities of exercise will be programmed while participants drink alcohol over a period of 3-4 hours. The exercise conditions will be manipulated to include light, moderate and heavy physical activity. This scenario will simulate dancing and drinking scenarios in which individuals consume alcoholic beverages while engaged in episodic bouts of physical activity.



Figure 12. Human Subject Testing at DADSS Satellite Lab at McLean Hospital in Belmont MA

Standard Calibration Test Device Research

New research into forensic toxicology has revealed emerging technologies with improved ability to both quantify and identify ethanol in SCDs. Initially, a Gas Chromatograph (GC) with a Flame Ionization Detector (FID) was used to precisely quantify ethanol in the breath-based SCD. Unfortunately, the GC-FID provides good quantification but is unable to identify the chemical it is quantifying. It became clear that two different technologies would be required—one for the breath-based SCD and another for the tissue-based SCD. The Fourier Transform Infrared Spectroscopy (FTIR) was selected over other technologies due to its ability to both identify and precisely measure the ethanol in a breath-based SCD (Figure 13, left side). A High-Performance Liquid Chromatography (HPLC), with numerous detectors and interfacing with an FTIR, can provide extremely precise measurements and identification of ethanol as well as the other reagents in the tissue-based SCD (Figure 13, right side).



Figure 13. Thermo Fisher iS50 FTIR, Waters Aquity UPLC and MKS Multigas 2030 FTIR in the DADSS Research Laboratory

Accuracy is limited by the calibration solution used with all of these technologies. The advanced capabilities of the new instrumentation packages revealed deficiencies in the current calibration solutions. New contaminants were identified that were previously undetected. The accuracy of the breath-based SCDs from the same manufacturing lot were found to vary despite optimization of the systems to reduce errors beyond current industrial practices. Thus, to improve accuracy beyond the commercial off-the-shelf solutions available, alternative ways to produce the calibration solutions were researched and pursued. To improve tissue-based calibration solution accuracies, the alcohol industry practices were studied and systems were designed to precisely weigh and use other chemical properties to quantify the ethanol in a solution with extreme confidence. A similar approach to breath-based calibration solutions is being pursued.

Specific tasks in the DADSS sensor calibration methods research include:

- Research designed to improve performance of current SCD accuracy, precision and stability.
- Research designed to improve performance of current Wet Gas Breath Alcohol Simulator, a system used to simulate a human breath.
- Modify and optimize SCDs for in-vehicle testing to evaluate sensors performance and quality control.
- Investigate a non-liquid-based, touch-based SCD for use as diagnostics and quality control of the DADSS Sensor.

Patent Activity

ACTS has taken a number of actions to ensure the commercial implementation of the DADSS technology if it is demonstrated that the technology is commercially viable.

First, ACTS is pursuing patent applications in the major automobile producing nations of the world to ensure production of any DADSS subsystem may proceed without threat of interruption. Specifically, applications are being pursued in China, the European Union, Canada, Hong Kong, Japan, South Africa, and the United States.

Second, to further enhance the implementation of DADSS technology, the Board of Directors of ACTS has directed that the DADSS technology be made available on equal terms to anyone who, in good faith, wants to use the technology.

Finally, ACTS, working with NHTSA, has structured ownership of the intellectual property generated through this research so that it vests with ACTS, a 501(c)(4) nonprofit, and not the individual members of ACTS or the DADSS technology providers. This helps to facilitate commercialization as rapidly as possible in at least two ways. First, the pooling of resources by NHTSA and ACTS provides a reliable and cost effective basis to promote the standardization of the technology, its widespread deployment, and acceptance by the general public. Second, ownership by ACTS avoids hindering commercialization through blocking patents which might result if there were multiple owners of the DADSS technology who could control the pace, scope, and price of commercialization. Table 1 summarizes the intellectual property generated to date under the DADSS Program.

Table 1. Patent Applications to Date

TITLE	COUNTRY	STATUS	APPLICATION #
MOLECULAR DETECTION SYSTEM AND METHODS OF USE	United States of America	Closed	13/838,361
SYSTEM FOR NONINVASIVE DETERMINATION OF ALCOHOL IN TISSUE	United States of America	Closed	61/528,658
SYSTEM FOR NONINVASIVE MEASUREMENT OF AN ANALYTE IN A VEHICLE DRIVER	United States of America	Closed	13/596,827

SYSTEM FOR NON-INVASIVE MEASUREMENT OF AN ANALYTE IN A VEHICLE DRIVER	United States of America	Pending	15/090,809
SYSTEM FOR NON-INVASIVE MEASUREMENT OF AN ANALYTE IN A VEHICLE DRIVER	China	Pending	201280042179.6
SYSTEM FOR NON-INVASIVE MEASUREMENT OF AN ANALYTE IN A VEHICLE DRIVER	Germany	Closed	NOT YET ASSIGNED
SYSTEM FOR NON-INVASIVE MEASUREMENT OF AN ANALYTE IN A VEHICLE DRIVER	European Patent Office	Pending	12827669.8
SYSTEM FOR NON-INVASIVE MEASUREMENT OF AN ANALYTE IN A VEHICLE DRIVER	Hong Kong	Pending	14109310.8
SYSTEM FOR NON-INVASIVE MEASUREMENT OF AN ANALYTE IN A VEHICLE DRIVER	Japan	Pending	2014-528520
SYSTEM FOR NON-INVASIVE MEASUREMENT OF AN ANALYTE IN A VEHICLE DRIVER	South Africa	Pending	2014/02304
SYSTEM FOR NON-INVASIVE MEASUREMENT OF AN ANALYTE IN A VEHICLE DRIVER	PCT†	Closed	PCT/US12/52673
SINGLE/MULTIPLE CAPACITIVE SENSORS "PUSH	United States of America	Closed	61/870,384

**TO START™ WITH
LED/HAPTIC NOTIFICATION
AND MEASUREMENT
WINDOW**

SYSTEMS AND METHODS FOR CONTROLLING VEHICLE IGNITION USING BIOMETRIC DATA	United States of America	Pending	14/315,631
SYSTEMS AND METHODS FOR CONTROLLING VEHICLE IGNITION USING BIOMETRIC DATA	Canada	Pending	2,920,796
SYSTEMS AND METHODS FOR CONTROLLING VEHICLE IGNITION USING BIOMETRIC DATA	China	Pending	201480047728.8
SYSTEMS AND METHODS FOR CONTROLLING VEHICLE IGNITION USING BIOMETRIC DATA	European Patent Office	Pending	EP14744677.7
SYSTEMS AND METHODS FOR CONTROLLING VEHICLE IGNITION USING BIOMETRIC DATA	Japan	Pending	2016-538915
SYSTEMS AND METHODS FOR CONTROLLING VEHICLE IGNITION USING BIOMETRIC DATA	South Africa	Pending	2016/00797
SYSTEMS AND METHODS FOR CONTROLLING VEHICLE IGNITION USING BIOMETRIC DATA	PCT	Closed	PCT/US14/44350
SEMICONDUCTOR LASER THERMAL CONTROL METHOD	United States of America	Closed	61/889,320

**FOR COLLOCATED MULTIPLE
WAVELENGTH TUNED
LASERS**

SYSTEM AND METHOD FOR CONTROLLING COLLOCATED MULTIPLE WAVELENGTH TUNED LASERS	United States of America	Issued 9,281,658	14/456,738
SYSTEM AND METHOD FOR CONTROLLING COLLOCATED MULTIPLE WAVELENGTH TUNED LASERS	United States of America	Pending	15/058,650
SYSTEM AND METHOD FOR CONTROLLING COLLOCATED MULTIPLE WAVELENGTH TUNED LASERS	Canada	Pending	201480055848.2
SYSTEM AND METHOD FOR CONTROLLING COLLOCATED MULTIPLE WAVELENGTH TUNED LASERS	China	Pending	201480055848.2
SYSTEM AND METHOD FOR CONTROLLING COLLOCATED MULTIPLE WAVELENGTH TUNED LASERS	European Patent Office	Pending	14755950.4
SYSTEM AND METHOD FOR CONTROLLING COLLOCATED MULTIPLE WAVELENGTH TUNED LASERS	Japan	Pending	2016-516589
SYSTEM AND METHOD FOR CONTROLLING COLLOCATED MULTIPLE WAVELENGTH TUNED LASERS	South Africa	Pending	2016/01639
SYSTEM AND METHOD FOR CONTROLLING COLLOCATED	PCT	Closed	PCT/US14/50575

MULTIPLE WAVELENGTH TUNED LASERS			
BREATH TEST SYSTEM	United States of America	Pending	14/421,371
BREATH TEST SYSTEM	Canada	Pending	2,881,817
BREATH TEST SYSTEM	China	Pending	201380054912.2
BREATH TEST SYSTEM	European Patent Office	Pending	13830956.2
BREATH TEST SYSTEM	Japan	Pending	2015-528442
BREATH TEST SYSTEM	South Africa	Pending	2015/01246
BREATH TEST SYSTEM	Sweden	Issued	SE1250954-3
		536784	
BREATH TEST SYSTEM	PCT	Closed	PCT/SE13/50991
HIGHLY ACCURATE BREATH TEST SYSTEM	United States of America	Pending	14/421,376
HIGHLY ACCURATE BREATH TEST SYSTEM	Canada	Pending	2,881,814
HIGHLY ACCURATE BREATH TEST SYSTEM	China	Pending	201380054007.5
HIGHLY ACCURATE BREATH TEST SYSTEM	European Patent Office	Pending	13831692.2
HIGHLY ACCURATE BREATH TEST SYSTEM	Japan	Pending	2015-528441
HIGHLY ACCURATE BREATH TEST SYSTEM	South Africa	Pending	2015/01247
HIGHLY ACCURATE BREATH TEST SYSTEM	Sweden	Issued	SE1250953-5
		536782	

HIGHLY ACCURATE BREATH TEST SYSTEM	PCT	Closed	PCT/SE13/50990
HEATER ON HEATSPREADER (HOH) LASER WAVELENGTH MODULATION CONTROL	United States of America	Closed	62/274,543
HEATER-ON-HEATSPREADER	United States of America	Pending	15/343,513
HEATER-ON-HEATSPREADER	PCT	Pending	PCT/US2016/060622
SENSOR SYSTEM FOR PASSIVE IN-VEHICLE BREATH ALCOHOL ESTIMATION	United States of America	To Be Filed	Unfiled
INTEGRATED BREATH ALCOHOL SENSOR SYSTEM	United States of America	Closed	62/171.566
INTEGRATED BREATH ALCOHOL SENSOR SYSTEM	United States of America	Pending	15/090.048
INTEGRATED BREATH ALCOHOL SENSOR SYSTEM	PCT	Pending	PCT/US2016/026024

†PCT means Patent Cooperation Treaty.

Consumer Acceptance Research

ACTS and NHTSA have recognized from the outset that consumer acceptance of, and demand for, the DADSS technology is important. If at the end of this program (currently authorized through 2020) DADSS meets all of the performance requirements for in-vehicle use but drivers do not choose DADSS as an option in their new vehicle, it may not be possible to realize the potential life-saving benefits of the technology. Under the 2013 Cooperative Agreement, research has been initiated to understand public opinions about DADSS and the use of advanced safety technology to address alcohol-impaired driving, raise public awareness, and understand how the technology should operate in motor vehicles to achieve high levels of acceptability for the technology.

In 2016, the DADSS Research Program focused on advancing the technology; answering questions from partners, supporters and key members of the media to keep them well-informed on progress; and planning for increased outreach in the year ahead. Because

there was minimal public exposure for the DADSS program in 2016, follow-up research to measure shifts in public perception during that period were not conducted. Activities were limited and included the following:

- Tracking related studies on impaired driving and public opinion, such as the release of 2016 Traffic Injury Research Foundation (TIRF) U.S. research
- Planning a second round of qualitative and quantitative research to measure shifts in public awareness and acceptance of the DADSS technology, and to address questions that came up in policy discussions about technology use and limitations.

State Participation

In September 2016, Virginia became the first state to partner with the DADSS Program through an independent agreement with the Virginia Department of Motor Vehicles' Highway Safety Office.

Virginia will be involved at various levels: from initial manufacturing and vehicle integration, to field operational tests, to helping raise public awareness and gauging the public's acceptance of the technology. As the testing of the DADSS technology advances in the laboratory, Virginia will get an early look at the progress that has been made, provide input about the technology's convenience and operational features, and help refine and improve the technology before it becomes widely available.

Accounting of Federal Funds

The surface transportation reauthorization enacted in 2012, known as MAP-21, amended Section 403 of Title 23 of the United States Code to authorize NHTSA to carry out a collaborative research effort on in-vehicle technology to prevent alcohol-impaired driving.⁷ The authorization covered fiscal years 2013 through 2016. Subsequent reauthorization for DADSS research occurred in December 2015 under the Fixing America's Surface Transportation (FAST) Act. The FAST Act provides specific authority for DADSS research through fiscal year 2020.⁸

The agency received appropriated amounts from the highway trust fund for this research program in fiscal year 2016. Specifically, funding was provided under NHTSA's highway traffic safety grants account consistent with the identified funding authority provisions in both Sections 403 and 405 of Title 23 of the United States Code.⁹ For fiscal

⁷ 23 U.S.C. § 403(h) (as amended by Public Law 112-141, enacted July 6, 2012).

⁸ 23 U.S.C. § 403(h) (as amended by Public Law 114-94, enacted December 4, 2015).

⁹ Public Law 112-141, Sections 31103(h)(2) and 31105(a)(2).

year 2016, the agency made funding available in the amount of \$5,493,906 for the research program (Table 2).¹⁰

Table 2. FY16 NHTSA funding provided for in-vehicle technology research to prevent alcohol-impaired driving

	Fiscal Year 2016
Funding for In-vehicle Technology Research	\$5,493,906

The period of performance specified in the 2013 Cooperative Agreement covers a five-year period (September 30, 2013 to September 29, 2018) and research has been planned for the entire five-year period, that is, through fiscal year 2018. Table 4 provides a general statement regarding the use of Federal funding for fiscal year 2016 to carry out the DADSS research effort.

Table 4. Funding Status

**Automotive Coalition for Traffic Safety
Advanced Alcohol Detection Technologies (DADSS)
Cooperative Agreement # DTNH22-13-00433
Funding Amount Provided**

Funding Amount Provided – FY16	\$ 5,493,906
FY16 Funding Expended	
Research & Development	\$ 5,363,700
Indirect Rate	\$ 130,206
Total Expended	\$ 5,493,906

Conclusion

Significant progress has been made to identify DADSS technologies that have the potential to be used on a more widespread basis in passenger vehicles. Two specific approaches have been chosen for further investigation; tissue spectrometry, or touch-based sensors, and distant/offset spectrometry, or breath-based sensors. Proof-of-principle prototype DADSS sensors have been developed, one designed to remotely measure alcohol concentration in drivers' breath from the ambient air in the vehicle cabin, and the other designed to measure alcohol in the driver's finger tissue through placement

¹⁰ Consolidated Appropriations Act, 2016, Public Law No. 114-113, enacted December 18, 2015.

of a finger on the sensor. Both sensors have been integrated into a research vehicle for testing and evaluation.

Progress also has been made to develop calibration devices for both breath- and touch-based bench testing in order to measure whether the DADSS devices can meet the stringent criteria for accuracy and precision. Unique standard calibration devices have been developed for both the breath- and touch-based systems that go well beyond current alcohol-testing specifications.

Senator UDALL. Thank you. Unfortunately, the responses leave a lot to be desired.

Since these manufacturers support my legislation and have been engaged with the DADSS Program for a decade, I expected more positive responses, particularly when so many lives are at stake.

But the arguments from the automobile manufacturers why they are not planning to implement this technology sound all too familiar. They are the same arguments they made why airbags, backup cameras, and probably every safety feature should not be deployed. They claim that the technology is unproven and we need to move cautiously before installing it.

Enough is enough. I'm tired of waiting. These same car companies have aggressively pushed for deregulation, to allow autonomous vehicles to be widely deployed and use all of us as test subjects, but when it comes to safety technology that is very close to being able to be deployed, caution is requested.

My position is that we must take steps to advance this lifesaving technology much more quickly.

I recognize that the field testing stage is happening now and I'm hopeful that New Mexico will be one of the states where the testing occurs, but we must have support for DADSS from every single car company and from NHTSA.

We have to do more to get this technology on the roads. Every single car manufacturer should be working hard today to integrate this technology into their vehicles as soon as possible.

Ms. King, NHTSA is required to send annual reports on the DADSS Program to Congress. My office has the reports up through 2016. Can you explain the delay in releasing the 2017 and 2018 reports?

Ms. KING. Thank you for that question, Senator.

No, I cannot explain it. I'm not aware, but I will look into that and I will get back to you in haste.

Senator UDALL. I hope you'll give us a strong answer for the record what's happening there.

Ms. KING. I will. For the record, I want to say I'm impressed with the technology. I'm very pleased at the work, at the research effort between NHTSA and the Automotive Coalition for Traffic Safety have completed. The technology seems very well suited in particular for fleet use to my eyes. It's now low profile and it's attractive and it has a high record of success with detection of alcohol presence.

Senator UDALL. Thank you.

Ms. KING. So I'm supportive.

Senator UDALL. Thank you. Assistant Secretary Szabat, in your prepared testimony, you highlighted DOT's Infrastructure for Rebuilding America Grants, known as the INFRA Grants. The program is designed to support large projects that promote economic benefits in addition to enhancing transportation and, most critically, improve safety.

In 2017, New Mexico had the fifth highest rate of deaths from fatal motor vehicle crashes per capita, fifth most dangerous state for traffic accidents, and from 2015 to 2016, New Mexico saw the largest percent increase in traffic fatalities in the nation, 35 per-

cent. These aren't just numbers. They represent hundreds of lives lost.

New Mexico has one of the largest, if not the largest, need for money to support traffic safety, but do you know how much my state has received from DOT INFRA Grants over the past three years? Zero dollars. State and local governments in New Mexico have a demonstrated need and have submitted to you a request for over \$284 million from the INFRA Program.

I encourage Secretary Chao to fully consider their requests in light of the high need for safety funding in my state. I hope you'll do that.

Mr. SZABAT. Senator, we will.

Senator UDALL. Thank you. Thank you, Mr. Chairman.

Senator WICKER. Thank you very much, Senator Udall.

And thank you to all of our participants and to the witnesses.

The hearing record will remain open for two weeks. During this time, Senators are asked to submit any questions for the record. Upon receipt, the witnesses are requested to submit their written answers to the Committee as soon as possible but by no later than Wednesday, July 10, 2019.

Thank you very, very much.

This hearing is concluded.

[Whereupon, at 11:57 a.m., the hearing was adjourned.]

A P P E N D I X

ADVOCATES
June 18, 2019

Hon. ROGER WICKER, Chairman,
Hon. MARIA CANTWELL, Ranking Member,
Committee on Commerce, Science, and Transportation,
United States Senate,
Washington, DC.

Dear Chairman Wicker and Ranking Member Cantwell:

As you prepare for tomorrow's hearing, "FAST Act Reauthorization: Transportation and Safety Issues," we urge you to ensure that safety is prioritized for all of America's road users. This Committee has a successful history of advancing safety improvements in previous surface transportation bills. Tire pressure monitoring systems, rear outboard 3-point seat belts, electronic stability control, rear seat belt reminder systems, rear view cameras, brake transmission interlocks, seat belts on motorcoaches, electronic logging devices, and others, which have saved hundreds of thousands of lives, have been accomplished because of the bipartisan leadership of members of this Committee. As the Committee begins consideration of reauthorizing surface transportation programs, the following recommendations are critical to save lives, prevent injuries and contain costs. We respectfully request that this letter be included in the hearing record.

Proven, Advanced Vehicle Technologies Should be Standard in All New Vehicles

Advanced vehicle technologies can prevent and lessen the severity of crashes and should be required as standard equipment on all new vehicles. These include, at a minimum, automatic emergency braking (AEB), lane departure warning (LDW) and blind spot detection (BSD) for cars, trucks and buses. These safety systems can help stop crashes from occurring, as well as reduce the impact of crashes that do occur. However, they are often sold as part of an additional, expensive trim package along with other non-safety features, or included only in high end models or vehicles. Moreover, there are currently no minimum performance standards to ensure they perform as expected.

In 2015, Advocates and other safety groups filed a petition with the National Highway Traffic Safety Administration (NHTSA) seeking the issuance of a rule to require forward collision avoidance and mitigation braking systems (F-CAM), also known as AEB, on commercial motor vehicles (CMVs) with a gross vehicle weight rating (GVWR) of 10,000 pounds or more. The NHTSA estimates that fleetwide adoption of advanced AEB systems could save 166 lives per year and prevent 8,361 injuries. The agency granted Advocates' petition in October of 2015 but has not undertaken any further regulatory proceedings.

Additionally, the Insurance Institute for Highway Safety (IIHS) has found that while nighttime visibility is essential for safety, few vehicles are equipped with headlights that perform well.

- *Recommendation: Advanced vehicle technologies that have proven to be effective at preventing and mitigating crashes, including AEB, LDW and BSD should be standard equipment on all new cars, trucks and buses. Congress should require the U.S. Department of Transportation (DOT) to issue final rules setting minimum performance standards on these technologies and to upgrade Federal motor vehicle safety standard (FMVSS) 108 to improve headlight performance.*

Commonsense Regulation of Experimental Autonomous Vehicle Technology is Essential While autonomous vehicles (AVs) have tremendous promise to meaningfully reduce traffic crashes, fatalities and injuries as well as increase mobility once they are proven to be safe, they must be subject to minimum performance standards set by the U.S. DOT. Additionally, minimum performance requirements and protections

will be necessary as autonomous systems are deployed in CMVs. Large trucks and buses should have an appropriately trained and licensed driver behind the wheel, and introduction of automated systems should not be used as a rationale for weakening operational rules such as hours of service, driver training and other important requirements. The recent crashes involving the Boeing 737 MAX airplane highlight the catastrophic results that can occur when automated technology potentially malfunctions and is not subject to thorough independent oversight.

- *Recommendation: Among other needed safeguards, AVs must be subject to minimum performance standards set by the U.S. DOT including for cybersecurity, vehicle electronics, driver engagement for AVs that require a human driver to take over at any point, and a “vision test” for driverless cars to ensure they can properly detect and respond to their surroundings.*

Impaired Driving is a Solvable Problem

On average, an alcohol-impaired driving fatality occurs every 48 minutes on America’s roads. In 2017, 10,874 people were killed in crashes involving a drunk driver, accounting for nearly a third of all traffic fatalities. Moreover, when drug and alcohol use are combined, known as “polyuse”, the effects of impairment for a driver can be amplified.

- *Recommendation: Congress should direct the U.S. DOT to take a number of actions that would curb impaired driving. Specifically, they should issue a minimum standard requiring all new vehicles to be equipped with passive sensor technology that prevents a vehicle from moving if the blood alcohol content (BAC) of the driver is above a certain level. Additionally, states should be incentivized to lower the legal BAC limit to 0.05 percent or lower. Moreover, 17 states still do not have a lifesaving law requiring ignition interlock devices (IIDs) for all offenders. States that do not yet have this vital law should be required to enact it by a date certain or face a sanction.*

The Epidemic of Distracted Driving Must be Addressed

In 2017, crashes involving a distracted driver claimed 3,166 lives. Crashes in which at least one driver was identified as being distracted impose an annual economic cost of \$40 billion dollars, based on 2010 data. Issues with underreporting crashes involving cell phones remain because of differences in police crash report coding, database limitations, and other challenges. It is clear from an increasing body of safety research, studies and data that the use of electronic devices for telecommunications (such as mobile phones and text messaging), telematics and entertainment can readily distract drivers from the driving task.

- *Recommendation: NHTSA should issue regulations to strictly limit the use of electronic communication and information features that can be operated and to prohibit the use of those features that cannot be conducted safely while driving. Additionally, improvements to the incentive grant program are needed to encourage states to pass strong safety laws and qualify for money to undertake efforts to combat distracted driving. The aforementioned improvement of requiring proven, advanced vehicle technologies would also reduce and mitigate distracted driving crashes.*

Information and Data Should be Collected and Available

At a minimum, vehicle crash data should be collected, recorded, accessible, and shared with appropriate Federal agencies and researchers so that safety-critical problems can be identified. Currently, there is no requirement that vehicles be equipped with an event data recorder (EDR). While the type of data voluntarily-installed EDRs must capture is required, this information is insufficient to properly ascertain facts about crashes, especially as vehicles become more highly automated. Consumers must also be given essential information about the limitations and capabilities of AVs in the owner’s manual and at the point of sale, as well as via a public website searchable by vehicle identification number (VIN). It should include, at a minimum, vehicle information such as any exemptions from Federal safety standards and the AV’s operational design domain (ODD).

- *Recommendation: Crash data generated by vehicles should be collected, recorded, accessible, and shared with appropriate Federal agencies and researchers so that safety-critical problems can be identified. EDRs must be mandated for all vehicles and required to collect sufficient, standardized information to aid investigators and regulators in assessing performance, including for AVs. In addition, consumers must be given essential information about the limitations and capabilities of AVs in the owner’s manual and at the point of sale, as well as via a public website searchable by VIN.*

Prevent “Hot Car” Deaths

Legislation is critically needed to address the problem of occupants being left unknowingly in the rear seats of passenger vehicles. In 2018, a record number of 52 children were killed in vehicular heatstroke incidents. These tragedies can be prevented by equipping vehicles with a detection system that alerts parents and other caregivers to check the backseat. We are thankful for your leadership, along with Senator Blumenthal, in introducing the HOT CARS Act of 2019 (S. 1601).

- *Recommendation: Congress should enact legislation that would require the U.S. DOT to issue a final rule for all new cars to be equipped with a detection system with a visual, auditory and haptic alert for occupants unintentionally left in vehicles.*

The Seatback Strength Standard Must be Updated

Parents have long been advised that the safest place for a child is in the rear seat. Yet, NHTSA has failed to adequately protect a child in the rear seat when the front seatback fails or collapses in a crash. According to the Center for Auto Safety, from 1990 to 2014, nearly 900 children seated behind a front-seat occupant or in a center rear seat died in rear impacts of 1990 and later model-year cars due to front-seatback failure. The safety standard for seatback performance was issued in 1967 and is woefully inadequate.

