

**STATEMENT OF JOEL SZABAT
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OFFICE OF THE SECRETARY OF TRANSPORTATION**

**BEFORE THE
UNITED STATES SENATE
COMMITTEE ON COMMERCE, SCIENCE & TRANSPORTATION
FAST ACT REAUTHORIZATION: TRANSPORTATION AND SAFETY ISSUES
WEDNESDAY, JUNE 19, 2019**

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%.

[\(https://safety.fhwa.dot.gov/provencountermeasures/roundabouts/\)](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 collision 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.

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

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 ensuring 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% 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.

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

**BEFORE THE
UNITED STATES SENATE
COMMITTEE ON COMMERCE, SCIENCE & TRANSPORTATION
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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% 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.

**STATEMENT OF RAYMOND MARTINEZ
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U.S. DEPARTMENT OF TRANSPORTATION**

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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 AOBRDs 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.

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

**BEFORE THE
UNITED STATES SENATE
COMMITTEE ON COMMERCE, SCIENCE & TRANSPORTATION
FAST ACT REAUTHORIZATION: TRANSPORTATION AND SAFETY ISSUES
WEDNESDAY, JUNE 19, 2019**

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.