- *Recommendation: Congress should enact legislation that would require the U.S. DOT to update the Federal safety standard for seatback strength.*

Improved Protections for Vulnerable Road Users are Needed

Deaths and injuries of pedestrians and bicyclists remain unacceptably high. In fact, in 2016, pedestrian and bicyclist fatalities hit their highest levels in nearly 30 years and estimates from 2018 show an increase in both categories. Vehicles can be designed, specifically in the front end, to reduce the severity of impacts with pedestrians and/or bicyclists. Additionally, collision avoidance systems for pedestrians, like advanced AEB, have promise to further reduce deaths and injuries. Advocates continue to monitor research on the effectiveness of these systems and will support data-driven solutions to prevent these fatalities. Moreover, the New Car Assessment Program (NCAP) must be updated to include pedestrian crashworthiness and pedestrian crash avoidance.

- *Recommendation: The NHTSA should be directed to issue a standard for improved vehicle designs to reduce the severity of impacts with road users. In addition, NCAP must be updated to include pedestrian crashworthiness and pedestrian crash avoidance.*

Connected Vehicle Technology has the Potential to Offer Added Safety Benefits

Connected vehicle technologies allow a vehicle to send and receive communications with other vehicles (vehicle-to-vehicle (V2V)) and the infrastructure (vehicle-to-infrastructure (V2I)). These messages can relay information ranging from the relative location and direction of motion of other vehicles to warning messages that traffic lights are about to change or inclement weather conditions are soon to be encountered. These systems will likely help fill in gaps in the performance of AVs.

- *Recommendation: In 2017, NHTSA issued a Notice of Proposed Rulemaking (NPRM) to require V2V technology. Despite the identified safety benefits of V2V technology, this rule is languishing at the U.S. DOT. NHTSA should be directed to complete this rulemaking.*

Safety Standards are Necessary for Keyless Ignition Systems

Keyless ignition vehicles present certain safety risks including carbon monoxide poisoning and vehicle rollaway. As more vehicles equipped with keyless ignitions are sold, prevalence of the dangers from problems associated with them is increasing.

- *Recommendation: Congress should pass the PARK IT Act (S. 543/H.R. 3145), introduced by Committee members Senators Blumenthal and Markey, which would require NHTSA to issue standards for keyless ignition vehicles including an automatic shutoff and preventing a vehicle from rolling away.*

NHTSA Must be Sufficiently Funded and Given Additional Authorities

Ensuring NHTSA has adequate resources, funds and staff is a crucial priority. Additionally, in recent years, millions of motor vehicles have been recalled for serious and sometimes fatal safety defects including GM ignition switches and Takata airbags. Nonetheless, used cars can still be sold and leased with open recalls—a signifi-

cant loophole that should be closed. NHTSA must also have imminent hazard authority to take immediate action when the agency determines that a defect involves a condition that substantially increases the likelihood of serious injury or death if not remedied. Further, NHTSA must also be given the authority to pursue criminal penalties in appropriate cases where corporate officers who acquire actual knowledge of a serious product danger that could lead to serious injury or death and knowingly and willfully fail to inform NHTSA and warn the public.

- *Recommendation: Considering the unacceptably high number of fatalities and injuries on our Nation's roads, the prevalence of recalls, and the new responsibilities incumbent upon the U.S. DOT as AVs are developed and deployed, NHTSA must have additional resources, expertise and authorities to effectively oversee vehicle safety.*

Our Most Precious Passengers Need Enhanced Protections

Every year, nearly 500,000 school buses transport more than 25 million children to and from school and school-related activities, according to the National Transportation Safety Board (NTSB). Leading safety experts have determined that all school buses should be equipped with safety belts to improve passenger safety. Additional technologies can also make school buses safer.

- *Recommendation: Congress should require important safety advancements be made to ensure the safety of children both inside and outside of school buses.*

Speeding Exacerbates CMV Safety Problems

According to the Federal Motor Carrier Safety Administration (FMCSA), 10,440 people were killed from 2004 to 2013 in crashes where the speed of the CMV likely contributed to the severity of the crash. On average, that amounts to over 1,000 lives lost annually to speeding CMVs.

- *Recommendation: We urge Congress to require that the U.S. DOT issue a final rule requiring all new CMVs to be equipped with speed limiting devices set at a speed that does not exceed 65 miles per hour and requiring those CMVs that already have the technology be set at a speed that does not exceed 65 miles per hour.*

Underride Crashes Have Horrific Outcomes; Equipment Advances are Needed

Technology is currently available that can significantly increase the chances that an individual can survive crashes where a motor vehicle travels underneath the rear or side of a truck trailer. The FMVSS that apply to rear underride guards should be updated to meet the standards set by IIHS in their TOUGHGUARD award and should be applied to single-unit trucks (SUTs) as well as trailers. Side underride guards have now been proven to be able to save lives and mitigate crashes and thus, should be required as standard equipment on all trailers and SUTs. In addition, front guards that prevent a truck from overriding or traveling over a passenger motor vehicle when the truck strikes the rear of the vehicle have been in use in the European Union for years.

- *Recommendation: Congress should swiftly pass the Stop Underrides Act (S. 665/H.R. 1511) which will require the current Federal standards for rear underride guards to be upgraded to meet current industry standards and the installation of side and front guards.*

Driver Fatigue is a Well-Known CMV Safety Problem

Currently, truck drivers are permitted to drive grueling hours which can lead to cumulative fatigue and devastating safety consequences. The NTSB has repeatedly cited fatigue as a major contributor to truck crashes and included reducing fatigue related crashes in every edition of its Most Wanted List of safety changes since 2016. In December 2017, a rule took effect that mandated the use of electronic logging devices (ELDs) to record truck driver hours of service (HOS). ELDs offer an objective record of a driver's hours to promote compliance. Since the rule took effect, HOS violations have decreased 39 percent.

- *Recommendation: We urge Congress to reject efforts to diminish the rule requiring the use of ELDs and to further erode HOS regulations. Moreover, Congress should direct the FMCSA to issue a rule to ensure that drivers afflicted with obstructive sleep apnea are properly screened during the medical examination and are receiving the medical treatment they need so they do not become needlessly fatigued while operating a CMV on public roads.*

“Teen Truckers” Pose a Major Safety Threat

Some segments of the trucking industry are pushing for legislation that would allow teenagers to operate CMVs in interstate commerce in order to alleviate the so-called “driver shortage.” However, a March 2019 U.S. Bureau of Labor Statistics (BLS) study concluded there is no inordinate labor shortage in the trucking industry. Additionally, CMV drivers under the age of 19 are four times more likely to be involved in fatal crashes, as compared to CMV drivers who are 21 years of age and older, and CMV drivers ages 19–20 are six times more likely to be involved in fatal crashes (compared to CMV drivers 21 years and older).

- *Recommendation: Attempts to allow teenagers to operate CMVs in interstate commerce should be rejected by Congress.*

CMV Drivers Need Adequate Training

The lack of uniform adequate training for candidates obtaining their commercial driver’s license (CDL) has been a known safety problem for decades.

- *Recommendation: We urge Congress to direct the FMCSA to amend the final rule for entry level driving training for all CDL candidates to include a minimum number of behind-the-wheel training hours.*

Safety Data on Carrier Performance Must Be Publicly Available and FMCSA Must Have the Ability to Better Identify and Intervene with High Risk Carriers

Fatal truck crashes continue to occur at an alarmingly high rate and without public accountability, there is insufficient incentive for unsafe carriers to improve their operations. Section 5223 of the FAST Act (Pub. L. 114–94) required that certain safety scores of FMCSA’s Compliance, Safety, Accountability (CSA) program for trucks be removed from public view. The FAST Act also required the National Academies of Sciences, Engineering and Medicine (NASEM) to study the CSA program method for evaluating the safety of motor carriers and commercial vehicle drivers. The NASEM study concluded that the method was sound and made several recommendations to improve the CSA program. Relatedly, Advocates supported FMCSA’s 2016 action to upgrade the safety fitness determination (SFD) process, which informs the CSA program, by using on-road safety data to evaluate carriers in addition to an agency investigation. This update to the SFD program would have significantly enhanced the FMCSA’s ability to identify unsafe carriers because it would have enabled the agency to use data from the carrier’s on-road operations, yet the agency withdrew the rulemaking in August of 2017.

- *Recommendation: Congress should require that the public availability of all CSA scores be immediately reinstated while the improvements recommended by the NASEM study are implemented. The public should once again have access to this important safety data on trucking companies without any further delay. Furthermore, Congress should direct the FMCSA to immediately reinstate and complete the safety fitness determination rulemaking.*

Overweight Trucks Disproportionately Damage Our Nation’s Crumbling Infrastructure and Threaten Public Safety

Federal limits on the weight and size of CMVs are intended to protect both the traveling public and our roads and bridges. Yet, proposals continue to be put forth to allow larger and heavier trucks that violate or circumvent these Federal laws to operate in certain states or for specific industries.

- *Recommendation: Congress should oppose changes to Federal truck size and weight limits.*

Every day, on average, over 100 people are killed and nearly 7,500 more are injured in preventable motor vehicle crashes. They also impose a tremendous financial burden of over \$800 billion on society annually—\$242 billion of which are economic costs. This equates to every American paying a “crash tax” of \$784 each year. The available solutions outlined above are directly targeted at the factors that cause crashes, and the need for many of these improvements has been underscored by the NTSB. We urge this Committee to feature a strong safety title in FAST Act reauthorization legislation that directs U.S. DOT to take swift action on implementing these improvements. Moreover, efforts to weaken or repeal the safety protections that do exist must be resoundingly rejected. Lastly, a number of Congressionally-mandated rulemakings are long overdue to the ongoing peril of the traveling public (*See attached list*). We ask the Committee to compel the U.S. DOT to complete these requirements.

Thank you for your consideration of our recommendations, and we look forward to working with you to advance policies that protect all road users in the next surface transportation reauthorization legislation.

Sincerely,

CATHERINE CHASE,
President.

cc: Members of the U.S. Senate Committee on Commerce, Science, and Transportation

OVERDUE & AT-RISK SAFETY REGULATIONS

Statutory deadlines to issue final rules are in red (represented in greyscale).

All dates provided by agency for rulemaking actions are per April 2019 Significant Rulemaking Report (latest available) or the Fall 2018 Semi-Annual Regulatory Agenda.

National Highway Traffic Safety Administration (NHTSA)

- *Motorcoach Rollover Structural Integrity* (DUE—October 1, 2014)
 - Mandated in MAP–21 (Sec. 32703(b)(1)).
 - Congressional deadline for issuance of Final Rule—October 1, 2014.
 - NHTSA issued NPRM on August 6, 2014.
 - NHTSA estimates that a Final Rule will be issued in June 2019.
- *Motorcoach Anti-Ejection Countermeasures* (DUE—October 1, 2014)
 - Mandated in MAP–21 (Sec. 32703(b)(2)).
 - Congressional deadline for issuance of Final Rule—October 1, 2014.
 - Final Rule requiring seat belts on intercity buses issued in November 2013.
 - NHTSA issued NPRM regarding emergency exits, window retention and release and anti-ejection glazing for portals on May 6, 2016.
 - NHTSA indicates that next regulatory action is undetermined.
- *Side Impact Requirements for Child Restraint Systems* (DUE—October 1, 2014)
 - Mandated in MAP–21 (Sec. 31501(a)).
 - Congressional deadline for issuance of Final Rule—October 1, 2014.
 - NHTSA issued NPRM on January 28, 2014.
 - NHTSA estimates that a Final Rule will be issued in September 2019.
- *Front Impact Requirements for Child Restraint Systems* (DUE—October 1, 2016)
 - Mandated in MAP–21 (Sec. 31501(b)).
 - Congressional deadline for issuance of Final Rule—October 1, 2016.
 - NHTSA estimates that NPRM will be issued in May 2019.
- *Improved Child LATCH Restraint System* (DUE—October 1, 2015)
 - Mandated in MAP–21 (Sec. 31502).
 - Final Rule to be issued 3 years from date of enactment—October 1, 2015.
 - NHTSA issued NPRM on January 23, 2015.
 - NHTSA has not provided a target date for further regulatory action.
- *Rear Seat Belt Reminders* (DUE—October 1, 2015)
 - Mandated in MAP–21 (Sec. 31503).
 - Final Rule to be issued 3 years from date of enactment—October 1, 2015.
 - NHTSA has not initiated rulemaking.
 - NHTSA estimates that an NPRM will be issued in May 2019.
- *Notification of Vehicle Safety Recalls Via E-mail* (DUE—August 29, 2016)
 - Mandated in FAST Act (Sec. 24104).
 - Congressional deadline for issuance of Final Rule—August 29, 2016.
 - NPRM, not final rule, was published in Federal Register on August 29, 2016.
 - NHTSA has not provided a target date for further regulatory action.

May 2019

- *Corporate Responsibility For NHTSA Reports* (DUE—December 4, 2016)
 - Mandated in FAST Act (Sec. 24112).
 - NHTSA indicates that next regulatory action is undetermined.

- *Crash Avoidance Technologies on Vehicle Label* (DUE—December 4, 2016)
 - Mandated in FAST Act (Sec. 24322).
 - Congressional deadline for issuance of Final Rule—December 4, 2016.
 - Rulemaking does not appear in semi-annual regulatory agenda.
- *Retention of Safety Records by Manufacturers* (DUE—June 4, 2017)
 - Mandated in FAST Act (Sec. 24403).
 - Congressional deadline for issuance of Final Rule—June 4, 2017.
 - NHTSA previously estimated that an NPRM would be issued in October 2018.

Federal Motor Carrier Safety Administration (FMCSA)

- *New Entrant Assurance Process Proficiency Exam* (DUE—April 1, 2014)
 - Congress originally sought action in § 210 of the 1999 MCSIA.
 - FMCSA published an ANPRM in 2009.
 - MAP–21 (Sec. 32101(b)) requires a final rule be issued in 18 months—by April 1, 2014.
 - FMCSA has not provided a target date for further regulatory action.

Joint NHTSA/FMCSA Rulemakings

- *Heavy Vehicle Speed Limiters*
 - Grant of Petition for Rulemaking—Mar. 18, 2011.
 - NPRM was issued on August 26, 2016.
 - NHTSA/FMCSA has not provided a target date for further regulatory action.

Rulemakings Withdrawn

- *Mandatory Event Data Recorder Requirements*
 - NHTSA initiated rulemaking project on Feb. 22, 2011.
 - NPRM issued on Dec. 13, 2012.
 - Rulemaking withdrawn February 8, 2019.
- *State Inspection of Passenger Carrying Vehicles*
 - Mandated in MAP–21 (Sec. 32710).
 - Requires FMCSA complete rulemaking to consider requiring states to annually inspect passenger carrying vehicles.
 - ANPRM published in April 2016.
 - Rulemaking withdrawn May 1, 2017.
- *Carrier Safety Fitness Determinations*
 - Rulemaking project was initiated on June 21, 2007.
 - Intended to revise carrier safety ratings procedures in light of adoption of the CSA Program.
 - NPRM issued on January 21, 2016.
 - Rulemaking withdrawn March 23, 2017.
- *Evaluation of Drivers for Obstructive Sleep Apnea (OSA)*
 - FMCSA was considering regulatory actions that address the safety risks associated with drivers afflicted with non-treated OSA.
 - ANPRM was issued on March 10, 2016. ◦ Rulemaking withdrawn August 8, 2017.

ALLIANCE OF AUTOMOBILE MANUFACTURERS, INC.
SURFACE TRANSPORTATION REAUTHORIZATION (“STR”) PRIORITIES

Adaptive Driving Beam Rulemaking: In response to petition from automakers, In December 2018, NHTSA proposed rulemaking to amend its lighting standard (“FMVSS 108”) to permit the use of adaptive driving beam (“ADB”) headlighting systems. However, the requirements proposed deviate substantially from those specified in two internationally recognized standards regarding ADB. The United Nations Economic Commission for Europe (“UNECE”) established ADB requirements in R48 and R123, and has allowed ADB-equipped vehicles to operate in the European market since 2012. SAE J3069™ was first issued in 2016, and Transport Canada began allowing ADB systems complying with either ECE R123 or SAE J3069™ in Canadian Motor Vehicle Safety Standard (“CMVSS”) No. 108 as of March 2018.

Policy Priority: NHTSA should be directed to harmonize ADB requirements with those adopted by the UNECE and Transport Canada.

49 U.S.C. Sec. 30113 Exemption Limit: The National Traffic and Motor Vehicle Safety Act, as amended, authorizes the Secretary of Transportation to exempt, on a temporary basis, under specified circumstances, and on terms the Secretary deems appropriate, motor vehicles from a FMVSS or bumper standard. This authority is set forth at 49 U.S.C. 30113. The Secretary has delegated the authority for implementing this section to NHTSA.

The exercise of NHTSA's authority to grant, in whole or in part, a temporary exemption to a vehicle manufacturer is conditioned upon the Agency's making specified findings. The Agency must comprehensively evaluate the request for exemption and find that the exemption is consistent with the public interest and with the objectives of the Vehicle Safety Act.

The *AV START Act of 2017* as reported by the Senate would have increased the number of vehicles that could be exempted. For the 12 months after the bill's passage, safety-standard waivers for vehicles allowed for sale or interstate commerce would have been 15,000, down from 50,000 as originally proposed. For the year after that, 40,000 down from 75,000, and the year after that, 80,000 down from 100,000, which would remain the cap for five years at that point.

Policy Priority: STR legislation should increase the limit for exemptions issued pursuant to 49 U.S.C. 30113 to the level originally proposed in the *AV Start Act*. STR legislation should provide a timeline in which the Agency must make a determination on an exemption after it is published in the *Federal Register*.

Cost Savings Act: Part 581 Bumper Standard damageability testing limits sensor placement and will impact AEB and other crash avoidance tech.

Policy Priority: Update Cost Savings Act. Lives saved calculations should be taken into consideration.

Preserving 5.9 GHz Spectrum Allocation: The Dedicated Short Range Communications ("DSRC") wireless spectrum is specifically designed for automotive use. In 2004, the FCC dedicated 75 MHz of bandwidth at 5.9 GHz to be used for vehicle safety and other mobility applications. DSRC operates in this band, and has been developed for over a decade by a range of stakeholders including automakers, electronics manufacturers, state highway departments, and the Federal government. Most work on DSRC has focused on active safety—crash avoidance using driver alerts based on sophisticated sensing and vehicle communications.

Policy Priority: STR legislation should:

- Preserve the full 75 MHz spectrum allocation nominally located at 5.9 GHz for Connected Vehicle Communications;
 - Allow unlicensed operation in the band only be allowed if it is proven that there is no harmful interference from these devices on licensed operations;
 - Accelerate and provide suggested timing for FCC testing of determination of harmful interference; and
 - Direct that U.S. Government agencies should act to preserve the allocated spectrum for connected vehicle communications uses in ways that foster investment and deployment of such communications technologies by automakers, states, service providers and others.
-

Zero Emission Vehicle (ZEV) Electric Charging and Hydrogen Fueling Infrastructure Development: The market for ZEVs, which include Battery Electric Vehicles (BEVs), Plug-in Hybrid Electric Vehicles (PHEVs) and Fuel Cell Electric Vehicles (FCEVs), is anticipated to grow and evolve as automakers introduce more and diverse ZEVs and as ZEVs expand to additional market segments. To facilitate the deployment and use of these vehicles, it is necessary to ensure energy providers make electric charging and hydrogen fueling infrastructure available.

Policy Priority: STR legislation should authorize funding for ZEV infrastructure projects—including electric vehicle charging stations and hydrogen fueling stations—so states and local communities can leverage private investment to motivate

energy providers to rapidly deploy innovative transportation solutions along the interstate system.

Energy Provider Infrastructure Policies

- Establish ZEV electric charging and hydrogen fueling infrastructure across the Interstate Highway System
- FAST Act Alternative Fuel Corridors—Create and fund a grant program to build out electric charging and hydrogen fueling infrastructure on alternative fuel corridors
- Congestion Mitigation and Air Quality Improvement Program—Require states to obligate a portion of program funds toward electric charging and hydrogen fueling infrastructure
- Foster vehicle to grid integration—Build out smarter energy infrastructure with electric utility participation in deployment
- Encourage/incentivize utilities to install make-ready EV infrastructure
- Pursue cost reductions in hydrogen fueling stations and electric vehicle chargers

Vehicle Research & Development

- Continue exploring native minerals, and the recycling of out of service battery materials, to ensure the availability of domestic electric vehicle batteries
- Continue funding research and development on electric vehicle battery technology, *i.e.*, solid state batteries, to improve vehicle range, weight, and charge time
- Pursue advances in weight and conformability of hydrogen storage in fuel cell electric vehicles

Data Advisory Committee: An amendment to the *AV START Act of 2017* as reported by the Senate would have established an “HAV Data Access Advisory Committee Act” and restricted any agency of Federal government to promulgate any rules regarding ownership, control, or access to any data stored or generated by AVs until a newly-created HAV Data Access Advisory Committee is able to make a report.

Policy Priority: STR legislation should direct the establishment of Data Access Advisory Committee with a similar purpose to that included in the AV START Act, expanded to incorporate vehicles and data beyond AVs. The committee should be formed no later than 180 days after the bill becomes law, provide a forum for stakeholders to discuss and make recommendations to Congress regarding vehicle-generated data ownership, control and access. Within two years the Committee should make recommendations (those that are supported by two-thirds of voting members) and should be specifically charged with considering “motor vehicle safety, intellectual property protections, compliance with vehicles under the motor vehicle safety act, consumer privacy, cybersecurity, confidential business information related to AV systems, public safety and transportation planning.” Membership could be expanded to incorporate additional stakeholders given the expanded scope.

Establishment of an NCAP Advisory Committee: NHTSA’s New Car Assessment Program (“NCAP”) can be a means to help facilitate and accelerate the adoption of advanced safety and driver assist technologies. In order to provide advance program direction, it is important for the agency to develop and periodically update a long-term road map for NCAP. This is especially critical given automakers’ long—4 to 5 years—product development cycles.

Policy Priority: To assist NHTSA in the development of an effective NCAP program, NHTSA should be directed to establish an advisory committee to:

- Develop, implement, and periodically update a long-term roadmap for NCAP that considers, the macro effect on motor vehicle safety;
- Oversee the identification and prioritization of safety opportunities that lend themselves to a market based/consumer information approach;
- Coordinate with other NCAP and consumer rating organizations to avoid potential duplication or conflicts;
- Establish procedures for selecting advanced safety and connected vehicle technologies to be rated;

- Oversee the development of test procedures, test dummies, test fixtures, and safety performance metrics to be used to rate advanced safety and connected vehicle technologies;
- Oversee the development of a rigorous and science-based means for providing consumers with an overall safety rating(s) that distinguishes meaningful performance differences in a simple and easy to understand manner; and
- Conduct periodic effectiveness evaluations.

Infrastructure Enhancements for Automated Driving Systems (“ADS”): To fully realize the safety, economic and social benefits enabled by ADS, the national roadway infrastructure must be updated and maintained in a manner consistent with the needs of ADS and connected vehicle technologies. Many of the required updates would provide a benefit to non-ADS-equipped vehicles as well, and are very cost effective considering the large scale safety benefit.

Policy Priority: STR legislation should direct that the FHWA update the Manual of Uniform Traffic Control Devices (“MUTCD”) to accommodate, facilitate and support the deployment of ADS and connected vehicle technologies. STR legislation should further authorize adequate appropriations for the establishment and maintenance of the needed ADS and connected vehicle infrastructure.

Infrastructure for the USDOT Work Zone Data Exchange Initiative: A national database of U.S. roadways capturing up-to-date information such as new construction will help human and ADS driven vehicles navigate safely and efficiently. Maintaining the national database with a standard, open specification across national, state, and local levels will allow for collaboration across roadway planners, ADS developers, navigation mapping providers, vehicle manufacturers, and other stakeholders. Additionally, a standard, open specification would allow safety and traffic researchers to look across national roadways to determine which designs, signs, striping, intersections, etc. work best for safe efficient travel for human and ADS driven vehicles.

Policy Priority: Expand the Work Zone Data Exchange to beyond voluntary measures. Create a committee with public (federal and state) and private stakeholders to develop the database specifications, maintenance, schedule, and logistics ownership. Create a public rollout plan for initial delivery and continued maintenance.

TCPA Public Safety Exception: The wireless calling restrictions under the *Telephone Consumer Protection Act (“TCPA”)* contain a critical public safety exception: automated calls may be placed, even absent “prior express consent,” when they are “made for emergency purposes.”

Policy Priority: STR legislation should clarify on an emergency basis that motor vehicle safety recall—related calls and texts are “made for emergency purposes” and thus exempt from the TCPA’s wireless calling restrictions.

TRUCKLOAD CARRIERS ASSOCIATION
June 18, 2019

Hon. ROGER WICKER,
Chairman,
Committee on Commerce, Science, and Transportation,
U.S. Senate,
Washington, DC.

Hon. MARIA CANTWELL,
Ranking Member,
Committee on Commerce, Science, and Transportation,
U.S. Senate,
Washington, DC.

Dear Chairman Wicker and Ranking Member Cantwell:

On behalf of the Truckload Carriers Association (TCA) and our roughly 700 members across the country, thank you for the opportunity to provide input to the Senate Commerce, Science, and Transportation Committee on trucking-related legislation to be discussed at the June 19, 2019 hearing, “FAST Act Reauthorization: Transportation and Safety Issues.”

The Truckload Carriers Association is the only national trade association whose collective sole focus is the truckload segment of the trucking industry. The association represents dry van, refrigerated, flatbed, and rail intermodal carriers operating in the 48 contiguous U.S. states, as well as Alaska, Mexico, and Canada. TCA's members employ over 200,000 drivers and generate \$38 billion in annual revenue. As a major part of an industry which accounts for 78 percent of the total U.S. freight moved by all transportation modes, and over 524,000 individual companies operating millions of power units, TCA and our trucking company members urge you to focus on the following priorities as your committee considers legislation in 2019:

- *Bolster Revenues for the Highway Trust Fund by Increasing the Federal Fuel Tax.* With the Highway Trust Fund approaching insolvency, Congress must act now to identify revenue streams that will provide substantially bolstered infrastructure investment. TCA and our members support increasing the Federal fuel tax this year to secure the needed funds to prevent even further degradation of our Nation's crumbling roads and bridges. Not only does the fuel tax represent the most efficient revenue-collection method currently available, but it is also widely accepted and understood by both business and the motoring public as an important contribution toward improved infrastructure.
- *Oppose Any Increase to Federal Standards on Truck Length.* The truckload industry would yield little to no advantage and would instead be faced with sizable costs if an allowance was made by the Federal government for longer truck-trailers, specifically Twin 33-foot trailers. Due to the vast differences in freight delivery models and the logistical challenges faced by truckload carriers, labor objections, and significant safety concerns, TCA's members remain strongly opposed to this trailer configuration.
- *Oppose Exemption Requests on the Electronic Logging Device (ELD) Mandate.* TCA supports the Federal Motor Carrier Safety Administration's (FMCSA) industrywide mandate for ELDs to be installed in all commercial trucks by December 16, 2019. These ELDs use technology to track the number of hours a truck driver has been on duty, rather than paper logbooks. ELDs verify compliance with hours-of-service rules, and thereby reduce truck driver fatigue, a leading cause of truck accidents.
- *Support Measures to Allow for Hair Testing in Assessing Commercial Truck Driver Job Applicants.* All applicants for a truck driver occupation must pass a drug test per Federal regulations. While hair testing presents a more effective way to identify lifestyle drug users than traditional urinalysis, the Federal government still does not recognize hair testing as an effective method for identifying long-term drug use. Furthermore, freight transportation companies that utilize hair testing currently cannot submit the positive results to the FMCSA's forthcoming Drug and Alcohol Clearinghouse.
- *Support Efforts to Establish Reasonable Flexibility in the Hours-of-Service Regulations.* The Federal regulations regarding hours of service for truck drivers currently do not allow for the driver to break up their work day and either stop when they are tired or avoid rush hour traffic congestion. FMCSA is in the process of publishing a Notice of Proposed Rulemaking on hours of service, and TCA is hopeful that this will include the necessary flexibility for drivers to stop their 14-hour on-duty clock. However, legislative initiatives have been proposed which would effectively grant some segments of the trucking community with the ability to add to their driving time. TCA opposes any efforts to extend the workday as the safety concerns greatly outweigh any potential productivity benefit that could be gained.

Thank you for the opportunity to provide input to the Senate Commerce Committee as it looks toward advancing legislation of great importance to truckload carriers in the year ahead. TCA and our members remain committed to working with you and your colleagues to rebuild the country's infrastructure so we can continue delivering freight and providing jobs to Americans nationwide. If we can ever be of assistance or provide additional data to support these and other transportation-related issues, please do not hesitate to reach out.

Thank you for your consideration.

Sincerely,

JOHN LYBOLDT,
President.

cc: Members of the Senate Commerce Committee

STATEMENT OF LANE KIDD, MANAGING DIRECTOR, THE TRUCKING ALLIANCE

The Trucking Alliance

The Alliance for Driver Safety & Security, commonly known as the Trucking Alliance, is a coalition of interstate freight transportation and logistics companies. A select number of insurance and technology businesses also support the Trucking Alliance.

The Trucking Alliance is solely focused on safety reforms to:

- Improve the safety and security of commercial drivers;
- Reduce the number of large truck accidents; and
- Eliminate all large truck crash fatalities.

This statement reflects the unanimous position of the Trucking Alliance Board of Directors.

Member Companies

The Trucking Alliance is small in number and carriers affiliate by invitation. Companies also agree to adopt specific safety and operating standards that exceed Federal regulations. Two of the five largest trucking and logistics companies in the United States are Trucking Alliance members. The other member carriers are among the 200 largest U.S. trucking firms.

These companies collectively *employ 82,000* professional drivers and logistics personnel, as well as contracting with *thousands of independent owner operators*. Trucking Alliance member companies own and operate 70,000 large tractors, and more than 220,000 semitrailers and intermodal containers, to serve their supply chain networks.

The Trucking Alliance is *not* competitive with other industry organizations. In fact, Trucking Alliance member companies are members of the American Trucking Associations, the Truckload Carriers Association and the National Tank Truck Carriers Association.

However, the Trucking Alliance is focused exclusively on reforms to reduce large truck crashes, fatalities, and injuries. Information about the Trucking Alliance can be found *here*.

The Trucking Industry's Greatest Transportation Safety Issue

Regarding the committee's subject title, the Federal Motor Carrier Safety Administration (FMCSA) and the commercial trucking industry it regulates, have no greater safety issue than to reduce large truck crash fatalities and injuries.

In the last reportable year (2017), there were more than 415,000 large truck accidents on our Nation's highways. These large truck crashes tragically killed 4,761 people, including more than 600 truck drivers. Another 148,000 people were injured. These statistics should alarm every trucking company employer, whose drivers share the road with millions of motorists every day.

Large Truck Crash Fatalities Can Be Eliminated

Steve Williams, Chairman and CEO of Maverick USA in Little Rock, Arkansas, is a co-founder of the Trucking Alliance. Williams also serves as the coalition's president. Williams is a former chairman of the American Trucking Associations. He has served on numerous industry stakeholder boards and commissions, including the Transportation Research Board.

"The trucking industry is indispensable to the U.S. economy," Williams recently said. *"But the industry has too many accidents. More truck drivers lost their lives in 2017, than in any year in the previous 10 years. We must aggressively address these tragic figures."* Williams believes a first step is to reverse the industry priorities. *"Support progressive safety reforms that make sense for our country and citizens first, our industry second, and our companies third."*

The Senate Commerce Committee must support safety reforms to reduce large truck crashes. Conversely, this committee should reject legislation that would appease special interests but sacrifice public safety in the process.

The trucking industry should achieve the same safety performance record as the U.S. airline industry. For example, the Trucking Alliance fully supports the work of the *Road to Zero Coalition*. Announced in October 2016, this coalition has more than 900 cities, corporations, and government agencies. The Trucking Alliance serves as one of 21 organizations on the Road to Zero Steering Group, the only stakeholder from the trucking industry.

The *Road to Zero Coalition* plans to fully eliminate all highway accident fatalities within 30 years. If progressive safety reforms and emerging technologies are adopt-

ed, the trucking industry can eliminate all large truck crash fatalities much sooner. This sub-committee can have an integral role in achieving these objectives.

The Trucking Alliance will appreciate the Senate Commerce Committee's consideration in supporting the following safety priorities:

1. Electronic Logging Devices (ELDs) Should Be Required on All Commercial Trucks

In 2012, Congress required *all* interstate commercial trucks to install an ELD, as part of the "*Moving Ahead for Progress in the 21st Century Act.*"

ELDs are recording devices. The devices are engaged to the truck's engine. ELDs verify when and for how many hours a truck driver operates a commercial vehicle. ELDs identify if a truck driver exceeds the maximum number of on-duty hours allowed by law, thereby reducing truck driver fatigue, a major factor in large truck crashes.

But rather than embrace ELDs for the safety benefits they will achieve, certain industry segments want an exemption from ELDs. If a commercial driver is required to follow Federal hours-of-service rules, ELDs should be required in the vehicle to verify that he/she is complying with the law.

ELDs should be required in all large commercial trucks, regardless of (1) how many trucks are owned, (2) the commodity being hauled, (3) length of trip, or (4) whether the truck driver operates in interstate or intrastate commerce.

2. Hundreds of Thousands of Commercial Truck Drivers are Illicit Drug Users

The Omnibus Transportation Employee Testing Act of 1991 requires drug and alcohol testing of "safetysensitive" transportation worker occupations. These occupations require performance in the public sector. Drug use is strictly prohibited. Truck driving is considered a safety sensitive occupation, along with other transportation workers in aviation, rail, pipeline, transit, and other transportation modes.

The U.S. Department of Transportation (USDOT) administers the 1991 law, incorporating drug test guidelines approved by the U.S. Department of Health and Human Services (HHS). USDOT currently recognizes one drug test method—a urinalysis. USDOT allows employers to require additional drug test methods, as part of the employer's hiring practices.

A growing number of trucking company employers, including Trucking Alliance carriers, require a second drug test, a hair analysis, as part of their pre-employment truck driver hiring policies.

The Trucking Alliance recently submitted data to the DOT Office of Drug and Alcohol Policy & Compliance, showing compelling evidence that an estimated *301,000* commercial truck drivers would either fail or refuse a hair test for illegal drug use. This survey data compared the pre-employment drug test results of 151,662 truck driver applicants, who were asked to submit to two drug tests—a urinalysis and a hair analysis. Almost all applicants held an active commercial driver license. The good news is that ninety-four percent (94 percent) of the truck driver applicants tested drug-free. These professional drivers are hard-working honest Americans.

However, thousands of the applicants were drug users. The drug test method required by USDOT (a urinalysis) identified 949 applicants, or <1 percent, for drugs. However, 8,878 applicants either failed or refused the hair test. Put another way, the urinalysis *missed 9 out of 10 actual illicit drug users*. The hair test detected the drug use.

The most prevalent drug was *cocaine*, followed by *opioids* and *marijuana*. Applicants who failed or refused the hair test were disqualified for employment at these companies. But they likely obtained the same job elsewhere, at companies that administer only a urinalysis.

This survey is the first of its kind in the trucking industry. The results represent a statistically valid sample. According to the American Trucking Associations, there are 3.5 million commercial truck drivers. The survey can project with a 99 percent confidence level, and a margin of error of <1 percent, that *301,000 commercial truck drivers would fail or refuse a hair analysis today, for illegal drug use*.

The survey results are compelling evidence that thousands of habitual drug users are skirting a system designed to prohibit drug use in transportation. Thousands of drug abusers are obtaining jobs as truck drivers, despite their drug use, and are creating a public safety crisis. These illicit drug users must be identified and taken out of commercial trucks and off the Nation's highways.

The Senate Commerce Committee can urge the Department of Health and Human Services to complete its hair test guidelines (as Congress mandated in 2015). When completed, USDOT can quickly recognize hair testing for DOT pre-employment and random drug test protocols.

Further, until USDOT recognizes a hair analysis, no employer will be allowed to submit hair test failures into the pending USDOT Drug and Alcohol Clearinghouse. This will make it virtually impossible for another employer to know if a person applying for a truck driver job has previously failed a drug test.

3. Drivers Should Be 21 Years or Older to Operate Commercial Trucks in Interstate Commerce

Federal regulations require a person to be at least 21 years of age before operating a commercial vehicle in interstate commerce. The Trucking Alliance supports this age restriction.

State Restrictions are Working: Most states allow 18 and 19-year old teenagers to drive commercial trucks. But they are restricted to working within their state. Most of these teenagers operate delivery vans, and lighter weight, straight trucks, typically 24' long. These trucks have three axles.

They typically return to their place of business several times each day. Many teenagers also work in the agricultural community, hauling fresh produce to market and making local deliveries. They are always under close supervision, unlike the work environment that long-haul interstate commerce demands of commercial drivers.

Statistics are lacking but few of these teenagers operate Class 8 tractor-trailer combinations of the type used in interstate commerce. These tractor trailers carry a laden weight of 80,000 pounds and typically have five axles. Operating these tractor trailer combinations requires elevated skills, considerable experience, maturity and self-discipline.

Teenagers in the Military are Under Close Supervision: Supporters of letting teenagers operate large trucks in interstate commerce use the analogy that teenagers perform various activities in the military. But teenagers in the military are always under daily, highly regulated, constant, and strict supervision. They are rarely left to themselves without an older officer present. There are many job occupations, for which teenagers in the military are not automatically qualified. Long distance trucking is one such occupation.

Liability Insurance Costs Will Increase: Statistics are lacking on the overall safety performance of local teenage truck drivers. But the industry's property and liability insurance companies will underwrite all carriers against the possibility they may employ teenagers in interstate commerce. Premiums will go up.

For these reasons, the Senate Commerce Committee should reject *S.B. 569*. This legislation would allow teenagers to operate Class 8 tractor trailer combinations, in an unsupervised environment, and in interstate commerce, after only 10 weeks of training. The nation's public highways should not be a proving ground to determine if teenagers can safely operate Class 8 tractor trailer combinations.

4. Large Trucks Should Adhere to a Maximum Speed of 65-mph

The Trucking Alliance supports a new Federal safety standard that would require all large commercial trucks to maintain a maximum speed limit of 65 mph on the Nation's highways.

According to National Highway Traffic Safety Administration, in 2017, speeding was one of the factors for almost 27 percent of motor vehicle crash deaths. The World Health Organization's "Report on Road Safety" estimates that for every 1 percent increase in mean speed, there is a 4 percent increase in the fatal crash risk and a 3 percent increase in the serious crash risk. The top speed of large tractor trailer combinations should be limited.

The trucking industry has historically supported truck speed limiters. Most trucking companies already utilize truck speed limiters, usually setting the trucks to operate at maximum speeds between 62 and 68 mph. As far back as 2006, the American Trucking Associations submitted a petition to NHTSA, requesting that truck manufacturers install truck speed limiting devices. The National Transportation Safety Board (NTSB) estimates that setting a truck speed limiter at 65 mph, could save as many as 214 lives and prevent approximately 4,500 injuries from large truck crashes each year.

Slowing the top speed of tractor trailers will greatly reduce the number of fatalities and the severity of injuries from large truck crashes. Congress should support legislation that would direct the Secretary of Transportation to issue a final rule requiring truck speed limiting devices and for those commercial vehicles currently equipped with the technology to engage the devices.

5. Collision Mitigation Systems Should Be Required on New Commercial Trucks

Collision mitigation systems installed in commercial trucks can reduce large truck crashes.

The Trucking Alliance supports the conclusions of a 2017 study by the AAA Foundation for Traffic Study. The study, entitled “*Leveraging Large Truck Technology and Engineering to Realize Safety Gains*”, researched four truck safety technologies, all of which can greatly reduce injuries and fatalities in large truck crashes:

1. *Lane Departure Warning Systems*, which detect when the vehicle drifts out of its lane and warns the driver;
2. *Video-based Onboard Safety Monitoring*, which utilizes in-vehicle video cameras and sensors;
3. *Automatic Emergency Braking Systems*, which detect when the truck is in danger of striking the vehicle in front of it and brakes automatically, if needed; and
4. *Air Disc Brakes*, which will eventually be superior to traditional drum brakes, as these systems are continually improved.

The Trucking Alliance supports the deployment of these Advanced Safety Technologies (ASTs) and other technologies in new commercial trucks. ASTs are not limited however, to the four technologies in the AAA Foundation report. In fact, the Trucking Alliance endorses a wide variety of ASTs that are now deployable or under development for large trucks.

These ASTs include, but are not limited to:

- Forward Collision Warning Systems
- Adaptive Cruise Controls
- Automatic Emergency Braking Systems
- Lane Departure Warning Systems
- “Blind Spot” Warning Systems
- Electronic Stability Control
- Roll Stability Control
- Speed Limiters
- Video-based Onboard Safety Monitoring systems
- Kinematic-based Onboard Safety Monitoring Systems
- Vehicle-to-vehicle Communication
- Air Disc Brakes (ADB)
- Brake Stroke Monitoring Systems; and others.

Some ASTs, such as Roll Stability Control Systems, have been in operation by fleets for a decade. Other technologies, such as video and kinematic-based onboard safety monitoring systems and “Blind Spot” mirror replacement systems are newer technologies that carriers are testing in the field.

For these reasons, the Trucking Alliance endorses ASTs and its member carriers have agreed to pursue the testing and deployment of these ASTs, as they are more fully developed, tested, and the safety benefits are confirmed through these field tests.

In the meantime, the Trucking Alliance urges Congress to require NHTSA to set a minimum performance standard and issue a final rule requiring that commercial motor vehicles are equipped with automatic emergency braking systems, as standard equipment.

Conclusion

Thank you for the opportunity to submit this statement to the hearing of the U.S. Senate Committee on Commerce, Science, and Transportation on the “FAST Act Reauthorization: Transportation and Safety Issues”

Submitted:

LANE KIDD,
Managing Director,
Alliance for Driver Safety & Security (The Trucking Alliance).

RESPONSE TO WRITTEN QUESTIONS SUBMITTED BY HON. ROGER WICKER TO
HON. JOEL SZABAT

Question 1. How will the Non-Traditional and Emerging Transportation Technology Council further coordination among the modal administrations to advance technologies like hyperloop and autonomous vehicles?

Answer. The Non-Traditional and Emerging Technology (NETT) Council was created to further coordination among DOT's Operating Administrations for reducing regulatory burdens and to help pave the way for non-traditional and emerging technologies in the transportation industry. The NETT Council's purpose is to help ensure the current modal set-up works to advance—and not inhibit—the deployment and development of technologies in transportation. The Council will examine current DOT authorities and practices and determine the best way new technologies could be integrated into existing authorities, especially when a technology does not fit neatly into a current operating administration's processes and regulations.

The NETT Council membership consists of Modal Administrators and other senior leaders from across the Department. Topic areas for discussion can be generated by members of the Council or by a company who has reached out to the NETT Council. Upon identifying a project that raises unique cross-modal questions, the Council will establish a working group of experts. The working group will study the technology, assess statutory, regulatory, and policy issues that may represent impediments to timely project implementation and recommend potential solutions or mitigation measures. The Council will review recommendations from the working group and will implement Department-wide processes, solutions, and best practices for managing non-traditional and emerging transportation technologies.

Follow-up. How do you see the Council's approach affecting oversight of technological innovation within each of the modal administrations?

Answer. The NETT Council is not intended to directly affect oversight of technological innovation within each modal administration. Rather, the Council is an internal deliberative body at DOT, tasked with identifying and resolving jurisdictional and regulatory gaps that may be impeding the Department's review and assessment of new transportation technologies, many of which touch multiple modal administrations. Upon identifying a project that raises unique cross-modal questions, the Council will establish a working group of experts from across the Department to study the technology and make recommendations for how to approach environmental and safety-related oversight. In addition, the Council may establish clear, consistent Department-wide processes, solutions, and best practices for managing non-traditional and emerging transportation technologies based on findings from the working group.

Question 2. The development of automated driving systems is imperative to safety and global competitiveness. We are working with Senators Thune and Peters to continue to advance legislation on the safe testing and deployment of automated vehicles. Can you speak to the projected schedule for the completion of your advance notices of proposed rulemaking, as well as the needs and plans DOT has to oversee automated vehicles—both cars and trucks?

Answer. DOT has initiated several rulemaking activities to promote the safe integration of automated vehicles into our Nation's roadways. Notably, both NHTSA and FMCSA recently issued ANPRMs in the past year, with NHTSA's focusing on potential changes to its crash avoidance standards and FMCSA's asking questions about how its regulations, in general, may need to be changed. The comment periods for both these notices will close at the end of August. NHTSA is also currently working on three other rulemakings related to automated driving systems: (1) an NPRM addressing occupant protection for vehicles equipped with automated driving systems, currently expected to be published in late 2019; (2) an ANPRM, currently expected to be published in 2020, seeking comment on the applicability and appropriateness of safety messaging in vehicles without conventional driver controls; and (3) an ANPRM, currently expected to be published in 2020, seeking comment on the creation of a safety framework for objectively and transparently assessing and validating the success of automated vehicles.

Follow-up. Is NHTSA consulting with other nations on the introduction of automated vehicles?

Answer. As part of this ongoing process, DOT continues to engage with stakeholders, domestic and abroad, to share best practices and emerging trends in the market to ensure safe integration of automated vehicles. In addition, NHTSA is actively engaged with the many groups working under the auspices of the World Forum for Harmonization of Vehicle Regulations (WP.29) at the United Nations in Geneva, Switzerland.

Question 3. One area that is critical to further development of our Nation's infrastructure is grant and loan programs for transportation projects. The FAST Act established the Build America Bureau to serve as a one-stop-shop for administering many of DOT's financing programs. What do you see as the next steps for further streamlining the Build America Bureau's administration of these programs and supporting applicants, particularly in rural areas?

Answer. The Bureau has made considerable progress streamlining and simplifying the loan application process and recently standardized the Letter of Interest and Loan Application templates for both Transportation Infrastructure Finance and Innovation Act (TIFIA) and Railroad Rehabilitation & Improvement Financing (RRIF). The Bureau is currently developing standardized loan agreement templates for non-project revenue loans, corporate loans and a more succinct template for short line and regional railroads. Once completed, these will be publicly available on the Bureau's website and should make the process more transparent and straightforward for these borrowers. These improvements should save both on the time it takes to finalize a loan and reduce the transaction cost that is ultimately transferred to the borrower.

In addition, Secretary Chao announced the new TIFIA Rural Projects Initiative in November, 2018. Eligible rural borrowers can benefit from the initiative by borrowing a larger share of eligible project costs (up to 49 percent from the historical 33 percent), a fixed interest rate reduction of 50 percent below the normal Treasury Rate (as of July 19, 2019, the interest rate was below 1.3 percent), and relief from the fees associated with the loan application and review process, which are often hundreds of thousands of dollars.

Question 4. Given the potential safety and mobility benefits of technology in transportation, what should we do to ensure the deployment of intelligent transportation systems across the nation?

Answer. The Department has utilized "innovation" as a merit criteria in several discretionary grant programs such as INFRA and BUILD to incentivize the deployment of safety and mobility technologies. By promoting the adoption of innovative technologies within the infrastructure grant programs, the Department can continue to facilitate and promote the adoption of ITS technologies as part of our surface transportation improvements.

There are a number of safety and mobility benefits that will be derived from technology advances in vehicle technology. DOT and the entire Federal government can play an important role in helping bring these innovations about, while still preserving the private sector's role in delivering products to the market.

Research and regulation are important roles for DOT. DOT is implementing pilot deployments that integrate safety and mobility into practice with the intent of encouraging partnerships of multiple stakeholders (e.g., private companies, States, transit agencies, commercial vehicle operators, and freight shippers) to deploy applications utilizing data captured from multiple sources (e.g., vehicles, mobile devices, and infrastructure) across all elements of the surface transportation system (i.e., transit, freeway, arterial, parking facilities, and tollways) to support improved system performance and enhanced performance-based management.

It is critical that DOT remove burdensome regulation that may stifle innovation and product development. DOT will support research, experimentation, and demonstration projects that bring safety and mobility technologies to the market. It is critical that the private sector lead the implementation and rollout of new products to the market. The Federal Motor Carrier Safety Administration, National Highway Traffic Safety Administration, and the Joint Intelligent Transportation Systems Program Office all have active research and demonstration programs for vehicle technology. The Office of the Secretary for Research and Technology monitors and coordinates efforts Department-wide to ensure projects are complimentary, timely, and not duplicative.

Last, it is critical that the Federal government preserve the 5.9 GHz communications band, which is the part of the communications spectrum currently reserved for automotive and intelligent transportation systems uses. The 5.9GHz band is well suited for low-latency short range transmission, which is essential in safety critical messaging, including overhead gantries and vehicle-to-vehicle communication. However, this band is also attractive to wifi providers. Through Federal leadership beginning at the Federal Communications Commission and DOT, this band can be preserved for its intended transportation safety use.

RESPONSE TO WRITTEN QUESTION SUBMITTED BY HON. JERRY MORAN TO
HON. JOEL SZABAT

Question. Secretary Szabat, BUILD grants are an important tool to constituents back home as we have worked over the years to ensure dollars get back to local communities throughout rural America. As such, I applaud the Department of Transportation for recognizing the value of rural projects in particular over these past two rounds. As we work towards FAST Act Reauthorization, how do we continue to ensure our limited Federal dollars are being allocated equitably across states' areas of greatest need?

Answer. The BUILD program is currently not authorized and is dependent upon annual appropriations. As such, the program requirements often change from year to year. One such requirement change is the minimum rural award percentage. Having an authorized program with stable program requirements and discretionary flexibility to tailor selection criteria to meet changing national needs will allow the Department to ensure equitable and efficient distribution of funds.

RESPONSE TO WRITTEN QUESTIONS SUBMITTED BY HON. MARIA CANTWELL TO
HON. JOEL SZABAT

Railroad Rehabilitation and Improvement Financing (RRIF). The Railroad Rehabilitation and Improvement Financing (RRIF) loan program provides low cost loans to freight and passenger railroads to make capital investments. Congress has provided \$35 billion for the RRIF program; however, it is extremely underutilized. Only, \$6.2 billion or 17 percent of the funds have ever been obligated. The Department of Transportation Inspector General found that RRIF loan applications process is lengthy and confusing.

Question 1. With such a significant need for infrastructure investment in our nation, why is the Build America Bureau having a difficult time executing these loans?

Answer. Potential RRIF borrowers cite several challenges to obtaining loans. Credit Risk Premium (CRP) cost is one of the main barriers for obtaining a RRIF loan. CRP payments are required to be paid by the borrower to the DOT at the time that RRIF loan disbursements are made and can be a substantial cost. Class II and III railroads often do not have the cash on hand to pay for the CRP, making a RRIF loan an unattractive business decision. We are also not authorized to roll the CRP into the loan itself, which might otherwise make RRIF a more attractive option.

RRIF borrowers have a hard time taking full advantage of the pledged collateral to reduce CRP. In many instances, substantial unencumbered (i.e.; not pledged to other lenders) collateral is necessary to reduce the CRP to a level that the RRIF loan is a feasible option.

Question 2. What is the Bureau doing to reduce the time it takes to review a loan application and make clear to applicants what constitutes a successful application?

Answer. The Bureau has emphasized streamlining and simplifying the loan application process and recently standardized the Letter of Interest and Loan Application templates for both Transportation Infrastructure Finance and Innovation Act (TIFIA) and RRIF. The Bureau is currently developing standardized loan agreement templates for non-project revenue loans, corporate loans and a more succinct template for short line and regional railroads. Once completed, these will be publicly available on the Bureau's website and should make the process more transparent and straightforward for these borrowers. These improvements should save both on the time it takes to finalize a loan and reduce the transaction cost that is ultimately transferred to the borrower.

In addition to the initiatives above, the Bureau is developing a pilot program called RRIF Express, aimed at removing barriers, simplifying and streamlining the application and underwriting process for short line and regional railroads. These railroads operate in primarily rural areas and can contribute significantly to economic development by reducing transportation costs for agricultural, energy and raw materials. We anticipate announcing this program before the end of calendar year 2019.

Prospective borrowers deemed eligible for RRIF Express will benefit from a more streamlined process. We will also pay up to the first \$100K in advisor fees, and pay the subsidy cost of the loan up to five percent of the loan amount, thus offering the amount of CRP RRIF Express borrowers would have to pay up front.

Other than streamlining features of RRIF Express include development of a standard (and simpler) loan agreement template, securing financial and legal advisors as promptly as possible and utilization of user guides, webinars and workshops to educate and inform prospective borrowers.

Transit Oriented Development. Transit oriented development projects can help encourage economic and residential development near transit and rail hubs, improving ridership and helping to ensure the success of these transportation network investments. The FAST Act expanded the eligibility of the RRIF and TIFIA loan programs to allow for the financing of transit oriented development projects.

Question 3. Why have there been no transit oriented development projects financed by RRIF or TIFIA? What is the Build America Bureau doing to assist applicants in creating successful applications?

Answer. The Department has found no proposed projects thus far that both meet the eligibility criteria and represent a meaningful transportation improvement. These projects have primarily been private real estate developments proximate to existing light rail transit stations. The Bureau is actively exploring options and discussing eligibility criteria with potential borrowers and there are a few projects that could potentially meet the criteria. However, the RRIF Transit Oriented Development (TOD) authority expires on December 4, 2019 and it is unlikely we can close any loan prior to the deadline given the time required to develop projects, conduct environmental review and other regulatory compliance activities.

Conversely, there is considerable interest in the TIFIA authority to finance public infrastructure that is within walking distance of qualified transit services. The Bureau is working with airports that are exploring this option to finance construction or modernization projects. The TIFIA authority does not have an expiration date and we anticipate that there may be several TIFIA loans executed using this authority in the next 12–24 months.

National Freight Investment. In the FAST Act of 2015, I authored the Nationally Significant Freight and Highway Projects program, which provides competitive grants, known as INFRA, to nationally significant freight projects across the country that improve the movement of freight. However, the FAST Act only authorized \$500 million of \$4.5 billion for multimodal freight projects through 2020.

Question 4. As Congress considers a surface transportation authorization bill, do you agree that the cap on nationally significant multimodal freight projects should be lifted?

Answer. Lifting the multimodal freight cap will allow the Department to more efficiently allocate scarce dollars to meritorious projects. Many project applications contain both highway components as well as multimodal elements, making it administratively burdensome to track and oversee the multimodal freight components when evaluating, selecting, and obligating grant funds for INFRA projects.

RESPONSE TO WRITTEN QUESTION SUBMITTED BY HON. TOM UDALL TO
HON. JOEL SZABAT

Question. As everyone is aware, Politico reported recently that Secretary Chao has steered millions of dollars in grants to Kentucky—as her husband seeks reelection. As you can imagine, everyone on this dais represents states with needs as great as Kentucky, but I am concerned about the Secretary putting her finger on the scale to benefit one state. Can each of you speak how your agencies can prevent such political interference?

Answer. The facts belie the false allegation that the Department has steered grants to Kentucky. As the Politico article noted, Kentucky ranked 25th among the states, received 5 of 169 grants in this period. In terms of funding, Kentucky received about 5 percent of the awards—proportional to its share of the Nation's populations.

The Department applies the same rigorous technical criteria to all application evaluations and treats all project applications equitably. The Department has taken great effort and is committed to ensuring that all our grant programs use data driven processes to ensure the Department complies with all Congressional requirements such as project eligibilities, geographic diversity, minimum urban and rural award percentages, and project type diversity. All applications are reviewed by career technical teams to rate the projects on how well the applicant addresses selection criteria that is published in the Notice of Funding Opportunity. Evaluation teams comprised of representatives from the different modal administrations, staff from Various DOT field offices across the country and HQ staff are responsible for assigning technical ratings.

The Department has a strong track record of ensuring that infrastructure award selections benefit all 50 states and U.S. territories and will continue to ensure fair and consistent application of grant criteria and to meet Congressional award requirements.

RESPONSE TO WRITTEN QUESTIONS SUBMITTED BY HON. SHELLEY MOORE CAPITO
TO HON. RONALD L. BATORY

Updating our Nation's infrastructure will improve safety for motorists traveling on our roadways, help relieve traffic congestion, improve access to rural communities, and increase high speed Internet access. Improved access to infrastructure—especially broadband infrastructure—for rural states like mine is key to the economic development we so desperately need.

The Railway-Highway Crossings Program has contributed to a significant decrease in fatalities at railway-highway crossings. Since its inception, fatalities have decreased by 57 percent since 1987. And this is in spite of an overall increase in passenger and freight traffic. In the 2015 Fixing America's Surface Transportation (FAST) Act we set aside over \$200 million per year for this program which provides a 90 percent match to fund state railway-highway crossing improvements.

Question 1. As Congress prepares for a FAST Act Reauthorization, in your opinion, do you believe increasing the Federal match amount to 100 percent would incentivize safer railroad crossings?

Answer. Increasing the Federal share of the Section 130 program from 90 percent to 100 percent could result in states and municipalities making greater use of the program, as they would not be responsible for funding or seeking partners to fund 10 percent of each project's costs. However, maintaining the ability for the private sector to financially participate in grade crossing safety, and even encouraging this partnership, is fiscally prudent and effective. Additional flexibility to the Federal match in cases where states and rural localities do not have a private sector partner willing or able to contribute to the project could expand participation.

Question 2. What should Congress consider going forward to help improve railway-highway crossing safety?

Answer. While you note the incredible success of the Section 130 program in reducing grade crossing collisions and fatalities over the past thirty years, the data unfortunately shows that progress waning over the last decade. The program, with its emphasis on protective devices, has remained largely unchanged since its inception. States perform best when they are provided the greatest flexibility in addressing their often unique highway-rail grade crossing safety issues using data-driven decision making, technology, and innovative engineering solutions. Reform of the Section 130 program could also include greater incentives for crossing closures. Closures, particularly in conjunction with grade-separations, reduce the safety exposure of highway users by directing them to a grade-separated crossing, and are the most effective mitigation for both bottlenecks and risks of train-vehicle collisions.

Question 3. How are states doing their part to decrease railroad accidents?

Answer. States often use FRA data to identify problem crossings and to prioritize their limited resources to address those crossings. In addition to making crossing data publicly available, FRA works with all stakeholders, including railroads, railroad employees, States, localities, and the public, to decrease railroad accidents and specifically highway-rail grade crossing accidents. FRA regional staff provide outreach to States such as technical assistance, facilitating stakeholder meetings, and performing diagnostic reviews in the field. Also, as the agency responsible for the Section 130 program, the Federal Highway Administration may be able to point to additional actions by states to decrease railroad accidents (particularly highway-rail grade crossing accidents).

Question 4. In your testimony, you mention the listening session FRA hosted this past spring. What were some of the safest technologies FRA witnessed at the listening session?

Answer. At the listening session, a diverse group of stakeholders, including railroads, State and local governments, and manufacturers and suppliers, discussed existing and emerging technologies designed to improve grade crossing safety. For example, "Turned on tracks" and trespassing monitoring systems are real-time monitoring systems that monitor track circuit conditions, can detect trespassers, and provide intrusion alarm messages. Some systems notify motorists via an audible alert and adjacent roadway signage of their intrusion on the track or a train's presence, and some systems provide train dispatchers and train crews live video feed of crossings. Stakeholders also reported that other, more traditional traffic control devices (e.g., tubular markers and pavement markings, supplemental signage) continue to be effective measures of ensuring grade crossing safety.

FRA also heard about blocked crossing monitoring systems that enable a municipality with a dedicated transportation management center to monitor and adjust traffic flows and signals in response to blocked crossing events. FRA also heard about two-way data exchange programs where municipalities receive real-time inci-

dent information faster than other reporting methods (e.g., Waze's Connected Citizen Program). Waze's system pinpoints where grade crossing incidents occur, allowing emergency responders to proactively route around those incidents. It also alerts drivers to upcoming crossings to reduce the risk that motorists may turn on to the tracks near a roadway intersection. Waze's system is used at numerous grade crossings in the Los Angeles area and along the Long Island Rail Road (LIRR) in New York and both areas have experienced significant safety improvements as a result. The Los Angeles METRO experienced a 15 percent decrease in collisions and the LIRR has experienced a significant decrease in cars turning onto tracks since implementation of the system at several crossings.

RESPONSE TO WRITTEN QUESTION SUBMITTED BY HON. JERRY MORAN TO
HON. RONALD L. BATORY

Question. Administrator Batory, blocked grade crossings impact cities across the nation, and can be particularly problematic in rural areas which often have limited options for an alternative route. FRA recently issued a request for information on blocked crossings in order to obtain additional insight of the issue throughout the United States. Can you further explain the proposed data collection and how it will work to address this important issue?

Answer. FRA's existing data on blocked crossings is garnered through information contained in formal complaints and correspondence, as well as information several States voluntarily submit to FRA. FRA is using GIS mapping to track reports of blocked crossings from these sources. However, the information submitted is varied and often does not identify the key facts (e.g., location, time, duration, impact) of the incident being reported. Therefore, FRA is proposing to add new, 3 dedicated links to its existing website and its existing smartphone application (Rail Crossing Locator) for the public to report blocked crossings. When submitting a report, information will be specifically requested on the location of the blocked crossing, the time, duration, and impacts of the blocked crossing, which will provide standardized information for analysis. We will also have a separate dedicated portal (secured by log-in), for law enforcement agencies to report blocked crossings in a similar manner. Recognizing that, even with this additional information, FRA will not have complete data on blocked crossings, we anticipate that the additional data will provide a more complete picture of where, when, for how long, and what impacts result from the blocked crossing incidents. FRA will use this information to engage railroads and local communities to find local solutions.

RESPONSE TO WRITTEN QUESTIONS SUBMITTED BY HON. MARIA CANTWELL TO
HON. RONALD L. BATORY

Highway-Rail Grade Crossings. Your written testimony emphasizes that "increasing grade crossing safety will not only reduce the number of fatalities, but it will also improve the safety and efficiency of the rail transportation network." You further note that FRA expects grade crossing incidents to grow as both train and highway traffic increases during the next decade.

Question 1. As Congress considers a surface transportation authorization bill, how can we help to eliminate freight bottlenecks at highway-rail grade crossings? Can we improve safety and efficiency at rail grade crossings by providing more funding for INFRA, CRISI, and the Railway-Highway Crossings (Section 130) Program?

Answer. States perform best when they are provided the greatest flexibility in addressing their often unique highway-rail grade crossing safety issues. Reform of the Section 130 program could also include greater incentives for crossing closures. Closures, particularly in conjunction with grade separations (discussed below), reduce the safety exposure of highway users by directing them to a grade-separated crossing, and are the most effective mitigation for both bottlenecks and risks of train-vehicle collisions.

Grant programs such as INFRA and CRISI provide additional discretionary funding that can be used to supplement existing highway safety programs such as Section 130. Specifically, the discretionary grant programs are useful for larger grade separation road overpass and underpass projects-which states and localities may be challenged to fund with formula highway safety funds.

State Highway-Rail Grade Crossing Action Plans. As required by the FAST Act, the FRA created a model for states to use to develop their own highway-rail grade crossing action plans. That model was released in November 2016 and the FRA was supposed to create a rule 18 months later (May 2018) to require the state to submit

their own actions plans for review. The FRA has not promulgated a rule at this time.

Question 2. When can I expect the FRA to publish the final rule on the state action plans?

Answer. A notice of proposed rulemaking (NPRM) implementing the Fixing America's Surface Transportation (FAST) Act's mandate to issue a rule requiring States to submit highway-rail grade crossing action plans is currently under review within the Department. FRA is developing the NPRM and expects to publish it in the coming months. Shows that the Chicago area, Dallas-Fort Worth area, Houston area and the Columbus, and Mount Victory areas of Ohio are frequently reporting blocked crossings.

FRA's existing data on blocked crossings is garnered through information contained in formal complaints and correspondence, as well as information several states voluntarily submit to FRA. FRA is using GIS mapping to track reports of blocked crossings from these sources and is currently soliciting public comment on a proposed process to collect more information regarding the frequency, location, and impacts of blocked crossings. See 84 FR 27832 (June 14, 2019). Recognizing that even with this additional information, FRA will not have complete data on blocked crossings, we anticipate that the additional data will provide a more complete picture of where, when, for how long, and what impacts result from the reported blocked crossing incidents. FRA will use this information to better engage railroads and local communities to find local solutions.

FRA intends to continue to work with railroads to address the issue of blocked crossings, which may be caused by trains of any length, and for any number of reasons. We share voluntarily reported instances with FRA regional personnel and ask them to engage both the railroad and the local communities to find solutions. In May 2019, FRA sent letters to over 160 railroads asking each railroad to assess their rail operations and determine appropriate actions to minimize blocked crossings and their impacts on local communities. The railroads can greatly reduce the instances of blocked crossings by considering train length, location of crew changes, and locations of required brake tests or inspection points and by adjusting operating practices to minimize the occurrence and duration of blocked crossings. FRA has received positive responses from the railroads to these letters. The agency will continue to engage responsible railroads, States and local communities on the issue, but FRA notes that railroads, States, and local communities are best positioned to address site-specific factors that contribute to blocked crossings.

Question 3. What are the challenges of operating trains several miles long? What has FRA found on the braking capabilities of these longer trains?

Answer. The challenges of operating a train several miles long are essentially the same as those for operating a shorter train. The challenges include: (1) management of in-train forces, (2) proper train make up, (3) communications between the lead locomotive and the distributed power locomotives and/or end-of-train devices, and (4) proper training for engineers and conductors. Railroads often utilize distributed power units (DPU), or locomotives placed near the middle and/or end of a train, to address these challenges and railroads are required by Federal regulation to address in their training plans significant changes in operations, including longer/heavier trains. Some railroads operate very long trains without the use of DPU. To better understand the risk of this type of operation, FRA is currently conducting a study related to the operation of long trains. The study will compare effect on train operations by issues such as train makeup and handling (including the use of DPUs), crew training, and braking performance. The study includes literature review and computer simulations of a variety of train lengths, locomotive consists, track scenarios, train makeups, handling options, and other factors to understand the effect on in-train forces.

Question 4. Could programs like INFRA, CRISI, and the Railway-Highway Crossings program (Section 130) help to address community concerns with blocked crossings by funding grade separations?

Answer. Yes, programs like INFRA, CRISI, and the Railway-Highway Crossings program (Section 130) can certainly help to address community concerns by funding for grade separations as both grade separations and closures eliminate the safety exposure of highway users and are the most effective mitigation for both bottlenecks and risks of train-vehicle collisions.

Question 5. When will the Notice of Funding Opportunity (NOFO) be published for the next round of CRISI?

Answer. The Federal Railroad Administration announced \$324.2M in FY 2018 CRISI funding on June 12, 2019, and made available \$244.6M in the FY 2019 Notice of Funding Opportunity on August 14, 2019.

Oil Volatility and Crude-by-rail Safety. The FRA regulates crude oil shipments. In 2016, a train carrying Bakken crude derailed in Mosier, Oregon, spilling 42,000 gallons of crude oil in the Columbia River Gorge, some of which caught fire. Higher volatility crude oil is processed before shipment by pipeline but not before shipment by rail. In 2015, I secured a commitment by the Department of Energy and Department of Transportation to conduct a study on the volatility of crude oil.

Question 6. When can we expect the results of this oil volatility study to be published?

Answer. The U.S. Department of Energy (DOE) is conducting this study in collaboration with the Pipeline and Hazardous Materials Safety Administration (PHMSA), FRA, and Transport Canada. The study is being performed by Sandia National Laboratory. A report on Task 3: Combustion Characteristics is anticipated to be published in August 2019.

Question 7. When will FRA address safety concerns regarding the combustibility of crude oil in rail accidents?

Answer. The safety concerns associated with the rail transportation of crude oil, primarily the large volume transported in unit trains was addressed in PHMSA's High-Hazard Flammable Train rule. Regarding the properties of crude oil and the risks present during and following a derailment, the rule required new tank cars capable of resisting puncture, and a thermal protection system that will minimize the occurrence of explosions in the event of a fire.

LNG Shipments by Rail. President Trump's April 10th Executive Order on Promoting Energy Infrastructure and Economic Growth directs the Department of Transportation to issue a rule within 13 months to treat liquefied natural gas (LNG) the same as other cryogenic liquids and permit LNG to be transported in approved rail tank cars.

Question 8. Where in the U.S. is LNG approved to be shipped by rail?

Answer. Currently, the Federal hazardous materials regulations (HMRs) authorize the transportation of methane, refrigerated liquid (LNG) by rail in UN-T75 portable tanks anywhere in the United States. However, the HMRs require FRA to approve the transportation of certain hazardous materials in portable tanks on rail cars per 49 CFR § 174.63. LNG is one of the materials requiring FRA's approval. To date, only the Alaska Railroad and Florida East Coast Railway have requested such approvals. Subject to certain conditions, FRA has granted both approvals. Only the Florida East Coast Railway, however, is actively transporting portable tanks of LNG by rail (from Hialeah, FL to Port Everglades in Boca Raton, FL (28 miles)).

Question 9. What types of safety risks are involved with shipping LNG by rail?

Answer. LNG has a lower risk profile than most flammable materials currently transported by rail. As a liquid, LNG will not burn. To ignite, LNG must be in vapor form and must be in its flammability range of 5 percent-15 percent oxygen/Methane. Additionally, LNG vapors will not explode unless they are confined. If the material is ignited, the material will generate a thermal (heat) exposure hazard. The other safety risk LNG presents comes from its cryogenic properties. The material is transported at a temperature of -260°F, and at that temperature, poses a significant exposure risk if it comes into contact with a person or the environment.

Passenger Rail Service. The Administration's 2020 budget proposal cuts funding to Amtrak's National Network by more than half from Fiscal Year 2019 enacted levels. These cuts could affect service on two long-distance routes in Washington State—the Coast Starlight and Empire Builder—that provide essential service to communities across the state.

Question 10. Do you agree that it is important to maintain passenger rail service, including in rural areas?

Answer. The FY 2020 President's Budget proposes to begin restructuring Amtrak's Long Distance network, phasing decision-making and cost responsibilities to the States over a four-year period via transition assistance through the Restoration and Enhancements grant program. This proposal empowers States such as Washington to work with Amtrak and other potential operators to define the corridors, services, and markets that best meet the demands of their residents and interests.

The operating and financial performance metrics for Amtrak's Long Distance routes illustrate a struggling business model in need of reform, with its fundamental problem being the inability to meet customer expectations and demand. Markets served via Long Distance routes, including those in rural areas, suffer infrequent service at inconvenient times that is often significantly delayed. The substantial Federal resources required to operate the existing Long Distance network—nearly \$550 million in annual operating costs, hundreds of millions of dollars annu-

ally for capital maintenance and upgrades, and a looming multi-billion dollar equipment replacement need—do not provide a justifiable return on investment.

The Federal Government, Amtrak, States, localities, and private sector partners should focus investment in existing and new State-Supported corridors that provide better performance and more relevant transportation choices for passengers.

On-time performance. The Passenger Rail Investment and Improvement Act of 2008 (PRIIA) called for FRA and Amtrak to jointly establish metrics and standards for assessing on-time performance of Amtrak trains when operating on host freight railroad track.

Question 11. Will Amtrak participate in the new commission FRA is forming to develop metrics and standards for on-time performance?

Answer. Yes, FRA and Amtrak held a two-day session from July 15–16 to discuss the process for jointly developing metrics and standards for measuring the service quality and performance of intercity passenger rail operations. Next steps for both FRA and Amtrak are reviewing the metrics developed in 2010, and consulting with host railroads, States, the Surface Transportation Board, and other stakeholders.

Sleep Apnea. In March 2016, FMCSA and FRA released an advanced notice of proposed rulemaking (ANPRM) looking at requiring sleep apnea screening and treatment for personnel in safety critical roles. In 2017, the agencies collectively rescinded the proposed rulemaking. NTSB's 2019–2020 Most Wanted List calls for FMCSA and FRA to require screening and treatment for sleep apnea to reduce the risk of sleepiness and fatigue for commercial drivers and train crew.

Question 12. Is FRA concerned about the risks of sleep apnea in the rail industry? If so, what is the agency doing to address the risks of sleep apnea?

Answer. FRA is concerned with any disorder or condition that may increase risk due to decreased alertness, including undiagnosed/untreated obstructive sleep apnea.

In response to the Rail Safety Improvement Act of 2008 (RSIA), and based on input from a Railroad Safety Advisory Committee (RSAC) working group, FRA is drafting a rule requiring certain railroads to include a fatigue risk management plan (FRMP) in their railroad safety risk reduction programs, required by other rulemakings. Elements considered in these FRMPs will include: (1) employee education and training; (2) opportunities for identification, diagnosis, and treatment of medical conditions that may affect alertness and fatigue, including obstructive sleep apnea (OSA) and other sleep disorders; (3) scheduling practices for employees; and (4) other alertness strategies. After the final rule takes effect, FRA will assist railroads in establishing FRMPs.

FRA sponsors the website *Railroaders' Guide to Healthy Sleep* (www.railroader.sleep.org) to raise awareness of fatigue risks in the railroad industry, strategies to obtain adequate rest, and resources for railroaders to obtain diagnosis and treatment of sleep disorders, including obstructive sleep apnea.

Additionally, FRA issued Safety Advisory 2016–03 on December 5, 2016, to stress to passenger and commuter railroads the importance of taking action to help mitigate human factor crashes. 81 FR 87649. This Advisory recommends railroads and employees take certain actions to prevent work-related errors and on-the-job crashes because of sleep disorders, including obstructive sleep apnea.

Positive Train Control Exemptions. In 2008, Congress directed FRA to require PTC throughout the national rail system, including all lines used by intercity passenger trains. However, the FRA final rules implementing this Rail Safety Improvement Act (RSIA) requirement allowed certain exemptions, or Main Track Exclusion Addendums (MTEAs), particularly for tracks with limited passenger train traffic. FRA subsequently granted PTC exemptions for more than 1,400 miles of track where Amtrak operates.

Question 13. What alternative safety technologies can be readily deployed on trains or tracks where a PTC exemption is in place? How is FRA helping Amtrak install such technologies?

Answer. There are several train control technologies, such as automatic train control (ATC), broken rail detection circuits, and power assisted switches equipped with switch point indicators that can be deployed on any trains or tracks, including where a PTC system is not required by law. Some existing systems are impractical to deploy in certain locations (*e.g.*, installing a cab signal or ATC system in non-signalized territory). Although other train control technologies help mitigate certain risks, these technologies are not necessarily comparable alternatives to PTC because, unlike PTC, those technologies are not designed to prevent train-to-train collisions, over-speed derailments, incursions into established work zones, and movements of trains through switches left in the wrong position.

Currently, Amtrak is considering options that may provide one or more of the PTC-required protections by, for example, installing certain train control technology (including transponders) on a line for which Amtrak or its host railroad previously requested, and FRA approved, an exception to the mandate. In addition, Amtrak is exploring whether it would be effective to implement in-cab alerters, including Wi-Tronix, on trains that operate on certain lines not subject to the statutory PTC mandate. Despite any earlier requests for exceptions, railroads may still implement PTC systems on these track segments, and Amtrak has recently committed to implementing a PTC system on its Post Road Branch in New York State, in addition perhaps to other lines for which Amtrak obtained an exception.

FRA actively encourages the development of any safety technology that could further mitigate remaining operational risks and continues to support industry through research and development efforts and pilot projects as these technologies are developed and matured. With the December 31, 2020 PTC deadline approaching, FRA remains focused on working with Amtrak and the rest of the railroad industry to help ensure railroads fully implement PTC systems on the nearly 58,000 required route miles as quickly and safely as possible.

Question 14. What other strategies does FRA pursue to ensure passenger rail safety for areas where PTC is not implemented?

Answer. FRA encourages railroads to understand and manage the risks associated with operations in areas where PTC systems will not be implemented. In some cases, there are mandatory mitigations to address these risks, including the requirement to enforce certain speed limits in terminal areas where it is otherwise not practical or feasible to implement a full PTC system. See 49 CFR § 236.1019(b)(1)–(2). In other cases, passenger railroads and their applicable host or tenant railroads must perform comprehensive risk assessments and implement associated mitigations to qualify for an exception. See 49 CFR § 236.1019(c)–(d).

In addition, since FRA's passenger-focused regulations, including 49 CFR Parts 238 and 239, were first codified approximately 20 years ago, FRA has continuously sought to enhance and evolve its regulations to meet the needs of safety and the industry. These requirements cover a wide range of areas, including, but not limited to: safety planning, passenger equipment structural design, occupant protection, fire safety, inspection, testing and maintenance, and on-board emergency systems. In particular, railroads are required to prepare and submit for FRA approval emergency preparedness plans addressing communications, training, emergency response simulations, and other elements to ensure passenger safety in emergency situations. Other existing FRA regulations and requirements—e.g., FRA's locomotive engineer and conductor qualification regulations (49 CFR Parts 240 and 242), requirements for operational tests and inspections (49 CFR Part 217), requirements related to the handling of equipment, switches and fixed derails, and longstanding hours of service requirements—also help ensure passenger rail safety.

Crewmember training. The training for the crewmembers of Amtrak 501 apparently met minimum Federal standards. However, the NTSB final report on this accident found that Amtrak did not effectively train crewmembers for operating on new territory and for the type of locomotive.

Question 15. Given these findings, are current Federal requirements for crew member training sufficient to ensure safety on routes operating under PTC exemptions granted by FRA?

Answer. FRA's investigation of the Amtrak 501 accident concluded that improper crewmember training was a contributing cause of the accident. FRA's investigation found training for the assigned crewmembers of Amtrak 501 did not comply with Federal regulations. Those regulations establish minimum qualification standards for both locomotive engineers and conductors. Railroads must comply with FRA-approved certification programs required by 49 CFR Parts 240 and 242. These regulations require railroads to comply with a formal process for training and evaluating locomotive engineers before permitting them to operate a locomotive or train. Amtrak did not train the locomotive engineer on aspects of the onboard electronic locomotive control system required by 49 CFR Part 229. Conductors have a similar formal training and evaluation process to determine whether an individual has the requisite knowledge and competence to perform the duties of a conductor. Conductor territorial training was also not in compliance.

Amtrak did not comply with its certification programs. FRA determined the lack of proper crewmember training was a contributing cause to the accident and FRA's enforcement action is ongoing.

Speed limit action plans. Federal law requires each railroad carrier providing intercity passenger rail transportation to identify and develop appropriate actions

for warning and enforcement of maximum speeds where there is a reduction of more than 20 mph approaching a curve, bridge, or tunnel. As a result of its Amtrak 501 investigation, NTSB recommends that FRA require passenger railroads to periodically review and update their speed limit action plans to reflect any operational changes, as well as continually monitor the effectiveness of their risk mitigations.

Question 16. What are current FRA requirements for speed limit action plans in areas with PTC exemptions?

Answer. In response to the Amtrak 188 derailment, FRA issued Emergency Order No. 31 to require Amtrak to take specific actions to ensure the safe operation of passenger trains on the Northeast Corridor, to include modifications to its ATC system design, prior to full implementation of its PTC system. FRA subsequently published Safety Advisory 2015-03 in June 2015 to reinforce the importance of compliance with Federal regulations and applicable railroad rules governing passenger train speed limits. These actions were bolstered by the enactment of the FAST Act in 2015, which required intercity and commuter passenger railroads to submit Speed Limit Action Plans to FRA for review and approval. Under the FAST Act, these plans were required to identify, within 90 days, all main track locations where there was a reduction of speed of more than 20 miles per hour, and describe appropriate actions to enable warning and enforcement of the maximum authorized speed. FRA received, reviewed, and approved all plans as required by the FAST Act.

Although FRA does not have the authority to require updates to Speed Limit Action Plans, or assess a civil penalty against a railroad for failing to comply with those plans, FRA will continue its practice to periodically audit railroads' compliance with their operating rules.

Question 17. Does FRA intend to implement the NTSB's recommendations related to speed action plans? If so, by what date?

Answer. FRA is reviewing the NTSB's recommendation and will respond to the NTSB with its planned actions once its review is complete. FRA notes that it does not have the authority to require updates to Speed Limit Action Plans, or to assess a civil penalty against a railroad for failing to comply with those plans, but as noted above, FRA will continue its practice to periodically audit railroads' compliance with their operating rules.

System Safety Program. Amtrak relies on host railroads to meet minimum Federal safety standards to ensure safe operations for its passenger trains on tracks that Amtrak does not own. In 2008, Congress required Class I railroads and those that provide intercity passenger transportation to implement a safety risk reduction program. This month, FRA proposed extending the stay of the System Safety Program final rule's requirements.

Question 18. By what date will FRA's final rule for System Safety Program be in place?

Answer. On August 12, 2016, FRA published a final rule requiring commuter and intercity passenger railroads to develop and implement a system safety program (SSP) to improve the safety of their operations. The SSP rule is part of FRA's efforts to continuously improve rail safety and to satisfy the statutory mandate in the RSIA. FRA also published a corresponding proposed rule requiring each Class I freight railroad and each freight railroad with inadequate safety performance to develop and implement a Risk Reduction Program (RRP) to improve the safety of their operations. FRA subsequently stayed the SSP final rule to address petitions for reconsideration filed by certain labor organizations and State and local transportation departments and authorities. On June 12, 2019, FRA issued a proposed rule to respond to the petitions. FRA is working diligently to issue both the SSP and RRP final rules.

Question 19. What operational risk mitigations does FRA require for intercity passenger rail for sections of track in "dark territory" not controlled by signals?

Answer. Risk mitigation is a fundamental element of all railroad operations, regardless of whether the operation occurs over signalized or "dark" territory. The FRA regulatory framework and the specific operating rules that railroads follow account for these inherent risks through operational restrictions or additional procedures, where necessary. While it is always desirable to eliminate or "design out" hazards and risks to the highest degree, this is not always possible or practical. In non-signalized territory, or other situations where certain reasonable residual risk exists, additional operational requirements, such as those outlined in 49 CFR § 218.105(d) or speed limit restrictions as required by 49 CFR § 236.0(c)(2), may also apply.

As noted above, additional requirements specific to passenger operations are designed to mitigate operational risks, whether through occupant protections stand-

ards or emergency preparedness requirements. FRA maintains and enforces a comprehensive set of regulations dedicated solely to the safety of passenger rail operations. Most of these passenger-focused requirements are in 49 CFR Parts 238 and 239. Since these requirements were first codified approximately 20 years ago, FRA has continuously sought to enhance and evolve its regulations to meet the needs of safety and the industry. These requirements cover a wide range of areas including, but not limited to: safety planning, passenger equipment structural design, occupant protection, fire safety, inspection, testing and maintenance, and on-board emergency systems. In particular, railroads are required to prepare and submit for FRA approval emergency preparedness plans addressing communications, training, emergency response simulations, and other elements to ensure passenger safety in emergency situations.

RESPONSE TO WRITTEN QUESTION SUBMITTED BY HON. TOM UDALL TO
HON. RONALD L. BATORY

Question. As everyone is aware, Politico reported recently that Secretary Chao has steered millions of dollars in grants to Kentucky—as her husband seeks reelection. As you can imagine, everyone on this dais represents states with needs as great as Kentucky, but I am concerned about the Secretary putting her finger on the scale to benefit one state. Can each of you speak how your agencies can prevent such political interference?

Answer. The facts belie the false allegation that the Department has steered grants to Kentucky. As the Politico article noted, Kentucky As the Politico article noted, Kentucky ranked 25th among the states, received 5 of 169 grants in this period. In terms of funding, Kentucky received about 5 percent of the awards—proportional to its share of the Nation’s populations.

The Department applies the same rigorous technical criteria to all application evaluations and treats all project applications equitably. The Department has taken great effort and is committed to ensuring that all our grant programs use data driven processes to ensure the Department complies with all Congressional requirements such as project eligibilities, geographic diversity, minimum urban and rural award percentages, and project type diversity. All applications are reviewed by career technical teams to rate the projects on how well the applicant addresses selection criteria that is published in the Notice of Funding Opportunity. Evaluation teams comprised of representatives from the different modal administrations, staff from Various DOT field offices across the country and HQ staff are responsible for assigning technical ratings.

The Department has a strong track record of ensuring that infrastructure award selections benefit all 50 states and U.S. territories and will continue to ensure fair and consistent application of grant criteria and to meet Congressional award requirements.

RESPONSE TO WRITTEN QUESTION SUBMITTED BY HON. TAMMY DUCKWORTH TO
HON. RONALD L. BATORY

Question. As you know, FHWA’s University Transportation Center program plays a key role in transportation research initiatives; however, there is not yet a center within the UTC program devoted to freight rail research and development or workforce development. As Congress considers reauthorizing the FAST Act, what are your thoughts on the role of university research in supporting FRA’s mission?

Answer. FRA’s Research, Development & Technology (RD&T) division has a successful history of innovation in partnership with universities. A recent example is the Autonomous Track Geometry Monitoring System (ATGMS). This technology enables railroads to efficiently gather data on track condition that is essential to maintaining safety. In addition, RD&T has created a new research initiative involving partnerships with universities. This is a program to support RD&T’s research projects on intelligent railroad systems. This research focuses on advanced technology, automation, and connected vehicle technologies; advancing technology to improve safety in rural areas; intelligent transportation systems; and workforce development. RD&T expects to improve rail safety, advance innovation, and improve rail infrastructure while enhancing workforce development through the intelligent railroad systems program and the Broad Agency Announcement program that is designed to attract and fund research with universities and their affiliated labs. At the end of FY19, FRA RD&T will have obligated \$5,678,857.33 in research and development funding related to research with universities.

FRA is pleased to partner with the multi-modal University Transportation Centers (UTC) program, managed by the Office of the Assistant Secretary for Research and Technology. The UTCs have produced over a dozen research results over the past few years directly addressing rail-highway intersection design, pedestrian safety at rail crossings, light rail safety, freight rail diversion analysis, and similar topics. FRA does not provide direct funding to UTCs.

RESPONSE TO WRITTEN QUESTION SUBMITTED BY HON. ROGER WICKER TO
HON. RAYMOND MARTINEZ

Question. As you know, the railroad trade associations, railroad response contractors and their trade association have submitted applications for an exemption (Docket Number 2019-04189 and Docket Number 2018-27341) to enable affected railroad employees, subject to the hours-of-service regulations, to respond to an unplanned event that occurs outside of or extends beyond the employee's normal work hours. Unplanned events, such as blocked grade crossings, train collisions, and train derailments, can disrupt the flow of commerce and cause safety risks. As a result, the railroads and their contractors have asked for flexibility so that drivers can arrive at the site of an unplanned event and complete the necessary emergency response work. Please let us know the status of your review of the exemption applications and when you plan to issue a response.

Answer. FMCSA received an application for exemption from the Association of American Railroads and the American Short Line and Regional Railroad Association, and a substantially similar exemption application from R.J. Corman Railroad Services, Cranemasters, Inc., and the National Railroad Construction and Maintenance Association, Inc. The Agency requested public comment on these exemption requests in the *Federal Register* in December 2018 and March 2019, respectively. The associated comment periods for the notices closed on January 17, 2019, and April 8, 2019, respectively.

The applicants requested a limited exemption from the hours-of-service (HOS) driving time limits to enable railroad employees subject to the HOS rule to respond to unplanned events that occur outside of or extend beyond their normal work hours. Specifically, the exemption would apply to railroad employees who transport equipment used to clear derailed or disabled trains or debris blocking tracks or railroad rights-of-way. Unplanned incidents of this kind affect interstate commerce and railway operations, including passenger rail operations.

Presently, the Agency is evaluating the comments and the safety analyses submitted and will determine whether granting the exemption will likely achieve a level of safety equivalent to or greater than the level that would be achieved by the current regulation, as required by 49 CFR 381.305. FMCSA has been in direct communication with petitioners and will be meeting with them again shortly to discuss the exemption requests.

RESPONSE TO WRITTEN QUESTIONS SUBMITTED BY HON. DEB FISCHER TO
HON. RAYMOND MARTINEZ

Question 1. FMCSA's Spring 2019 Unified Agenda says that FMCSA could extend provisions of the Entry Level Driver Training rule beyond the February 2020 compliance date. Which provisions of the Entry Level Driver Training rule is FMCSA considering extending the compliance date for, and why does the agency consider extension of the compliance date necessary?

Answer. On July 18, 2019, FMCSA published a Notice of Proposed Rulemaking (NPRM) to amend its December 8, 2016, final rule, "Minimum Training Requirements for Entry-Level Commercial Motor Vehicle Operators" (ELDT final rule), by extending the compliance date for two provisions of the rule. The date for training providers to upload entry-level driver training (ELDT) certification information into the Training Provider Registry (TPR) and for State Driver Licensing Agencies (SDLAs) to receive driver-specific ELDT information would be extended from February 7, 2020, to February 7, 2022. This action would provide FMCSA additional time to complete development of the electronic interface that will receive and store ELDT certification information from training providers and transmit that information to the SDLAs. The proposed extension would also give SDLAs sufficient time to modify their information technology systems and procedures, as necessary, to accommodate their receipt of driver-specific ELDT data from the TPR.

Question 2. In October of this year, users of the Drug and Alcohol Clearinghouse can begin to register for this program.

a. Do you have any concerns that there will be enough time from October to January for users, such as drivers and employers, to register before the requirements go into effect?

Answer. No. Registration will be available in October 2019, well before the January compliance date.

b. Additionally, is there a potential for state driver's license agencies to be delayed in accessing the clearinghouse?

Answer. Yes, FMCSA is proposing an extension to the compliance date to allow additional time needed to complete its work on a forthcoming rulemaking to address the States' use of driver-specific information in the Clearinghouse, and to develop the information technology platform through which States will electronically request and receive Clearinghouse information.

c. One of the recommendations in the National Academy of Sciences report on CSA was for FMCSA to do a study to better understand the percentile ranks as it relates to decisions regarding the usability of public scores. Can you provide an update on FMCSA's work to address that recommendation?

Answer. FMCSA has not yet acted on this recommendation, as the current focus is on analyzing the possible impacts of adopting an Item Response Theory model. Upon completion of that work, the Agency will consider what changes are appropriate. The nature of the public use of the data will be considered at that time. Members of Congress will be informed of the progress in the execution of the recommendations.

RESPONSE TO WRITTEN QUESTION SUBMITTED BY HON. JERRY MORAN TO
HON. RAYMOND MARTINEZ

Question. Administrator Martinez, last fall a group of organizations representing livestock haulers and producers filed a joint petition to seek more flexibility in the hours of service regulation. The current hours of service rules are problematic for animal welfare reasons, so it is important that your agency provide additional flexibility for livestock haulers. As the comment period came to a close this past March, can you provide an update on timing for a decision?

Answer. FMCSA is continuing to work through the HOS rulemaking, which is currently with the Office of Management and Budget for review. The foundation of this proposal is a combination of driver/industry flexibility and overall safety. The Agency looks forward to comments from all interested groups, including those representing livestock haulers and producers once that proposal is issued. In addition, FMCSA issued guidance on June 7, 2018, (83 FR 26374) clarifying the 150 air-mile HOS exemption available to livestock haulers and transporters of other agricultural commodities to give them maximum flexibility. This guidance is available on a new FMCSA website specifically dedicated to the transportation of agricultural commodities and the flexibilities available (www.fmcsa.dot.gov/ag).

RESPONSE TO WRITTEN QUESTION SUBMITTED BY HON. TODD YOUNG TO
HON. RAYMOND MARTINEZ

I share the concerns of my colleague from Montana regarding the Under 21 Military Pilot Program, that despite the best of intentions this pilot program will be hard-pressed to generate significant, meaningful data given the narrow parameters placed on eligible participants. To that end, I look forward to working with the FMCSA as the comment period closes on the ongoing Commercial Driver Pilot Program. Earlier this year, I introduced the DRIVE-Safe Act along with my colleague from Montana, Senator Tester. As you noted, the interstate commercial driver age rule has been in place for many decades and deserves a hard look now that we have new safety technologies.

Question. Will you pledge to work with this committee after the FMCSA pilot program comment period concludes to help address the driver shortage issue and ensure Congress is providing FMCSA with the legislative tools required to safely and responsibly build upon the current Under 21 Military Pilot Program?

Answer. Yes, FMCSA pledges to work with your committee after the Under 21 Military pilot concludes and throughout the pilot to address driver shortage.

On June 3, 2019, an FMCSA press release announced that the Agency has begun accepting applications from motor carriers interested in participating in the Under 21 Military CDL Pilot Program. The agency has already received many applications from motor carriers and is currently reviewing their safety performance records,

while it finalizes the Privacy Act requirements for collecting performance data for individual drivers participating in this Pilot.

The Pilot Program is expected to run for 3 years, after which FMCSA will submit a final report to Congress with its findings and recommendations. The Agency has every expectation that the Pilot Program will successfully demonstrate the safety performance of younger qualified veterans and active duty personnel with military driving experience. However, FMCSA also has mechanisms in place to remove any company or individual driver from the Pilot, if the Agency determines they are not operating within the safety parameters of this Program.

Additionally, I would like to note that FMCSA recently issued a Federal Register Notice requesting public comments on a possible second pilot program to allow non-military drivers aged 18, 19, and 20 to operate commercial motor vehicles in interstate commerce. The comment period has been extended to August 14, 2019. This notice requests comments on the training, qualifications, driving limitations, and vehicle safety systems FMCSA should consider in developing approaches for such a program and is available at: <https://www.fmcsa.dot.gov/newsroom/fmcsa-seeks-public-comment-pilot-program-allow-drivers-ages-18-20-operate-commercial-motor>

The FMCSA has worked for several years to implement several programs to reduce barriers to entry and facilitate the transition of new drivers into the industry. Specifically, we have provided many opportunities for current and former military personnel to more easily transition into commercial truck driving careers. For instance:

- The FMCSA allows State Driver Licensing Agencies to permit military drivers to substitute 2 years of experience safely operating trucks or buses, equivalent to civilian commercial vehicles, for the skills test portion of the commercial driver's license (CDL) test, known in the Agency as the Military Skills Test Waiver.
- On September 28, 2018, FMCSA published a final rule titled "Military Licensing and State Commercial Driver's License Reciprocity." This program allows States to exempt qualified veterans and active duty personnel from the knowledge test for obtaining a CDL. When used with the Military Skills Test Waiver, this allows a driver to exchange a military license for a CDL.

Lastly, FMCSA's Commercial Motor Vehicle Operator Safety Training grants provide funds to commercial driver training schools. The program prioritizes schools that train members of the armed forces, including the National Guard and reserve units to transition into civilian motor carrier careers. This grant program facilitates the training of several hundred safe, well-qualified drivers to enter the industry each year. The FAST Act authorized \$1 million to carry out the program for each Fiscal Year from 2017– 2020, and Congress raised this amount to \$2 million in FY 2019.

RESPONSE TO WRITTEN QUESTIONS SUBMITTED BY HON. MARIA CANTWELL TO
HON. RAYMOND MARTINEZ

Traffic Fatalities. The Department of Transportation recently released an early estimate of traffic fatalities in the U.S for 2018. While total vehicle fatalities decreased slightly last year, fatalities involving large truck crashes increased by three percent from 2017.

Question 1. What does the preliminary 2018 data suggest are the contributing factors to the increase in fatalities involving large truck crashes?

Answer. FMCSA does not have the contributing factors specific to the 2018 crashes and does recognize the increasing trend in fatalities; however, we have noticed a large crash increase in trucks weighing between 10,001 and 14,000 pounds (heavy pick-ups). FMCSA is working with our state partners and stakeholders to identify the factors that are contributing to the growth in fatal large truck crashes, and in both injury and property damage only (PDO) crashes. Analyzing these factors will drive new initiatives to reduce crashes on our Nation's roadways.

Question 2. What is FMCSA doing to address large truck crash fatalities? What more should Congress be doing to address truck crash fatalities?

Answer. FMCSA has a multiple-prong approach in addressing the rising truck crashes across our country. First, all new motor carriers applying for USDOT operating authority go through an automated vetting program, the Utility for Risk-based Screening and Assessment (URSA), to assure an applicant is fit, willing and able to comply with our safety regulations. This also prevents reincarnated carriers from operating again. In the 3+ years since the launch of the automated vetting program, FMCSA has screened over 183,000 applications for operating authority, and as a re-

sult of URSA, over 13,000 of them were flagged for further investigation, and over 400 were rejected due to high-risk behavior. Studies indicate these high-risk carriers are three times more likely than other carriers to be involved in severe crashes. Keeping high-risk carriers off the roads improves safety and saves lives.

In addition, FMCSA awards over \$300 million per year in grant funding to State and local enforcement agencies. The bulk of that funding is under the Motor Carrier Safety Assistance Program and is intended for inspection and traffic enforcement activities. Approximately 3.6 million roadside inspections are conducted annually.

Across the country, FMCSA employs over 300 Safety Investigators whose primary focus is upon high-risk motor carriers that exhibit unsafe driving and operational practices. These motor carriers have a crash rate of approximately 19 percent compared to the average crash rate of 5 percent. FMCSA conducts about 8,000 compliance reviews per year and focuses on high-risk carriers, motorcoach operations, carriers who transport hazardous materials, and household goods operations.

Finally, FMCSA has sponsored a Large Truck and Bus Traffic Enforcement training curriculum. This class is open to all law enforcement personnel and focuses on contributing factors such as unsafe speed, following too closely, texting, cell phone use, and unrestrained operation. We also focus on unsafe operation of passenger cars around large trucks.

Hours-of-service (HOS) and Driver Fatigue. I have concerns over the long hours truck drivers must work and the impact that has on safety. The NTSB's 2019–2020 Most Wanted List includes reducing truck driver fatigue-related accidents. Yet last year, FMCSA announced its intention to revisit existing HOS rules, which are intended to address fatigue for commercial drivers.

Question 3. Does the agency intend to make changes to HOS for any commercial driver groups, and if so, what additional safety measures will accompany increased flexibility in hours-of-service?

Answer. With the implementation of FMCSA's Electronic Logging Device (ELD) requirements, numerous questions were raised concerning the applicability of the underlying HOS rules and long-standing challenges the industry has experienced with certain provisions of the rule. The ELD rule did not change the HOS limits for drivers; it simply required electronic recordkeeping of their duty status.

Secretary Chao has long advocated flexibility for companies and drivers on HOS requirements. We at FMCSA support that goal. Toward that end, on August 23, 2018, FMCSA published an Advance Notice of Proposed Rulemaking (ANPRM). The ANPRM asked for data regarding several areas where flexibility could be improved while maintaining safety, including the following: (1) Elimination of the 30 minute break; (2) Expansion of the short haul exception to allow more carriers the flexibility of not needed a record of duty status; (3) the use of the adverse driving conditions exception; (4) allowing drivers to split off duty time spent in a the sleeper berth; and (5) allowing a pause in the 14 hour day to address unexpected situations. The Agency also convened five listening sessions to obtain information on how HOS provisions could be improved. In consideration of the available data, comments to the docket, and the remarks of the participants at the listening sessions, FMCSA has prepared a Notice of Proposed Rulemaking (NPRM) to present options for specific regulatory changes and to seek public comment on the proposed changes. Because the draft NPRM is under review at the Office of Management and Budget, and we cannot discuss its contents. The reduction of CMV crashes, fatalities, and injuries remains the paramount objective for FMCSA.

Question 4. I understand that there are an increasing number of HOS exemptions being granted. How does FMCSA ensure that carriers are operating safely with exemptions, and does the agency study the safety impacts of exemptions?

Answer. In addition to greater compliance with the hours-of-service (HOS) rules, another result of the congressionally mandated final rule on electronic logging devices (ELD) is that drivers and carriers realized that they were not complying fully with the HOS rules prior to the ELD implementation. Thus, many of these entities have applied for exemptions from our HOS rules.

FMCSA evaluates each of these exemption requests on a case-by-case basis. As required by statute, we publish notice of exemption requests in the Federal Register and seek public comment on applications for exemptions. The Agency must provide the public with the opportunity to review applications and offer comment concerning whether the exemption would achieve a level of safety equivalent to that which would be realized absent the exemption. After considering the exemption request and the public comments, and evaluating all available data, the Agency determines whether granting the exemption is appropriate.

Through the rulemaking process initiated in August 2018 with the publication of the ANPRM on hours of service, the Agency sought public comment on several as-

pects of our HOS rules. As the NPRM that follows up on the 2018 ANPRM is currently under review at OMB, the Agency cannot discuss its contents at this time.

Question 5. I have heard from the enforcement community that FMCSA's recent changes to guidance on personal conveyance has resulted in drivers driving far beyond HOS limits. Is FMCSA addressing this?

Answer. On June 7, 2018, FMCSA published regulatory guidance (83 FR 26377) which provided additional clarity concerning driving a commercial motor vehicle (CMV) for personal use while off-duty, referred to as "personal conveyance." This guidance did not change the hours-of-service (HOS) rules; rather it updated the original guidance published in 1997 to improve uniformity for the industry and the enforcement communities. Specifically, it provided additional details to assist a carrier or driver in determining if a move is personal conveyance, including passenger carrier-specific scenarios. This guidance also clarified issues such as using personal conveyance for laden vehicles and to get to a safe resting location after loading or unloading.

The concern that this guidance has led to additional violations of the HOS limits is unfounded. It is true, however, that the misuse of personal conveyance and other HOS flexibilities is more easily discovered due to the use of ELDs.

Sleep Apnea. In March 2016, FMCSA and FRA released an advance notice of proposed rulemaking (ANPRM) looking at requiring sleep apnea screening and treatment for commercial vehicle drivers and train operators. In 2017, the agencies collectively rescinded the proposed rulemaking. NTSB's 2019–2020 Most Wanted List calls for FMCSA and FRA to require screening and treatment for sleep apnea to reduce sleepiness and fatigue.

Question 6. Is FMCSA concerned about the risks of sleep apnea in the industry? If so, what is the agency doing to address the risks of sleep apnea amongst commercial drivers?

Answer. FMCSA is concerned about the risks of obstructive sleep apnea (OSA) in the industry. OSA is associated with increased risk for other adverse health conditions such as hypertension (high blood pressure), diabetes, obesity, cardiac dysrhythmias (irregular heartbeat), myocardial infarction (heart attack), stroke, and death resulting from sudden cardiac arrest.

FMCSA and FRA published the ANPRM in March 2016, and 3 public listening sessions were held in May 2016. The ANPRM requested data and information concerning the prevalence of moderate to severe OSA among individuals occupying safety-sensitive positions in highway and rail transportation. The Agencies did not receive sufficient data to support future rulemakings. They determined that current and upcoming safety programs appropriately address fatigue risks, including OSA.

Presently, the Agency is working to revise its Medical Handbook to better inform certified medical examiners (CMEs) of the medical standards to evaluate CMV drivers more effectively to determine if they can drive safely in interstate commerce. The Agency plans to issue a revised bulletin to CMEs to clarify Agency guidance for the evaluation of moderate to severe OSA and its safety implications for CMV drivers. We expect to issue the bulletin later this year.

Rear Underride Guards. In 2018, the Commercial Vehicle Safety Alliance petitioned FMCSA to amend Appendix G by requiring rear underride guards to be inspected during annual commercial vehicle inspections. This was also a recommendation by GAO in their March 2019 report on underride accidents.

Question 7. What is the status of this petition? Does FMCSA intend to add rear guards to required annual commercial vehicle inspections?

Answer. In response to petitions for rulemaking from the Commercial Vehicle Safety Alliance and two individuals, and a recommendation from the Government Accountability Office, FMCSA has initiated a rulemaking to include rear impact guards on the list of items that must be examined as part of the required annual inspection for each commercial motor vehicle. We anticipate publishing the NPRM later this year.

Speed Limiters for Commercial Motor Vehicles. Speed is one of the leading factors in crashes that result in fatalities. In 2016, NHTSA and FMCSA proposed requiring speed limiting devices on all vehicles over 26,000 pounds and for a specific speed to be set.

Question 8. Why have the agencies not yet finalized a rule requiring speed limiters on heavy vehicles?

Answer. Proposals by the National Highway Traffic Safety Administration (NHTSA) and the Federal Motor Carrier Safety Administration (FMCSA) to restrict the speed of commercial trucks, issued in 2016, received nearly 7,000 public com-

ments. The public docket can be accessed at <https://www.regulations.gov/docket?D=NHTSA-2016-0087>.

The entire Department of Transportation prioritizes safety. The two Agencies continue to work to determine next steps and to ensure that any future decision intended to advance public safety will be grounded in sound analysis.

Motor Carrier Insurance Minimums. The minimum amount of insurance a motor carrier is required to carry has not kept up with inflation and has remained at \$750,000 since the 1980s. Today, cost of injuries and fatalities as a result of crashes with motor carriers far exceeds that of minimum insurance levels, leaving many crash victims not properly compensated for injuries.

Question 9. Is it reasonable to raise minimum insurance levels for motor carriers to match inflation?

Answer. Federal law requires certain motor carriers to obtain liability insurance, and provide the Agency with evidence of active insurance at federally-set levels, before they are permitted to operate in interstate commerce. The current insurance requirements, referred to as “minimum levels of financial responsibility” for motor carriers have not been adjusted since they were established by Congress in the early 1980s.

FMCSA submitted its reports to the Congress on the appropriateness of the current minimum financial responsibility requirements in April 2014 and March 2018, as required by section 32104 of MAP-21. The March 2018 report was responsive to both the MAP-21 reporting requirement and the similar requirement of the FAST Act. FMCSA lacks the data necessary to compare actual liability limits of intrastate motor carriers’ insurance policies, surety bonds, or self-insurance programs to determine whether they are equal to or greater than the minimum limits required under State law. Similarly, comparing accident claims data to minimum limits required by State law may yield a distorted picture if intrastate motor carriers have insured themselves at liability limits greater than minimum limits required by State law. The more meaningful comparison is to compare actual accident claims against intrastate carriers relative to the actual liability limits for which they are insured. Regardless of whether actual claims are compared to either the minimum limits required by State law, or to intrastate motor carriers’ actual liability limits, there is insufficient data available to make such comparisons.

The same data limitations exist with respect to interstate motor carriers and intrastate motor carriers transporting hazardous material subject to FMCSA’s financial responsibility requirements. Therefore, it is not possible to directly compare the efficacy of FMCSA’s minimum levels of financial responsibility to those of States that have not adopted comparable minimum levels of financial responsibility for intrastate for-hire property or household goods carriers. Similarly, the lack of actual insurance claim data hinders FMCSA’s ability to evaluate the efficacy of current minimum levels of financial responsibility requirements in meeting claims for medical costs, compensation and other identifiable costs, as well as the frequency of liability claims arising from a single event exceeding motor carriers’ current minimum levels of financial responsibility.

Question 10. The Motor Carrier Act of 1980 intended for insurance minimums to be periodically raised. Why have FMCSA’s periodic efforts to raise the insurance minimums stagnated?

Answer. Section 5517 of the FAST Act directs the U.S. Department of Transportation (DOT) to prepare a report comparing State and Federal financial responsibility requirements for motor carriers of property. The FAST Act also directs DOT to evaluate the efficacy of current minimum levels of financial responsibility in meeting claims for medical costs, compensation, and other identifiable costs, as well as the frequency of liability claims arising from a single event exceeding motor carriers’ current minimum levels of financial responsibility.

FMCSA published an ANPRM in November 2014 to collect more information on the issue; the comment period ended in February 2015. After reviewing all public comments to the ANPRM, FMCSA determined that it had insufficient data or information to support moving forward with a rulemaking proposal. Accordingly, on June 5, 2017, the Agency published a notice of withdrawal of the November 2014 ANPRM. The Department is committed to continuing to provide the required reports. No rulemaking action is contemplated.

Sexual Harassment in the Trucking Industry. According to the American Transportation Research Institute, women truck drivers have proven to be safer drivers and 20 percent less likely to be involved in an accident. However, some carriers in the trucking industry have faced accusations that they are not doing enough to address occurrences of sexual harassment happening on the job, thus making the pro-

fession less appealing to female drivers. Equal Employment Opportunity Commission (EEOC) complaints and lawsuits allege that, as new drivers, women are frequently required to go on long overnight training trips, often having to share a small truck cabin with a man if the company is unwilling to provide drivers with a hotel room. Others allege that complaints of harassment and assault are not investigated by carriers.

Question 11. Do you think the trucking industry has a responsibility to address sexual harassment in the workplace?

Answer. FMCSA agrees that the trucking industry, like all other employers, has a responsibility to address sexual harassment in the workplace. On July 23 2019, the Agency published notice of its request to the Office of Management and Budget to conduct a survey on the nature, prevalence, and seriousness of harassment and assaults against minority and female truckers. Depending on the information received in response to the survey, FMCSA may consider developing training or outreach materials to help truckers protect themselves from crime or harassment. Rule-making will not be undertaken. While FMCSA has concerns about the safety of all employees in the motor carrier industry, its primary mission is highway safety, as it does not have authority to investigate claims of workplace harassment or discrimination by private employers such as motor carriers or administer EEO laws relating to such employers. However, FMCSA does enforce antidiscrimination laws, such as Title VI of the Civil Rights Act of 1964 and Section 504 of the Rehabilitation Act of 1973, involving its grant recipients, which are typically States or local governments.

Question 12. What are trucking companies and FMCSA doing to help the industry comply with Federal laws ensuring equal employment opportunity?

Answer. Because FMCSA has no authority to enforce Federal laws on equal employment opportunity outside the Agency, it does not monitor the progress of the motor carrier industry or track complaints of violations. The trucking companies are best suited to inform the Committee what the industry is doing regarding equal opportunity compliance.

RESPONSE TO WRITTEN QUESTIONS SUBMITTED BY HON. TOM UDALL TO
HON. RAYMOND MARTINEZ

Question 1. As everyone is aware, Politico reported recently that Secretary Chao has steered millions of dollars in grants to Kentucky—as her husband seeks reelection. As you can imagine, everyone on this dais represents states with needs as great as Kentucky, but I am concerned about the Secretary putting her finger on the scale to benefit one state. Can each of you speak how your agencies can prevent such political interference?

Answer. The facts belie the false allegation that the Department has steered grants to Kentucky. As the Politico article noted, Kentucky ranked 25th among the States, received 5 of 169 grants in this period. In terms of funding, Kentucky received about 5 percent of the awards—proportional to its share of the Nation's populations.

The Department applies the same rigorous technical criteria to all application evaluations and treats all project applications equitably. The Department has taken great effort and is committed to ensuring that all our grant programs use data driven processes to ensure the Department complies with all Congressional requirements such as project eligibilities, geographic diversity, minimum urban and rural award percentages, and project type diversity. All applications are reviewed by career technical teams to rate the projects on how well the applicant addresses selection criteria that is published in the Notice of Funding Opportunity. Evaluation teams comprised of representatives from the different modal administrations, staff from various DOT field offices across the country and headquarters staff are responsible for assigning technical ratings.

The Department has a strong track record of ensuring that infrastructure award selections benefit all 50 States and U.S. territories and will continue to ensure fair and consistent application of grant criteria and to meet Congressional award requirements.

Question 2. When override guards are not properly maintained, they are weakened and less likely to prevent override. Unfortunately, override guards are not currently on the Commercial Motor Vehicle Inspection Checklist because they are not included in Appendix G of the FMCSA's Safety Regulations. Multiple organizations have petitioned the FMCSA to add override to Appendix G. Does the Agency

intent to take up this petition and if so what is your timeline for adding override to Appendix G? If not, please explain why.

Answer. In response to petitions for rulemaking from the Commercial Vehicle Safety Alliance and two individuals, and a recommendation from the Government Accountability Office, FMCSA has initiated a rulemaking to include rear impact guards on the list of items that must be examined as part of the required annual inspection for each commercial motor vehicle. We anticipate publishing the NPRM later this year.

RESPONSE TO WRITTEN QUESTIONS SUBMITTED BY HON. TAMMY DUCKWORTH TO
HON. RAYMOND MARTINEZ

Question 1. Last Spring, FMCSA modified its guidance for the hours-of-service personal conveyance provision. According to stakeholders, FMCSA's recent change has resulted in an abuse of hours-of-service limits by some drivers. Is FMCSA aware of these concerns and what is FMCSA doing to address this issue?

Answer. On June 7, 2018, FMCSA published regulatory guidance (83 FR 26377) which provided additional clarity concerning driving a commercial motor vehicle (CMV) for personal use while off-duty, referred to as "personal conveyance." This guidance did not change the hours-of-service rules. It updated the original guidance published in 1997 to improve uniformity for the industry and the enforcement communities. Specifically, it provided additional details to assist a carrier or driver in determining if a move is personal conveyance, including passenger carrier-specific scenarios. This guidance also clarified issues such as using personal conveyance for laden vehicles and to get to a safe resting location after loading or unloading.

The concern that this guidance has led to additional violations of the HOS limits is unfounded. It is true, however, that the misuse of personal conveyance and other HOS flexibilities is more easily discovered due to the use of ELDs.

Question 2. According to FMCSA's website, large truck and bus fatalities increased by 6.8 percent from 2016 to 2017. How is rolling back safety rules, like hours-of-service and minimum driver age requirements, going to reverse this trend?

Answer. The FMCSA is committed to improving commercial motor vehicle safety and the implementation of the second and final phase of the ELD rule in December 2019, as well as the initial phases of the controlled substances and alcohol testing clearinghouse and entry-level driver training rules. By year's end, all drivers required to use electronic logging devices to document hours of service must use ELDs that meet the technical standards included in the Agency's 2015 final rule. Commercial driver's license (CDL) holders will register with the Agency's clearinghouse to provide consent for employers to query the information system to verify drivers' eligibility to engage in safety-sensitive work. And individuals seeking a CDL for the first time, or an upgrade or certain endorsements, will need to seek training from a provider that is registered with FMCSA and follows the minimum curriculum established in our 2016 final rule.

With the implementation of these safety programs well underway, FMCSA has initiated several notice-and-comment rulemakings to seek public input on changes to the Federal Motor Carrier Safety Regulations that could reduce the regulatory burden on the industry without compromising safety. In each of these cases, the Agency made a preliminary determination about the changes being considered, but sought public comment to provide all interested parties the opportunity to engage in the process to ensure that an equivalent level of safety would be required of the industry.

RESPONSE TO WRITTEN QUESTIONS SUBMITTED BY HON. ROGER WICKER TO
HEIDI KING

Question 1. As I mentioned in my opening statement, the highway traffic safety grant program could be better utilized to tackle highway safety fatalities. What would you suggest we do to refocus these programs on the areas of greatest need?

Answer. The most effective way to tackle highway safety fatalities is to ensure that States have resources and flexibility to implement data-driven programs to address their State-specific highway safety problems. Such an approach allows States the ability to address new and emerging areas such as drug-impaired driving. We would be pleased to work with the Committee on providing technical assistance on this matter.

Question 2. DOT was directed to develop a "high-volume" recall system, yet it has not developed a system for recall batch search for industry to perform searches of

vehicles with unrepaired safety recalls. What is the status of the agency's efforts to develop this system?

Follow up. Now that industry has worked to develop alternative systems, what steps can NHTSA undertake to ensure such tools are being widely used?

Answer. NHTSA's website accommodates high-traffic volume in accordance with the requirement in FAST Act 24103(a) to ensure that motor vehicle safety recall information available to the public on NHTSA's website is readily accessible and easy to use. FAST Act § 24103(e) called for DOT in coordination with industry to study "the feasibility of searching multiple vehicle identification numbers at a time to retrieve motor vehicle safety recall information." Because industry developed a batch-search capability for recalls, which has been available to users online, free of charge, since early 2018, a feasibility study for such a system was not necessary. Leveraging industry advancements in batch-search capabilities serves as a fast, cost-effective approach to improve recall awareness and access to information. NHTSA promotes awareness of the availability of high-volume and individual safety recall search capabilities for use by individual consumers, dealers, manufacturers, ride-share services, rental vehicle companies, and others through various media and face-to-face meetings. NHTSA will continue to meet with industry stakeholders to promote awareness of existing batch-search tools and to collaborate with industry to improve public awareness of and access to recall data.

Question 3. While NHTSA has made progress to implement requirements in MAP-21 and FAST Act, important rulemakings remain unimplemented. For example, provisions unimplemented include the Tire Efficiency, Safety, and Registration Act, which I cosponsored, as well as provisions requiring greater information about crash avoidance technologies to buyers of new cars. Please provide the agency's plan for MAP-21 and FAST Act directed rulemakings and estimated completion dates. Are there any congressionally directed rulemakings that are overcome by events?

Answer. Please see attachment.

Question 4. In 2018, 52 children lost their lives due to heatstroke in cars. This is the highest number we have seen in years. I have introduced the HOT CARS Act to direct NHTSA to develop a standard for an in-vehicle alert system and increase education about the danger of leaving children alone in cars. What is NHTSA currently doing to protect our children from heatstroke and what additional steps can the agency take?

Answer. At NHTSA, we are heartbroken when we hear of any harm to our most vulnerable people, and that is why we are acting with a sense of urgency to change behaviors today. NHTSA is dedicated to raising awareness of the dangers associated with pediatric vehicular heatstroke. Our national heatstroke prevention campaign focuses on promoting awareness of this issue through public education, partner outreach and paid media. The heatstroke prevention campaign is supported by a paid national advertising campaign "Where's Baby? Look before you lock" that runs from April through August each year. The paid campaign includes radio, digital and social media, with hashtags #HeatstrokeKills and #CheckForBaby, and puts an emphasis on states that have suffered the highest heatstroke fatalities among children. Campaign assets are made available on trafficsafetymarketing.gov. NHTSA will continue to work to identify prevention strategies to share with the public.

In 2015, NHTSA published a *Functional Assessment of Unattended Child Reminder Systems* (DOT HS 812 187), evaluating the then-available market technologies designed to remind parents of unattended children in vehicles. See https://www.nhtsa.gov/sites/nhtsa.dot.gov/files/812187_unattendedchildremindersystems.pdf. At the time of that study, only aftermarket technologies were available. NHTSA now is conducting an update to that study, to evaluate new and enhanced aftermarket technologies, as well as the newer in-vehicle alert technologies that have entered the market more recently. As part of this study, NHTSA will also assess and update the applicability of the existing functional assessment methodologies, and develop new methodologies as needed with a focus on integrated vehicle systems. Preliminary results from the study are anticipated in Spring 2020, with a final report currently planned for Spring 2021. As we learn more on new technologies and strategies, NHTSA will disseminate this information to stakeholders.

Question 5. The Spring 2019 Unified Agenda indicated that NHTSA would complete the final electronic odometer rule by May 2019. Please provide an update on when NHTSA expects to finalize this rule.

Answer. NHTSA expects to issue the final electronic odometer rule later this year.

Question 6. There have been requests for exemptions from Federal regulations regarding newly advanced technologies such as Automatic Emergency Braking Part 581, advanced lighting such as Adaptive Driving Beam, and camera monitor sys-

tems for rear and side visibility. Could you provide insight on what steps NHTSA is taking toward facilitating exemptions for technological advancements?

Answer. In December 2018, NHTSA issued a final rule that eliminated the provision in 49 CFR Part 555 stating that NHTSA deem an exemption petition to be “complete” prior to publishing a notice of receipt of the petition in the Federal Register on the ground that the provision acted as an impediment to the agency’s seeking public comment on exemption petitions. (83 Fed. Reg. 66158, Dec. 26, 2018) Given that this rule concerned a rule of agency procedure and given that the requirements of 5 U.S.C. 553(b) do not apply “(A) to interpretative rules, general statements of policy, or rules of agency organization, procedure, or practice,” this rule was not preceded by a notice of proposed rulemaking.

In addition, NHTSA is currently drafting a notice of proposed rulemaking (NPRM) that would modernize the documentation requirements for exemption petitions to facilitate the safe introduction of innovative technologies. (“Updating the Process for Temporary Exemptions”; RIN 2127-AM11). We estimate that this proposal will be published in 2019.

Question 7. As the industry continues to innovate, DOT will face challenges to keep pace, including on areas such as cybersecurity and artificial intelligence. How do you intend to leverage the private sector’s expertise and can we incentivize experts in these fields to work for the Federal government?

Answer. NHTSA will continue to pursue broad stakeholder engagement, including significant private sector involvement, in key advanced technology areas. Over the last several years, NHTSA has engaged stakeholders in programs involving vehicle cybersecurity, as well as vehicles with Automated Driving Systems, an area that is commonly considered to intersect with artificial intelligence topics and research. This engagement includes collaborating on research efforts, pursuing public notice and comment on key issues, interacting with private sector entities through direct discussions and site visits, and facilitating public workshops and conferences that feature private sector participants. These interactions directly leverage private sector expertise and contribute to private sector interest in working for the Federal government. NHTSA is proud of our workforce that includes highly qualified experts who work on these technical matters. We are also continuing to recruit technical expertise in these fields.

Question 8. With innovative transportation projects like automated vehicles, safety systems are critical. As NHTSA evaluates the rulemaking process and priorities in the future, will there be consultation with the NETT Council and is there a process for the NETT Council to provide to NHTSA lessons learned on development of innovative technologies?

Answer. Yes. NHTSA is a member of the NETT council. As technologies emerge, NHTSA will work with the NETT Council, as appropriate.

Question 9. What is the latest status of MY21-MY26 Light-Duty Fuel Economy final rule?

Follow up. And how do you intend to provide regulatory certainty to auto manufacturers in finalizing the rule?

Answer. NHTSA and EPA received over 750,000 public comments to the SAFE Vehicles proposed rule published in August 2018. The agencies are working diligently to consider and respond to those comments and decide on a path forward for the final standards, based on the best available information and research. The agencies anticipate that a final rule will be issued in the coming months.

Question 10. How can the timeliness and quality of state collection of crash data be improved, particularly for issues such as drug-impaired driving and pedestrian and bicycle fatalities and other areas where there are data collection challenges?

Follow up. Is NHTSA taking specific steps to address and prevent crashes involving distracted pedestrians?

Answer. While NHTSA does not have the authority to require States to submit Fatality Analysis Reporting System (FARS) data, we have recently undertaken a campaign to improve data quality by investing in technology and training programs, developed through research and collaboration with States, that enhance the accuracy and timeliness of the agency’s data collection systems. This campaign involves the Electronic Data Transfer (EDT) program, which supports increased data quality for FARS as well as support for the Crash Report Sampling System (CRSS) and the Crash Investigation Sampling System (CISS). Current EDT implementations have demonstrated significant improvements to timeliness and accuracy while reducing the burden of reporting this crucial safety information. While expanding EDT across additional States has tremendous promise, individual States’ ability to leverage these technological solutions vary greatly.

NHTSA also provides robust training and user support for core data collection systems. In addition to the week-long annual system wide training for FARS and CRSS data coders and CISS investigators, NHTSA releases updated coding manuals annually and regularly provides remote and on-site training as needed throughout each data collection year.

Regarding drug-impaired driving, NHTSA is currently conducting studies on electronic reporting, which may have the potential to expand drug-impaired data collection and improve the agency's understanding of drugged-driving scenarios. In seeking more data on multiple drug exposure, drug concentrations, full drug panel, drug matrix, and drug test type, NHTSA hopes to use automated data transfer protocols to minimize the associated burden and eliminate the common manual data entry errors. NHTSA is also developing new drug data interpretation training to ensure coders are able to understand and code complex toxicology lab reports as well as working with specific States to assess their drug data coding and provide tailored guidance.

While these solutions are being developed and piloted, continued collaboration with the States and Federal stakeholders, including Federal Highway Administration and Federal Motor Carrier Safety Administration, is critical to deploying fully electronic data collection systems and effective training programs that positively impact safety data quality. These agencies seek State data aggregated by NHTSA and are actively encouraging States to engage with NHTSA's electronic data collection programs in order to minimize potentially duplicative data collections.

With regard to distracted pedestrians, NHTSA recently published a literature review of pedestrian distraction research, including electronic device use and the role distraction plays (on the part of pedestrians and/or drivers) in pedestrian/motor vehicle incidents. (See Scopatz, R. A. & Zhou, Y. (2016, April). Effect of electronic device use on pedestrian safety: A literature review (Report No. DOT HS 812 256). Washington, DC: National Highway Traffic Safety Administration.) NHTSA also initiated a new pilot study to gather detailed crash data in some cases that could allow for causation factors analysis using the using the Crash Injury Research and Engineering Network (CIREN). NHTSA will investigate a sample set of pedestrian crashes for both injury and crash causation insights, including distractions that may have been present for both the pedestrian and the driver. In this pilot study, the agency is gathering behavioral information and developing crash investigation protocols that may be used in a broader future study. These efforts will inform NHTSA's programming, including outreach, education and enforcement, to discourage behaviors that contribute to distracted pedestrian crashes.

Question 11. According to the FBI crime statistics, impaired driving arrests have significantly decreased over the past decade, yet deaths associated with impaired driving have not faced a similar decline. Given the importance of law enforcement to highway traffic safety, how does NHTSA support law enforcement?

Follow up. How much of NHTSA grants go to law enforcement each year, by state, for traffic enforcement?

Answer. NHTSA has established strong relationships with the law enforcement community through work with national law enforcement leadership associations to increase enforcement of impaired driving laws. NHTSA has established cooperative agreements with the International Association of Chiefs of Police (IACP), the National Sheriffs' Association, the National Association of Black Law Enforcement Executives (NOBLE) and the International Association of Directors of Law Enforcement Standards and Training (IADLEST) to support impaired driving and other traffic safety initiatives. These associations provide support through the establishment of traffic safety committees, training, workshops and presentations at national conferences and other venues on the importance of traffic law enforcement initiatives at the State and community level.

Through the cooperative agreement with the IACP, NHTSA develops, regularly updates, and delivers Standardized Field Sobriety Testing (SFST), Advanced Roadside Impaired Driving Enforcement (ARIDE), and Drug Recognition Expert (DRE) trainings to the law enforcement community. These trainings are the foundation for impaired driving enforcement.

NHTSA, in cooperation with the Governor's Highway Safety Association, provides support to law enforcement through a National Law Enforcement Liaison Program (NLELP) coordinator. This arrangement provides coordination to a cadre of NHTSA Regional and State and local Law Enforcement Liaisons (LEL) who provide support for traffic law enforcement initiatives. The LELs are instrumental in supporting both the National impaired driving mobilizations and individual State and local impaired driving initiatives.

Several NHTSA Regional offices use Regional LELs to convey information about NHTSA priority programs to encourage State and local law enforcement agencies

to participate highway traffic safety law enforcement activities, including high visibility enforcement mobilizations. The work of the Regional LELs supplements the outreach efforts conducted by the NHTSA Regional offices and States to engage with law enforcement agencies on enforcement activities.

Finally, NHTSA has made the safety of law enforcement officers a priority and provides funding to support “Below 100,” an initiative designed to reduce preventable law enforcement line-of-duty deaths. NHTSA has also developed communications materials to raise public awareness of “Move Over” laws. These laws, now enacted in all 50 States and DC, require motorists to move over to an adjacent lane and/or slow down if a lane change cannot be completed safely when approaching an emergency vehicle stopped with emergency lights activated.

NHTSA grants are provided to State highway safety offices that award sub-grants to law enforcement in the State. Please refer to the attached table which lists expenditures on law enforcement activity, by State for Fiscal Years 2017 and 2018 under Sections 402 and 405.

Question 12. How much of NHTSA funding is allocated toward high visibility enforcement by safety issue (for seat belt use, alcohol impaired-driving, drug impaired-driving, and distracted driving, and hot cars)?

Follow up. Of amounts provided through the highway traffic safety grants, how much is each state spending on traffic enforcement efforts?

Answer. In FY 2019, NHTSA allocated \$35.2 million for high visibility enforcement (HVE). This included a seat belt campaign (\$8M), a distracted driving campaign (\$5M), and an impaired driving campaign (\$22.2) that includes both alcohol impairment and drug-impairment messaging.

In FY 2018, NHTSA obligated \$1.6 million to raise consumer awareness of “hot car” dangers, and anticipates allocating \$3 million for child hyperthermia efforts this fiscal year.

NHTSA grants are provided to State highway safety offices that award sub-grants to law enforcement in the State. Please refer to the attached table which lists expenditures on law enforcement activity, by State for Fiscal Years 2017 and 2018 under Sections 402 and 405.

Question 13. What is NHTSA doing to ensure that the DADSS program continues along its path to develop and test technology to reduce deaths due to drunk driving?

Answer. NHTSA is and always have been actively engaged in the development of the Driver Alcohol Detection System for Safety (DADSS) program to facilitate the development of driver alcohol detection technology towards commercial deployment. NHTSA continues to actively engage with the DADSS program in the development of in-vehicle technologies that accurately and quickly measure blood or breath alcohol levels of the driver. NHTSA is engaged in Technical Working Group meetings on technology development. These are held every few months and include active participation from 17 major vehicle manufacturers. Recent technical evaluations include field operational trials of prototype DADSS technologies that began in Virginia late last year. Additional tests in more controlled settings (using test drivers) started last month and are expected to include up to 50 vehicles in multiple locations. These tests will provide a better understanding of real world operations in varying environmental conditions.

NHTSA also provides direction and feedback to DADSS on public policy, deployment, and public education considerations. In early 2017, NHTSA modified its Cooperative Agreement to create a Stakeholder Team to allow various stakeholder groups to provide direct input to the DADSS program on deployment and policy issues. The Stakeholder Team includes representation from automakers, States, and auto safety groups. As the technology development is reaching maturity, NHTSA is working to accelerate the transfer of the DADSS technology to the auto industry. NHTSA staff, as well as the DADSS program team, have engaged in outreach efforts to encourage private fleet operators to partner in deploying the technology. In addition, NHTSA distributed guidelines to States regarding how they might use their NHTSA highway safety grant funds for DADSS technology deployments, as part of an effort to educate States on opportunities to expand their participation in the DADSS program.

Question 14. What efforts are underway to establish an impairment standard for marijuana-impaired driving and what is involved in that process?

Answer. Because the constituent components of marijuana have a different chemistry than alcohol, current research indicates there is unlikely to be a driving-related marijuana-impairment standard similar to the Blood Alcohol Concentration (BAC) standard for alcohol impairment. Alcohol is water soluble, and alcohol impairment is closely correlated to the level of alcohol in the body. In contrast, marijuana’s active ingredient is fat-soluble and metabolizes differently. The psychoactive ingre-

dient in marijuana, delta-9-tetrahydrocannabinol (THC), does not correlate with impairment; in fact, studies show that peak impairment occurs after peak THC concentrations have been measured. (Compton, R. (2017, July). Marijuana-Impaired Driving—A Report to Congress. (DOT HS 812 440). Washington, DC: National Highway Traffic Safety Administration.) Measurable THC levels in the body drop rapidly right after smoking marijuana, while impairment can be observed for hours after smoking. Further adding complexity, marijuana is comprised of many compounds in addition to THC, and some of those compounds can change the impairing effects.

While an impairment standard for marijuana would be useful, NHTSA is focusing on more immediate countermeasures. Law enforcement officers can detect and assess impairment using non-toxicological assessment measures. Tests like the Standardized Field Sobriety Test (SFST) provide a methodology for determining impairment. Many officers are trained in the Drug Evaluation and Classification program, providing the skills to accurately detect impairment and correctly categorize the type of drug involved in impairment—these officers are called Drug Recognition Experts. Other officers are trained in Advanced Roadside Impaired Driving Enforcement.

Since all impaired driving enforcement depends upon well-trained officers, we continue to support law enforcement training on drug-impaired driving, as well as training for criminal justice professionals, education to raise public awareness on the issue of drug-impaired driving, and research to understand the relationship between drug use and crash risk.

ATTACHMENT TO QUESTION 3

FAST Act: NHTSA has completed 11 of the 25 mandated rulemakings. The status and estimated publication dates are shown below.

- FAST § 24104 (MAP21 § 31310), 49 CFR Part 577 Defect and Noncompliance Notification
 - Drafting Final Rule.
 - RIN: 2127-AL66
 - Publication date is undetermined.¹
- FAST § 24106, Chapter 7 Bankruptcy Notification Requirements, o Proposed Rule drafting in progress (combined with §§ 24116 and 24402).
 - RIN: 2127-AL80
 - Publication date is undetermined.
- FAST § 24112 (MAP21 § 31304), Part 510 Information Gathering Powers o Drafting Proposed Rule.
 - RIN: 2127-AL69
 - Planned publication date of Proposed Rule in Spring 2019 Agenda: 2020
- FAST § 24115, Update Tire Pressure Monitoring System (TPMS) Standards
 - Research program in progress—began June 2018 with a full report by the end of 2019. The agency needs to collect and analyze data on the field performance of the available TPMS technologies and any safety issues related to these technologies. We note that the requirement to update the TPMS standards appears to be contradictory. Paragraph (a)(1) of Section 24115 of the FAST Act requires NHTSA to propose a rule that would prohibit manual reset-ability, overrides, or recalibration of TPMS in a way that would fail to detect low tire pressure. However, paragraph (a)(2) directs NHTSA to do this in way that would not prohibit the availability of direct and indirect TPMS systems. All indirect systems and at least some direct systems require the use of a reset or recalibration feature in order to function properly if tires are inflated, rotated, or replaced. Such a reset or recalibration feature may, if used incorrectly, cause the system to fail to detect low tire pressure. Thus, any proposal in accordance with paragraph (a)(1) would prohibit all indirect TPMS and at least some direct TPMS.
 - The agency will finalize a rulemaking plan after research is completed.
- FAST § 24116, 49 CFR Part 573, Defect and Noncompliance Responsibility and Reports Rulemaking o Proposed Rule drafting in progress (combined with §§ 24106 and 24402).
 - RIN: 2127-AL80
 - Publication date is undetermined.
- FAST § 24303(b), Electronic Data Recorder Time for Capturing and Recording Crash Events

¹Undetermined completion dates reflect the need to prioritize rulemakings, including those mandated by Congress, recommended by NTSB, initiated by the agency, and/or undertaken in response to Petitions from the public.

- Report sent to Congress on 9/27/18 (FAST § 24303(a))
 - Drafting Proposed Rule.
 - RIN: 2127-AM12
 - Planned Publication Date of Proposed Rule in Spring 2019 Agenda: 2020
 - FAST § 24322, New Car Assessment Program: Monroney Label
 - Analyzing comments from the October 2018 public meeting.
 - Exploring various approaches on how to best convey the safety potential of crash avoidance technologies.
 - Publication date is undetermined.
 - FAST § 24332(b) and (c), Tire Fuel Efficiency and Wet Traction Performance Requirements
 - Research completed 2017, Analysis completed 2018
 - Drafting Proposed Rule and developing costs/benefits analysis.
 - RIN: 2127-AM08
 - Planned publication date of Proposed Rule in Spring 2019 Agenda: 2020
 - FAST § 24333, Independent Tire Dealers Records Maintenance and Reporting Requirements
 - Completed report from section 24334.
 - Further research and analysis are needed to study the long-term durability and standardization of data for these systems.
 - Publication date is undetermined.
 - FAST § 24352, Whistle Blower Program
 - Drafting Proposed Rule.
 - RIN: 2127-AL85
 - Planned publication date of Proposed Rule in Spring 2019 Agenda: 2020
 - FAST § 24402, Increase the Age of Vehicles and Equipment Eligible for a Free Recall
 - Proposed Rule drafting in progress (combined with §§ 24106 and 24116).
 - 2127-AL80
 - Publication date is undetermined.
 - FAST § 24403, Records Retention
 - Proposed Rule published 5/15/19 and comment period closed on 7/15/19.
 - RIN: 2127-AL81
 - Agency is reviewing comments to determine next steps.
 - FAST § 24405, Replica Vehicles
 - Drafting Proposed Rule and Regulatory Impact Analysis.
 - RIN: 2127-AL77
 - Planned publication date of Proposed Rule in Spring 2019 Agenda: 2019
- MAP-21: NHTSA has completed 10 of the 20 mandated rulemakings. The status and estimated completion dates are shown below.
- MAP21 § 31205 (FAST § 24111), Electronic Disclosure of Odometer Requirements
 - Drafting Final Rule.
 - RIN: 2127-AL39
 - Planned publication date of Final Rule in Spring 2019 Agenda: 2019
 - MAP21 § 31306, Part 575 Vehicle Defect Reporting Requirements
 - Drafting Proposed Rule.
 - RIN: 2127-AL33
 - Publication date is undetermined.
 - MAP21 § 31501(a), Side Impact Test Procedure for CRS
 - Drafting Final Rule.
 - RIN: 2127-AK95
 - Planned publication date of Final Rule in Spring 2019 Agenda: 2020
 - MAP21 § 31501(b), Upgrade Frontal Impact for Children
 - Drafting Proposed Rule.
 - RIN: 2127-AL34
 - Planned publication date of Proposed Rule in Spring 2019 Agenda: 2019
 - MAP21 § 31502, Upgrade of Latch Usability Requirements
 - Drafting Final Rule.
 - RIN: 2127-AL20
 - Publication date is undetermined.
 - MAP21 § 31503, Rear Seat Belt Warning System
 - Drafting Advanced Notice of Proposed Rulemaking.
 - RIN: 2127-AL37
 - Planned publication date of Proposed Rule in Spring 2019 Agenda: 2019
 - MAP21 § 32703(b)(1), Motorcoach Rollover Structural Integrity
 - Drafting Final Rule.

- RIN: 2127–AK96
- Planned publication date of Proposed Rule in Spring 2019 Agenda: 2020
- MAP21 § 32703(b)(2), Window Glazing & Anti-Ejection Countermeasures
 - Drafting Final Rule.
 - RIN: 2127–AL36
 - Publication date is undetermined.
- MAP21 § 32703(d), New Pneumatic Tires for Motorcoaches
 - Reviewing comments from Proposed Rule to determine next steps
 - RIN:2127–AK17.
 - Publication date is undetermined.
- MAP21 § 32705, Motorcoach Occupant Protection, Collision Avoidance, Fire Causation, and Fire Extinguisher Research and Testing Rulemaking
 - Publication date is undetermined.

ATTACHMENT TO QUESTIONS 11 AND 12

National Highway Traffic Safety Administration

Estimates of State Law Enforcement Expenditures for FY 2017 and 2018*

State	FY 2017		FY 2018	
	Section 402	Section 405	Section 402	Section 405
Alabama	\$2,166,777.71	\$1,686,304.69	\$3,012,041.77	\$1,428,044.94
Alaska	\$550,709.00	\$521,266.00	\$520,312.00	\$1,848,697.00
Arizona	\$3,235,285.15	\$3,006,563.13	\$2,932,740.63	\$2,336,669.20
Arkansas	\$1,345,798.00	\$2,056,561.00	\$1,893,654.00	\$2,987,802.00
California	\$15,716,696.31	\$7,795,531.73	\$14,779,565.78	\$6,819,298.85
Colorado	\$523,622.72	\$2,998,917.58	\$1,133,212.41	\$1,788,170.72
Connecticut	\$511,895.00	\$2,269,726.00	\$436,466.00	\$2,276,443.00
Delaware	\$632,770.50	\$222,567.78	\$970,212.85	\$192,371.49
District of Columbia	\$66,606.27	\$1,199,494.09	\$296,770.85	\$692,942.86
Florida	\$520,840.12	\$1,161,651.71	\$1,501,272.54	\$1,290,040.96
Georgia	\$3,072,662.32	\$2,164,476.03	\$2,760,228.43	\$2,204,819.93
Hawaii	\$1,593,839.15	\$388,846.75	\$1,539,304.21	\$471,353.18
Idaho	\$1,104,523.00	\$945,019.00	\$1,097,202.00	\$966,366.00
Illinois	\$4,742,337.16	\$4,109,933.51	\$5,972,292.19	\$5,040,456.12
Indiana	\$2,603,747.73	\$1,992,368.54	\$3,183,250.03	\$1,267,689.34
Iowa	\$1,627,371.31	\$1,621,490.74	\$1,823,279.70	\$1,827,642.14
Kansas	\$1,394,684.00	\$702,081.00	\$1,446,260.00	\$893,707.00
Kentucky	\$1,416,152.09	\$1,446,214.40	\$1,486,278.44	\$1,114,351.90
Louisiana	\$766,378.54	\$185,201.93	\$2,869,962.48	\$155,128.64
Maine	\$740,508.52	\$1,289,972.28	\$615,150.48	\$1,217,882.67
Maryland	\$768,620.72	\$2,860,060.28	\$1,284,690.51	\$2,072,061.17
Massachusetts	\$918,755.40	\$3,084,566.16	\$1,575,424.40	\$1,341,616.17
Michigan	\$4,499,100.00	\$44,000.00	\$5,029,000.00	\$0.00
Minnesota	\$996,621.42	\$2,009,664.45	\$665,274.46	\$1,584,770.87
Mississippi	\$1,520,526.79	\$2,597,399.68	\$2,501,726.58	\$2,215,693.64
Missouri	\$3,327,397.09	\$1,682,367.08	\$2,041,619.67	\$2,443,468.45
Montana	\$1,109,430.00	\$79,049.00	\$925,841.00	\$413,735.00
Nebraska	\$916,217.91	\$285,138.79	\$940,283.69	\$400,762.63
Nevada	\$1,231,410.57	\$865,860.40	\$1,154,811.47	\$622,052.61
New Hampshire	\$1,840,506.00	\$3,019,556.00	\$1,315,870.00	\$2,367,170.04
New Jersey	\$239,366.00	\$4,232,447.00	\$1,394,785.00	\$3,873,201.00
New Mexico	\$207,136.00	\$2,090,671.99	\$707,230.17	\$1,118,783.64
New York	\$4,417,069.00	\$3,248,693.00	\$4,975,054.00	\$2,914,668.00
North Carolina	\$1,479,362.00	\$1,571,005.00	\$821,606.00	\$2,482,767.80
North Dakota	\$620,157.47	\$439,566.25	\$712,679.66	\$455,908.01

*NHTSA grants are provided to State highway safety offices that award sub-grants to law enforcement in the State. These amounts are estimates that were compiled using various methods (e.g., State e-grant systems, highway safety plans, invoices, etc.) because NHTSA does not have a searchable, central system for this information. Therefore, not all law enforcement-related expenses may be captured in these estimates.

RESPONSE TO WRITTEN QUESTIONS SUBMITTED BY HON. DEB FISCHER TO
HEIDI KING

Question 1. In 2015, NHTSA announced plans to update the New Car Assessment Program to include crash avoidance technologies. However, there does not appear to be movement on this issue. When will NHTSA finalize revisions to NCAP, including the requirements in FAST Act Section 24321?

Answer. In August 2018, NHTSA issued a Federal Register notice announcing a public meeting to obtain stakeholder input on how best to move forward with NCAP, which was held in October 2018. NHTSA received numerous public comments in response to this notice and through the public meeting. NHTSA is currently reviewing public comments. We are also engaging in discussion with stakeholders to help inform the program's next steps. Concurrently, NHTSA is working to fulfill its Congressional mandate to identify and communicate appropriate crash avoidance technologies on window stickers by exploring various approaches. NHTSA is planning on conducting consumer market research on how to best convey the safety potential of crash avoidance technologies.

Question 2. Last year, NHTSA requested comments related to ADS safety research and an automated vehicle collaborative research pilot program.

a. What has NHTSA learned from the comments it has received?

Answer. NHTSA is actively pursuing public input on a variety of next steps for vehicles equipped with Automated Driving System (ADS), including a series of notices discussing the modernization of safety standards and the potential creation of an ADS pilot program.

On January 18, 2018, NHTSA published a request for comment (RFC) on issues surrounding modernizing its Federal Motor Vehicle Safety Standards (FMVSS) for the unique vehicle designs expected for vehicles equipped with ADS and other ADS safety research issues. NHTSA received more than 100 comments in response to the RFC.

On May 28, 2019, NHTSA published an advance notice of proposed rulemaking (ANPRM) seeking public comment on the near-and long-term challenges of testing and verifying compliance with existing crash avoidance (100-series) Federal Motor Vehicle Safety Standards (FMVSSs) for Automated Driving System-Dedicated Vehicles (ADS-DVs) that lack traditional manual controls necessary for a human driver to maneuver the vehicle and other features intended to facilitate operation of a vehicle by a human driver, but that are otherwise traditional vehicles with typical seating configurations. In response to a request from the public, NHTSA is announcing a 30-day extension of the comment period on the ANPRM on Removing Regulatory Barriers for Vehicles with Automated Driving Systems. The comment period for the ANPRM will now end on August 28, 2019.

Separately, NHTSA requested comment through an ANPRM on the creation of a pilot program for collaborative research for motor vehicles equipped with high or full driving automation on October 10, 2018. NHTSA received over 70 comments, and we are considering next steps on the pilot program.

b. Additionally, does NHTSA anticipate moving forward with a pilot program, and, if so, what is the agency's timeline for moving forward?

Answer. NHTSA is continuing to evaluate its next steps in determining whether and how to implement a pilot program.

RESPONSE TO WRITTEN QUESTIONS SUBMITTED BY HON. TODD YOUNG TO
HEIDI KING

Earlier this year, the State of Indiana enacted a new law directing the Bureau of Motor Vehicles to alert vehicle owners about manufacturer issued safety recalls during the vehicle registration process. This law is in response to the pilot grant program established by the Maryland Motor Vehicle Administration for state recall notifications to consumers that was authorized in the FAST Act.

In May of this year, NHTSA issued a Notice of Proposed Information Collection and Request for Comment with the goal of expanding the pilot program to additional state motor vehicle administrations. As detailed in this Notice, NHTSA has authority to solicit additional states to participate in consumer notification at the time of vehicle registration.

Question 1. Does NHTSA need additional Congressional authorization to expand this pilot program?

Answer. No. Under 49 USC 30182, NHTSA has authority to provide grants to States for motor vehicle safety development activities.

Question 2. Does NHTSA have a timetable for opening a new round of funding to state motor vehicle administrations?

Answer. NHTSA estimates that a notice of funding opportunity will be published in the next Fiscal Year.

Question 3. Can NHTSA comment on the success of the Maryland program?

Answer. Maryland's pilot program marked its first-year anniversary in April and is showing promising results. Through June 2019, Maryland's Motor Vehicle Administration (MVA) has checked the recall status of more than 2.8 million vehicles seeking re-registration in the State. To date, more than 213,000 safety recalls have been remedied after owners received notice from the MVA.

RESPONSE TO WRITTEN QUESTIONS SUBMITTED BY HON. MARIA CANTWELL TO
HEIDI KING

Traffic Fatalities. The Department of Transportation recently released an early estimate of traffic fatalities in the U.S for 2018. While total vehicle fatalities decreased slightly last year, we are largely stagnant. There was also an alarming 10 percent increase in cyclist fatalities compared to 2017. Large truck and pedestrian fatalities are also on the rise.

Question 1. What does the preliminary 2018 data suggest are the contributing factors to the increase in these types of fatalities?

Answer. In NHTSA's Traffic Safety Facts report, "Early Estimate of Motor Vehicle Fatalities in 2018," we reported that, based upon data submitted to date, statistical projections indicate that there were likely increases in fatalities involving pedestrians, pedalcyclists and heavy trucks. (See <https://crashstats.nhtsa.dot.gov/Api/Public/ViewPublication/812749>.) We note that these preliminary estimates are based on various data sources, including incomplete case data, in conjunction with historical models to construct estimated changes along these categories.

While helpful for gaining early insights, these estimates are insufficient to allow complete analysis of contributing factors during 2018. When the complete 2018 annual report file becomes available later this year, NHTSA will be able to conduct similar detailed analyses on potential factors contributing to changes in traffic death rates for these and other populations during 2018.

We do know from prior years' experience that increased fatalities and injuries may result from increase in traffic exposure, or increased pedestrian and pedalcyclist activity. We also know that increased fatalities and injuries may result from increase in risky behaviors such as speeding, impaired driving, failure to wear seatbelts, etc. Increased traffic is often associated with increased economic activity, and increased risky behaviors are often negatively correlated with traffic safety enforcement activity. We will scrutinize the data related to both exposure and risky behaviors as that data become available.

Question 2. Will you describe NHTSA's plans to address the increases in these specific types of fatalities?

Answer. To reduce high-risk behavior on our roadways, NHTSA has long-standing programs in place to address safety issues that put pedestrians, bicyclists, and heavy trucks at increased risk, as well as concerted efforts to reduce crashes, injuries and fatalities related to impaired driving. NHTSA addresses the complex impaired driving issue through the development and implementation of countermeasures that prevent impaired driving among potential offenders, deter recidivism, and closely monitor high-risk individuals. In the past few years, NHTSA has increased support for criminal justice programs, created year-round communication efforts that increase during periods of concentrated enforcement and provided significant grant funding to States for their own impaired driving programs.

In March of 2018, NHTSA launched a Drug-Impaired Driving Initiative bringing together more than 200 stakeholders at a Call to Action Summit to set a course of action and take measurable steps to address the Nation's drug-impaired driving problem. As part of the Initiative, NHTSA developed and disseminated focus-group-tested, public education campaigns about the dangers of drug-impaired driving, including the If You Feel Different, You Drive Different communications campaign and Drive High, Get a DUI enforcement campaign. We will soon release a campaign focused on the risks of driving while impaired by over the counter or prescription medications.

Further, NHTSA has a range of activities to address pedalcyclist, pedestrian and heavy truck-involved fatalities. For example, NHTSA is—

- Advancing proven countermeasures to address pedestrian and bicyclist safety in *Countermeasures that Work* (<https://www.nhtsa.gov/sites/nhtsa.dot.gov/files/>)

documents/812478-countermeasures-that-work-a-highway-safety-countermeasures-guide.pdf);

- Supporting the Pedestrian and Bicycle Information Center (<http://www.pedbikeinfo.org/>) to develop and share resources to enhance pedestrian and bicyclist safety;
- Providing grant funds to States to help address non-motorized safety fatalities, including pedestrians and bicyclists, according to local needs and issues;
- Conducting an analysis of bicycle-related traffic safety laws to determine whether particular traffic safety laws protect or create potential environments harmful to bicyclists;
- Building public support for pedestrian education and enforcement programs through demonstration projects in Arizona, Florida and Tennessee;
- Conducting a new crash causation study to look closely at vehicle-related impacts in pedestrian crashes using the Crash Injury Research and Engineering Network (CIREN);
- Working on a rulemaking that would permit the introduction of adaptive driving beam headlighting systems in the United States which have the potential to address the more than 70 percent of pedestrian fatalities that occur at night while limiting glare to other drivers;
- Researching test devices, performance criteria, and their utility in the assessment of pedestrian crash avoidance technologies;
- Working collaboratively through an intermodal relationship with the Federal Motor Carrier Safety Administration (FMSCA) to address fatalities related to large truck crashes.

These efforts inform NHTSA's programming, including outreach, education and enforcement, to enhance the safety of these populations.

Question 3. What new data should NHTSA collect to help improve efforts to reduce traffic fatalities?

Answer. As technologies and human behaviors change over time, NHTSA is working to improve its data collection and analysis capabilities to address emerging questions and new challenges. We have recently undertaken a campaign to improve data quality by investing in technology and training programs, developed through research and collaboration with States, that enhance the accuracy and timeliness of the agency's data collection systems. This campaign involves the Electronic Data Transfer (EDT) program, which supports increased data quality for FARS as well as support for the Crash Report Sampling System (CRSS) and the Crash Investigation Sampling System (CISS). Current EDT implementations have demonstrated significant improvements to timeliness and accuracy while reducing the burden of reporting this crucial safety information.

The Model Minimum Uniform Crash Criteria (MMUCC) is a voluntary data collection guideline cooperatively developed by NHTSA and the Governors Highway Safety Association that identifies a minimum set of motor vehicle crash data elements and their attributes that States should consider collecting in their crash data systems. The MMUCC 5th edition, published in 2017, included critical updates, including added edit checks, reorganized elements by crash type to streamline onsite data collection, and a new data element identifying the driving automation levels of the vehicles involved in crashes. Many States have already adapted these changes to their police crash reports and crash data systems.

In considering additional data elements, the agency strives to balance our need for data with States' ability to collect them without undue burden. Incremental changes to the Fatality Analysis Reporting System (FARS) data collection protocols reflect this approach. For example, in 2020 we will begin collecting data on traffic fatalities involving vehicles operating as part of a rideshare or transportation network company (TNC). We are also planning additional data element changes to more clearly identify the involvement of motorized scooters in crashes.

Question 4. Why has NHTSA been delaying the adoption of critical safety technologies, like automatic emergency brakes?

Answer. NHTSA is not delaying the adoption of critical safety technologies, including automatic emergency brakes. NHTSA has actively encouraged manufacturers to adopt innovative safety technologies including automatic emergency braking.

In March 2016, NHTSA and the Insurance Institute for Highway Safety announced that 20 vehicle manufacturers, representing more than 99 percent of light motor vehicle sales in the United States, voluntarily committed to installing automatic emergency braking on virtually all light cars and trucks with a gross vehicle

weight rating less than 8,500 pounds by September 1, 2022 and those with a GVWR between 8,500 and 10,000 by Sept. 1, 2025.

Beginning in 2018, NHTSA included automatic emergency braking systems as a recommended safety technology as part of the agency's New Car Assessment Program.

NHTSA also continues to conduct research on the real-world performance of automatic emergency braking systems on heavy trucks, including recently introduced systems that added the functionality to brake for stopped lead vehicles. Results from NHTSA's current field operational testing of these latest generation systems will be used to determine next steps.

Underride Guards. In March 2019, GAO found that underride accidents are likely underreported due to the varying ways data is collected and reported by state and local police. In the report, GAO recommended that NHTSA: (1) standardize the definition of underrides and data fields, (2) provide information to state and local police on how to identify and record underrides, and (3) to research the effectiveness of side underride guards in preventing cabin intrusion.

Question 5. Do you agree that we need better data on underride accidents?

Answer. Yes. States have found data about this type of crash difficult to identify and collect. (For instance, the Model Minimum Uniform Crash Criteria (MMUCC) expert panel decided to remove the underride data element from the standard's third edition in 2008.) NHTSA is working to improve the scope and quality of underride crash data through research and training, and we will present a crash underride data element for inclusion in the MMUCC 6th Edition.

Question 6. Is NHTSA working to implement these recommendations by GAO?

Answer. Yes. NHTSA is working with key stakeholders to implement the relevant GAO recommendations. NHTSA will present a crash underride data element for inclusion in the Model Minimum Uniform Crash Criteria (MMUCC) 6th Edition when the MMUCC expert panel reconvenes in 2022. NHTSA is working with the Federal Motor Carrier Safety Administration to develop educational materials to help State and local police departments better identify and record underride crashes. We anticipate releasing these materials by Fall 2021.

NHTSA is currently conducting a review of crashes in which a light vehicle impacted the side of a truck trailer to estimate the number of vehicle occupant fatalities in side underride crashes and gauge the effectiveness of side guards on trucks and trailers in preventing and mitigating the severity of such crashes. NHTSA will follow up with analysis of the impacts of requiring side guards on trucks and trailers. These analyses should be complete by September 2020.

Question 7. In 2014, the NTSB recommended that NHTSA require newly manufactured truck-trailers be equipped with side underride and strengthened rear underride protections. NHTSA released a proposed rulemaking in 2015 aimed at rear underride protection in crashes with large trucks. When will the rear underride protection rulemaking from 2015 be completed?

Answer. NHTSA is currently analyzing the comments received on the 2015 notice of proposed rulemaking on the upgrade of rear underride guards for trailers and semi-trailers and is developing next steps. Completion date of this rulemaking action is undetermined.

Drunk Driving. Drunk driving crashes claim far too many lives each year. Ignition interlocks and advanced in-vehicle technologies can combat drunk driving by preventing a car from moving if it detects the driver is intoxicated. For example, if fully implemented such in-vehicle technologies to combat drunk driving could save an estimated 7000 lives each year. The Driver Alcohol Detection Systems for Safety (DADSS) program has been helping develop such technologies since 2008 as a joint government-industry initiative. However, I am aware of concerns that this life-saving technology is not being commercialized, transferred or otherwise deployed as quickly as possible.

Question 8. Please provide a detailed, year-by-year funding summary for the DADSS program, with the totals provided by NHTSA, state agencies and the auto industry since 2008.

Answer. The following table includes a year-by-year funding summary for DADSS program by NHTSA and the auto industry, under the Automotive Coalition for Traffic Safety (ACTS). In addition, in Fiscal Years 2017 and 2018, Virginia expended approximately \$5 million each Fiscal Year in Federal grant funds to support DADSS research.

All funding to-date under the DADSS Cooperative Agreements

Fiscal Year	NHTSA Funding ⁺	ACTS Funding [*]	Total Funding
2008	1,000,000	1,000,000	2,000,000
2009	1,000,000	1,000,000	2,000,000
2010	1,250,000	1,000,000	2,250,000
2011	1,500,000	1,000,000	2,500,000
2012	1,250,000	1,000,000	2,250,000
2013	5,289,000	1,250,000	6,539,000
2014	5,440,000	1,250,000	6,690,000
2015	5,440,000	1,250,000	6,690,000
2016	5,493,906	1,250,000	6,743,906
2017	5,494,000	1,250,000	6,744,000
2018	5,494,000	1,250,000	6,744,000
2019	5,494,000	1,250,000	6,744,000
<i>Total</i>	<i>44,144,906</i>	<i>13,750,000</i>	<i>57,894,906</i>

⁺ NHTSA funding amounts are those obligated to the NHTSA/ACTS Cooperative Agreement.

^{*} ACTS funding amounts are those required by the NHTSA/ACTS Cooperative Agreement.

Question 9. What steps is NHTSA taking to ensure that this life-saving technology to prevent drunk driving becomes widely available?

Answer. NHTSA is and always has been actively engaged in the development of the Driver Alcohol Detection System for Safety (DADSS) program to facilitate the development of driver alcohol detection technology towards commercial deployment. NHTSA continues to actively engage with the DADSS program in the development of in-vehicle technologies that accurately and quickly measure blood or breath alcohol levels of the driver. NHTSA is engaged in Technical Working Group meetings on technology development. These are held every few months and include active participation from 17 major vehicle manufacturers. Recent technical evaluations include field operational trials of prototype DADSS technologies that began in Virginia late last year. Additional tests in more controlled settings (using test drivers) started last month and are expected to include up to 50 vehicles in multiple locations. These tests will provide a better understanding of real world operations in varying environmental conditions.

NHTSA also provides direction and feedback to DADSS on public policy, deployment, and public education considerations. In early 2017, NHTSA modified its Cooperative Agreement to create a Stakeholder Team to allow various stakeholder groups to provide direct input to the DADSS program on deployment and policy issues. The Stakeholder Team includes representation from automakers, States, and auto safety groups. As the technology development is reaching maturity, NHTSA is working to accelerate the transfer of the DADSS technology to the auto industry. NHTSA staff, as well as the DADSS program team, have engaged in outreach efforts to encourage private fleet operators to partner in deploying the technology. In addition, NHTSA distributed guidelines to States regarding how they might use their NHTSA highway safety grant funds for DADSS technology deployments, as part of an effort to educate States on opportunities to expand their participation in the DADSS program.

Question 10. Given the potential of DADSS technology to save 7,000 lives each year from drunk driving (estimate from the Insurance Institute for Highway Safety), what additional steps can NHTSA take that will lead to this technology becoming standard equipment in vehicles?

Answer. NHTSA continues to work cooperatively with the DADSS program in the development of in-vehicle technologies that accurately and quickly measure blood or breath alcohol levels of the driver to address alcohol-impaired driving risks and related fatalities. As part of NHTSA's cooperative agreement with Automotive Coalition for Traffic Safety (ACTS), NHTSA continues to be engaged in Technical Working Group meetings on technology development. These are held every few months and include active participation from 17 major vehicle manufacturers. Recent technical evaluations include field operational trials of prototype DADSS technologies that began in Virginia late last year. Additional tests in more controlled settings (using test drivers) started last month and are expected to include up to 50 vehicles in multiple locations. These steps will provide better understanding of real world operations in varying environmental conditions. NHTSA will continue to work with States, ACTS and automakers, and other stakeholders to encourage tests of the technology and to identify fleet partners to deploy the DADSS technology.

Question 11. The National Academies of Sciences released a report in 2018 that concluded laws lowering the blood alcohol concentration (BAC) from .08 to .05 for

drivers would help save lives. Do you agree that states should lower the BAC for drivers to .05? How is NHTSA encouraging states to lower BAC for drivers?

Answer. NHTSA supports States' efforts to reduce impaired driving. Utah is the first State to enact a .05 BAC limit for drivers—the law went into effect at the end of 2018. NHTSA is working with Utah officials to assess the effectiveness of the law in reducing alcohol-impaired driving crashes and will disseminate the findings of this research so other States and stakeholders can learn from Utah's experience. The results of this research, in combination with our knowledge of the effects of alcohol on driving skills and the associated crash risk, will provide essential information for the Department and the public.

CAFE Standards Rollback. I want to reiterate my opposition to relaxing CAFE standards. I believe the Administration is going down the wrong path. It could make the American auto industry less competitive in a global marketplace where consumers want more efficient cars, not less.

A recent academic study funded by the Automobile Manufacturers, found that if the administration freezes CAFE standards at the model year 2020 levels, it will result in 236,000 fewer jobs created over the next 15 years than if the emissions standards remain in place.¹

Question 12. Will you commit to keeping this committee apprised of any further NHTSA actions related to CAFE standards?

Answer. Yes.

NCAP. NHTSA's New Car Assessment Program (NCAP) rates a vehicle's safety on a scale from one star (least safe) to five stars (most safe) to help buyers compare safety features and crash performance across different car models.

Question 13. What changes is NHTSA considering to the NCAP program?

Answer. In August 2018, NHTSA issued a Federal Register notice announcing a public meeting to obtain stakeholder input on how best to move forward with NCAP, which was held in October 2018. NHTSA received numerous public comments in response to this notice and through the public meeting. NHTSA is currently reviewing public comments. We are also engaging in discussion with stakeholders to help inform the program's next steps. Concurrently, NHTSA is working to fulfill its Congressional mandate to identify and communicate appropriate crash avoidance technologies on window stickers by exploring various approaches. NHTSA is planning on conducting consumer market research on how to best convey the safety potential of crash avoidance technologies.

Vehicular heatstroke. I am a cosponsor of bipartisan legislation, the HOT CARS Act that will require technology to help reduce children's risk of heat stroke from being left unattended in hot vehicles. The bill aims to prevent senseless deaths by requiring new cars to be equipped with technology that would alert a driver when a child is in the back seat and prevent them from being left in a hot car.

Question 14. What steps is NHTSA taking to help prevent children from dying from vehicular heatstroke?

Answer. At NHTSA, we are heartbroken when we hear of any harm to our most vulnerable people, and that is why we are acting with a sense of urgency to change behaviors today. NHTSA is dedicated to raising awareness of the dangers associated with pediatric vehicular heatstroke. Our national heatstroke prevention campaign focuses on promoting awareness of this issue through public education, partner outreach and paid media. The heatstroke prevention campaign is supported by a paid national advertising campaign "Where's Baby? Look before you lock" that runs from April through August each year. The paid campaign includes radio, digital and social media, with hashtags #HeatstrokeKills and #CheckForBaby, and puts an emphasis on states that have suffered the highest heatstroke fatalities among children. Campaign assets are made available on trafficsafetymarketing.gov. NHTSA will continue to work to identify prevention strategies to share with the public.

In 2015, NHTSA published a Functional Assessment of Unattended Child Reminder Systems (DOT HS 812 187), evaluating the then-available market technologies designed to remind parents of unattended children in vehicles. See https://www.nhtsa.gov/sites/nhtsa.dot.gov/files/812187_unattendedchildremindersystems.pdf. At the time of that study, only aftermarket technologies were available. NHTSA now is conducting an update to that study, to evaluate new and enhanced aftermarket technologies, as well as the newer in-vehicle alert technologies that have entered the market more recently. As part of this study, NHTSA will also assess and update the applicability of the existing functional assessment methodolo-

¹<https://onlinelibrary.wiley.com/doi/full/10.1002/pam.22132>

gies, and develop new methodologies as needed with a focus on integrated vehicle systems. As we learn more on new technologies and strategies, NHTSA will disseminate information to stakeholders.

Electronic Vehicle Identifier. NHTSA has received a petition to require a universal electronic vehicle identifier on all new commercial motor vehicles, laying the foundation for electronic inspections.

Question 15. What is NHTSA's progress on considering this petition?

Answer. NHTSA received this petition from the Commercial Vehicle Safety Alliance on May 9, 2019 and responded with an acknowledgement letter June 21, 2019. We are considering the petition and will respond in due course.

Automated Driving Systems. Last year, NHTSA proposed a rulemaking on a pilot program for Automated Driving Systems (ADS).

Question 16. Can you provide an update on the status of the pilot program? Does NHTSA have plans to loosen regulatory guidelines to accommodate ADS?

Answer. NHTSA received over 70 comments, and we are considering next steps on the pilot program.

On May 28, 2019, NHTSA published an advance notice of proposed rulemaking (ANPRM) seeking public comment on the near-and long-term challenges of testing and verifying compliance with existing crash avoidance (100-series) Federal Motor Vehicle Safety Standards (FMVSSs) for Automated Driving System-Dedicated Vehicles (ADS-DVs) that lack traditional manual controls necessary for a human driver to maneuver the vehicle and other features intended to facilitate operation of a vehicle by a human driver, but that are otherwise traditional vehicles with typical seating configurations. In response to a request from the public, NHTSA is announcing a 30-day extension of the comment period on the ANPRM on Removing Regulatory Barriers for Vehicles with Automated Driving Systems. The comment period for the ANPRM will now end on August 28, 2019.

Question 17. As ADS technologies advance and vehicles require communication with other vehicles and infrastructure, how important is it that the 5.9 GHz band is preserved for transportation safety?

Answer. The 5.9 GHz band is a critically important resource for enabling advanced highway transportation safety services. Vehicle-to-everything (V2X) technology is the only technology that can see around corners, and may provide the tool necessary to support advanced safety or high-level automation technology. This band (which includes 75 MHz of spectrum) is needed to allow cars, trucks, motorcycles and even pedestrians to exchange messages that help safety technologies embedded in the vehicle predict potential collisions and take action to avoid the collision. The band is also used to support communications between vehicles and traffic signaling systems that can help coordinate vehicle movements to improve traffic flow, reduce congestion and enhance highway capacity, which may also improve safety. The Department encourages the automotive industry, wireless technology companies, State and local transportation departments, and other stakeholders to continue developing technologies that leverage the 5.9 GHz spectrum for transportation safety, mobility, and fuel efficiency benefits.

Question 18. With Phase I of the harmful interference testing of the 5.9 GHz band complete, why has Phase II and Phase III not begun? When will DOT begin Phase II and Phase III of testing?

Answer. Phase II has begun: plans are in place and we anticipate receiving devices suitable for Phase II testing in August 2019. DOT has completed all preparatory work to enable testing to begin upon receipt of spectrum sharing devices from industry suppliers and will continue to work with FCC and NTIA.

Rulemakings. In May of 2018, when you testified in front of the Commerce Committee I asked you why many of NHTSA's rule makings had been delayed. You assured me that you were working to implement statutorily required regulations, and you told me to check the agency's regulatory agenda online. I checked the Department of Transportation's website and I have a couple follow-up questions for you regarding regulatory delays and NHTSA's prioritization of these rules:

Question 19. Child Restraints: MAP-21 required NHTSA to test Child Restraint Systems in side impacts by October 2014. According to the regulatory agenda, the rule was scheduled to be published in April 2017, but has been delayed to September 30, 2019. MAP-21 also required NHTSA to create regulations to require car manufacturers to make it easier for parents to secure child seats in the backseat of their cars by October 2015. The regulatory agenda provides no estimate for the creation for this regulation. What are the reasons for these delays?

Answer. We strive to maintain current information online, and we would be pleased to discuss the regulatory agenda in greater detail. Further, we continue to provide information on the status of this rulemaking in DOT's Significant Rule-making Reports, available at <https://www.transportation.gov/regulations/report-on-significant-rulemakings>, and DOT's Unified Agenda.

Side impact test for child restraint systems: NHTSA published a notice of proposed rulemaking (NPRM) in January 2014. In response to public comments on the 2014 proposal, the agency conducted and recently completed an extensive research program for improving the repeatability and reproducibility of the proposed side impact test. NHTSA estimates publishing a final rule in 2020.

Improving the ease of use of child restraint anchorage systems: NHTSA published an NPRM in January 2015. The agency is currently conducting research for improving the repeatability and reproducibility of specified measurements and to respond to public comments. Completion date of this rulemaking action is undetermined.

Question 20. Rollover Requirements for Buses: MAP-21 required NHTSA to implement new rollover safety standards for buses by October 1, 2014. The publication of the rule has been delayed. What was the reason for this delay?

Answer. NHTSA published a notice of proposed rulemaking to improve the rollover structural integrity of motorcoaches and large buses in August 2014. NHTSA estimates the publication of a final decision in 2020.

Question 21. Rear Seat Belt Reminders: MAP-21 required NHTSA to issue a final rule in October 2015 that requires car companies to install seatbelt reminder systems for rear seats. The regulatory agenda says that a notice for proposed rulemaking was scheduled to be published on May 31, 2019. Why has the proposed rule not been published for comment?

Answer. MAP-21 required NHTSA to initiate a rulemaking proceeding by October 2014 to amend the Federal Motor Vehicle Safety Standard (FMVSS) relating to occupant crash protection to provide a seat belt use warning system for designated seating positions in the rear seat. NHTSA initiated this rulemaking proceeding in 2013 by designing a study to ascertain the effectiveness and consumer perceptions of existing rear seat belt warning systems. NHTSA is in the final stages of drafting a rulemaking document and expects to publish this in the very near future.

Question 22. Recall Notification: In August 2015, NHTSA began a rule making process to require car manufacturers to alert consumers of a recall by means other than mail. Why is there no estimated date for completion of this rule in the regulatory agenda?

Answer. NHTSA does not currently have an estimated date for the next action on its recall notification rulemaking.

While the rulemaking process is ongoing, NHTSA continues to work with manufacturers to identify additional ways for the industry to raise recall awareness among the public and improve recall completion rates. In many open recall campaigns, manufacturers often send out recall notifications by means other than mail where contact information is available, including phone call and text or e-mail where information is available. Several manufacturers have developed or are in the process of developing applications for mobile phones that will provide recall notifications to consumers.

Additionally, several manufacturers have partnered with the National Safety Council to engage in a nationwide "Check to Protect" recall awareness campaign, which further raises recall awareness for the general public through various means of communication including paid media and canvassing efforts.

NHTSA further encourages the public at every opportunity to check their VIN at www.nhtsa.gov/recalls for any open recalls and provides a recall e-mail subscription service where consumers can be notified via e-mail if their vehicle may be subject to a future recall.

Question 23. Civil Penalties for CAFE Standards: According to the regulatory agenda, NHTSA was scheduled to issue a final rule increasing civil penalties for car manufacturers that fail to meet CAFE standards on April 30, 2019. Why has the rule not been published?

Answer. NHTSA published a final rule on CAFE civil penalties on July 26, 2019.

Question 24. Adaptive Headlamps: In October 2018, NHTSA released an NPRM to make changes to FMVSS No. 108—Lamps, reflective devices, and associated equipment. This would allow manufacturers to equip vehicles with adaptive headlamp systems. What is the timeline on this rulemaking?

Answer. Consistent with the Spring 2019 Uniform Agenda posted by the Department, the agency currently anticipates publishing a final rule for adaptive driving beam headlighting in December 2019.

RESPONSE TO WRITTEN QUESTIONS SUBMITTED BY HON. AMY KLOBUCHAR TO
HEIDI KING

Question 1. Recent reports have found that one in six vehicles used to transport Uber and Lyft passengers have at least one open recall and that neither app alerts passengers in these situations. I led a letter to the CEOs of these companies expressing concern regarding the use of recalled vehicles and asking what steps they will take to keep passengers informed and improve safety procedures.

How do you view NHTSA's role in working with ride share companies and drivers to ensure that consumers are informed when a vehicle has been recalled?

Answer. Rideshare Service companies typically do not own or manage their fleet of vehicles, and so they must work with independent drivers to ensure ongoing recall awareness. NHTSA has met with Lyft and Uber to discuss efforts to incentivize their drivers to repair open recalls, and we will continue to raise recall awareness among ride share services and consumers. NHTSA encourages all ride share companies to have drivers check their VINs on a regular basis at www.nhtsa.gov/recalls, and to get all recalls fixed as soon as possible.

Question 2. One study found that an average of nine people die and more than 1,000 are injured in crashes involving distracted driving every day. I introduced legislation that was included in the previous FAST Act reauthorization to help more states qualify for grants to prevent distracted driving.

How have recent developments in technology—including those allowing consumers to stream videos and have live video conversations by cell phone—contributed to distracted driving, and what is NHTSA doing to address this?

Answer. It is extremely difficult to collect data on driver distraction, due in part to the variation in reporting on police crash reports. However, NHTSA continues to support efforts to reduce all forms of distracted driving and associated crashes and injuries. Our program and research initiatives seek to assess and change driver behavior to reduce the incidence of texting and other distracting behaviors while driving. Through the National Occupant Protection Use Survey (NOPUS), we are able to obtain nationwide probability-based observed data on driver electronic device use. While the most-recent survey revealed a decrease in handheld cell phone use from the previous year (see <https://crashstats.nhtsa.dot.gov/Api/Public/ViewPublication/812665.pdf>), we do not know the impact of recent developments in technology on distracted driving. We do know that the risks associated with distraction prove that any handheld cell phone use while driving is unacceptable.

We continue to work with our Federal, State and local safety partners to raise public awareness about the dangers of texting while driving, including technology-related vehicle enhancements, through our annual nationwide campaign, “U Drive. U Text. U Pay.” The campaign mirrors the approach used to combat drunk driving and increase seat belt use nationwide, by combining a national advertising campaign with a law enforcement mobilization. NHTSA also released the third in a series of national surveys on distracted driving attitudes and behaviors to support the development of countermeasures and interventions to reduce distracted driving on the Nation’s roadways.

Below are links to additional information about distracted driving:

AAA

<https://exchange.aaa.com/safety/distracted-driving/#.XR9lnqJKg2w>

AAA Foundation for Traffic Safety

<https://aaafoundation.org/?s=distracted>

IIHS/HLDI

<https://www.iihs.org/topics/distracted-driving>

National Safety Council

<https://www.nsc.org/road-safety/safety-topics/distracted-driving>

Visual and Cognitive Demands of Using In-Vehicle Infotainment Systems

https://publicaffairsresources.aaa.biz/wp-content/uploads/2017/09/17-0103_CDST-Fact-Sheet_v4-1.pdf

RESPONSE TO WRITTEN QUESTIONS SUBMITTED BY HON. EDWARD MARKEY TO
HEIDI KING

NCAP. The New Car Assessment Program (NCAP) is a critical initiative that provides consumers with comparative information on vehicle safety performance and new safety features. During your confirmation hearing, you expressed support for updating the NCAP by 2020.

Question 1. What progress has been made on updating the NCAP since your confirmation? Does NHTSA have a timeline for the completion of an NCAP update by 2020?

Answer. In August 2018, NHTSA issued a Federal Register notice announcing a public meeting to obtain stakeholder input on how best to move forward with NCAP, which was held in October 2018. NHTSA received numerous public comments in response to this notice and through the public meeting. NHTSA is currently reviewing public comments. We are also engaging in discussion with stakeholders to help inform the program's next steps. Concurrently, NHTSA is working to fulfill its Congressional mandate to identify and communicate appropriate crash avoidance technologies on window stickers by exploring various approaches. NHTSA is planning on conducting consumer market research on how to best convey the safety potential of crash avoidance technologies.

Autonomous vehicles (AV).

Question 2. Is NHTSA updating its current test tools to reflect the nature of AVs, including by modifying its anthropomorphic test devices (ATDs/crash test dummies)?

Answer. NHTSA is engaged in research that will be the basis for the development and/or refinement of tools for evaluating occupant response in alternative seating configurations that may become prevalent in vehicles with Automated Driving Systems (ADS). Most biomechanical response and injury causation studies have focused on standard seat back angles. Someday vehicle manufacturers may be interested in developing vehicles with alternative seating configurations that would result in occupants seated in a reclined position and/or rearward-facing position relative to the direction of the crash. An understanding of human response under these conditions will allow NHTSA to assess and refine anthropomorphic test devices ATDs and human body models (HBMs), which can then be used to design and evaluate advanced restraint systems.

Question 3. How is NHTSA addressing the kinds of alternative seating that will be available in AVs, which could allow the occupant to relax or recline their seating?

Answer. NHTSA has participated in several industry-wide meetings focused on occupant safety in vehicles with ADSs, including an Automated Vehicle Occupant Safety Workshop in November 2018 and continued involvement in the Transportation Research Center's Research Consortium for Crashworthiness in Automated Driving Systems. Industry feedback collected from these meetings indicated that reclined seating may be prevalent in vehicles with ADSs. To address this alternative seating scenario, NHTSA is sponsoring research to better understand the biomechanical response and injury mechanisms in reclined seating in both forward-facing and rear-facing scenarios. This research will allow NHTSA to assess and refine anthropomorphic test devices (ATDs) and human body models (HBMs).

RESPONSE TO WRITTEN QUESTIONS SUBMITTED BY HON. TOM UDALL TO
HEIDI KING

Question 1. As everyone is aware, Politico reported recently that Secretary Chao has steered millions of dollars in grants to Kentucky—as her husband seeks reelection. As you can imagine, everyone on this dais represents states with needs as great as Kentucky, but I am concerned about the Secretary putting her finger on the scale to benefit one state. Can each of you speak how your agencies can prevent such political interference?

Answer. The facts belie the false allegation that the Department has steered grants to Kentucky. As the Politico article noted, Kentucky as the Politico article noted, Kentucky ranked 25th among the states, received 5 of 169 grants in this period. In terms of funding, Kentucky received about 5 percent of the awards—proportional to its share of the Nation's populations.

The Department applies the same rigorous technical criteria to all application evaluations and treats all project applications equitably. The Department has taken great effort and is committed to ensuring that all our grant programs use data driven processes to ensure the Department complies with all Congressional requirements such as project eligibilities, geographic diversity, minimum urban and rural

award percentages, and project type diversity. All applications are reviewed by career technical teams to rate the projects on how well the applicant addresses selection criteria that is published in the Notice of Funding Opportunity. Evaluation teams comprised of representatives from the different modal administrations, staff from Various DOT field offices across the country and HQ staff are responsible for assigning technical ratings.

The Department has a strong track record of ensuring that infrastructure award selections benefit all 50 states and U.S. territories and will continue to ensure fair and consistent application of grant criteria and to meet Congressional award requirements.

Question 2. Have you found the reasons for the delay of the 2017 and 2018 DADSS reports?

Answer. NHTSA is currently taking steps to expedite final reviews of the 2017 and 2018 reports. We have recently implemented changes to the drafting process to one that occurs incrementally during the Fiscal Year. We expect such an approach to eliminate delays going forward.

Question 3. The NTSB has made numerous safety recommendations regarding truck underride, including front, side, improved rear, and single unit trucks. Would a congressional mandate enable you to effectively address these NTSB underride safety recommendations?

Answer. NHTSA is already working on the underride safety issues raised in NTSB's recommendations. A congressional mandate would not be necessary to address these safety recommendations.

Question 4. Where are you at in consideration of the underride problem?

Answer. In December 2015, NHTSA published a notice of proposed rulemaking (NPRM) for improving the strength and energy absorbing capability of rear impact guards on trailers. NHTSA is currently analyzing the comments received on the 2015 NPRM and is considering next steps.

Separately, NHTSA is conducting research on side underride crashes to determine the effectiveness of side guards and the impacts of requiring side guards on trucks and trailers.

NHTSA is also researching crash avoidance systems on heavy trucks that could potentially mitigate front underrides.

Question 5. The GAO made recommendations to NHTSA in their Truck Underride Report published on April 15, 2019, what is your timeline for responding to these recommendations?

Answer. NHTSA responded to the GAO recommendations on February 27, 2019, concurring with the recommendations and outlining a plan of action.

September 2020: NHTSA plans to complete research on side underride crashes to determine the effectiveness of side guards and to determine the impact of requiring side guards on trucks and trailers.

Fall 2021: NHTSA and the Federal Motor Carrier Safety Administration (FMCSA) plan to develop and make available informational materials for State and local police departments that educate end users on how to identify and record underride crashes.

2022: NHTSA will recommend a crash underride data element for inclusion in the Model Minimum Uniform Crash Criteria (MMUCC) 6th edition when the expert panel reconvenes in 2022.

Question 6. The NTSB has made numerous safety recommendations regarding truck underride, including front, side, improved rear, and single unit trucks. What is your timeline for addressing these recommendations?

Answer. In July 2019, NHTSA convened discussions with NTSB on their underride recommendations. The agency is actively working to address each recommendation.

Question 7. NHTSA plays a role in recommending changes in the Model Minimum Uniform Crash Criteria (MMUCC) form, a document which provides guidance to every state. Many states do not include underride on their crash report form and this likely contributes to the under-reporting of underride deaths. Do you have plans for ensuring that underride is included on the next edition of this important tool? If not, please detail the reasons.

Answer. The Model Minimum Uniform Crash Criteria (MMUCC) expert panel—consisting of State, Federal, and independent stakeholders—removed this from the MMUCC 3rd Edition in 2008 as States found collection of this data difficult. NHTSA is working to improve the scope and quality of underride crash data through research and training, and we will present a crash underride data element for inclusion in the MMUCC 6th Edition when the expert panel reconvenes in 2022.

Question 8. The NTSB recommended that NHTSA develop override standards for single unit trucks, yet you withdrew rulemaking this month for single unit trucks. How do you plan to address the deaths which occur when passenger vehicles, as well as Vulnerable Road Users such as pedestrians, cyclists, and motorcyclists, go under single unit trucks?

Answer. NHTSA has published its intention to withdraw its 2015 ANPRM requesting comment on a requirement to install rear impact guards and/or conspicuity tape on single unit trucks. NHTSA is drafting a notice explaining why the agency, after reviewing the comments received and further analyzing the proposal, decided not pursue the rulemaking at this time. NHTSA is continuing to evaluate the best approach to addressing override crashes involving single unit trucks.

RESPONSE TO WRITTEN QUESTION SUBMITTED BY HON. TAMMY DUCKWORTH TO
HEIDI KING

Question. The Commercial Vehicle Safety Alliance has petitioned NHTSA to create a universal electronic vehicle identifier requirement on new commercial motor vehicles that would lay the foundation for electronic inspections. Can you provide an update on NHTSA's progress on considering this petition?

Answer. NHTSA received this petition from the Commercial Vehicle Safety Alliance May 9, 2019 and responded with an acknowledgement letter on June 21, 2019. We are considering the petition and will respond in due course.

