

**STATEMENT OF JOEL SZABAT
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TRANSPORTATION
BEFORE THE
UNITED STATES SENATE COMMITTEE ON COMMERCE, SCIENCE, AND
TRANSPORTATION
HIGHLY AUTOMATED VEHICLES: FEDERAL PERSPECTIVES ON THE
DEPLOYMENT OF SAFETY TECHNOLOGY
NOVEMBER 20, 2019**

Good morning Chairman Wicker, Ranking Member Cantwell, and distinguished Members of the Committee. Thank you for inviting me to testify on behalf of the United States Department of Transportation (USDOT) and Secretary Elaine L. Chao about the Department's efforts to support the safe and full integration of automated vehicles into the nation's transportation system.

The Department has previously testified about the safety potential of advanced vehicle technologies, including Advanced Driver Assistance Systems (ADAS) and Automated Driving System (ADS) technologies. These advanced vehicle technologies have the potential to mitigate crashes associated with irresponsible and often illegal behavior by assuring compliance with traffic laws, eliminating driver distraction, and improving vehicle responses to emergency situations.

At the beginning of this Administration, the National Highway Traffic Safety Administration (NHTSA) led in the development and publication of *Automated Driving Systems 2.0, A Vision for Safety* (ADS 2.0). ADS 2.0 improves and refines previous policy and incorporates feedback received through public comments and Congressional hearings. ADS 2.0 supports the safe deployment of automated vehicle automated driving systems (ADS) by providing voluntary guidance that encourages best practices and prioritizes safety.

This focus on safety served as the cornerstone for the Department's efforts to develop an updated, multi-modal guidance document: *Preparing for the Future of Transportation: Automated Vehicles 3.0 (AV 3.0)*¹. *AV 3.0* provides a framework and multimodal approach for the safe integration of ADS technology into the Nation's broader surface transportation system.

The multimodal approach enshrined in 3.0 adds to, the work NHTSA is doing regarding the safety of the vehicles and vehicle equipment by including roads and road users to the automation safety equation. The guidance includes:

1. The Federal Motor Carrier Safety Administration (FMCSA) existing authorities around the safe operation of commercial motor vehicles;
2. The Federal Transit Administration (FTA) safety authority over public transportation; and,
3. The state and local transportation agencies, whose work is preparing for the impacts of automation on infrastructure.

AV 3.0 also includes other transportation modes at USDOT engaging with vehicle automation, such as the Maritime Administration (MARAD), the Federal Railroad Administration (FRA), and the Pipeline and Hazardous Materials Administration (PHMSA), and the Federal Aviation Administration (FAA) which provided input based on its decades of experience with automation in aviation, as aircraft automation provides greater levels of safety and efficiency in aviation operations. Many lessons learned and safety approaches in aviation are considered by the automotive industry.

¹ <https://www.transportation.gov/sites/dot.gov/files/docs/policy-initiatives/automated-vehicles/320711/preparing-future-transportation-automated-vehicle-30.pdf>

As described above, the Department involved multiple modes and broad stakeholder groups to establish a holistic and durable framework. In addition, the Department laid out a number of key principles for how to address the public's concerns regarding the safety, security, and privacy of these technologies.

AV 3.0 provided new safety guidance, building upon what we already knew and expanding it to emerging modes of transportation. It reduced some of the policy uncertainty our partners face as they approach difficult, novel, and complex questions, and outlines the process for working with the USDOT.

So, first and foremost, safety is our top priority. The Department will lead efforts to address potential safety risks and advance the life-saving potential of automation, which will not only protect the public from any potential safety risks but also strengthen public confidence in these emerging technologies. Secondly, we will be technology neutral. The government will not dictate what types of technologies innovators must use to achieve higher levels of safety. We are dedicated to using the 5.9 GHz band for transportation safety purposes, and for near-term innovations such as automation and artificial intelligence, but we do not want to be prescriptive regarding whether they should use Dedicated Short Range Communications (DSRC), Cellular Vehicle to Everything (C-V2X) or a future 5G technology. While we are “technology-neutral,” we care deeply about safety outcomes and will require proof that a crash-prevention technology works in the most dynamic and complex of transportation scenarios that are most frequent cause of crashes. We support an innovative ecosystem that will produce technology with the best benefits for safety and for crash prevention capabilities, which also delivers congestion mitigation, and deployed.

We will continue to modernize our regulations. NHTSA has numerous ongoing rulemakings related to automated vehicles, and ADAS and ADS technology. FMCSA is also continuing to work on revisions to its regulations, while FHWA is working to update the Manual of Uniform Traffic Control Devices to take into account AVs.

We are preparing proactively for automation. This includes not only the work of updating regulations, but also thinking through the potential workforce impacts and training needs, working with industry and stakeholders to describe the capabilities and limitations of the technologies, and identifying and managing data needs while ensuring privacy and addressing security impacts.

And, finally, we seek to ensure that people understand that the Department is seeking to provide additional options for safe transportation, including emerging and non-traditional modes driven by innovation. We must prepare for a future where there are traditional vehicles driving side-by-side with vehicles that include many different types of advanced technologies, some with no human driver at all.

One of the most tangible outputs of *AV 3.0* to date has been the \$60 million Automated Driving System Demonstration Grants in federal funding announced by Secretary Chao on September 18, 2019. The Department received 73 applications² for these grants, and awarded eight grants in seven states. These grants focus on the ability to demonstrate these technologies safely, so that people can see, touch, and learn about them. It is our hope that the more Americans can engage with these technologies, the more comfortable they may become with them. The ADS Demonstration Grants also required applicants to bring together partnerships in

² <https://www.transportation.gov/av/grants>

the community that harness the collective expertise, ingenuity, and knowledge of multiple stakeholders to support technology deployment and understanding. This ensures that there is a level of education and comfort with the types of demonstrations envisioned. The awards also focus on generating the types of data that may be useful to the Department as it evaluates the safety of AV. The ADS Demonstration Grants are required to generate the data that may someday help safety experts, economists, or regulatory lawyers focusing on future regulatory paths.

Accessibility also remains a key area of focus for the Department. One of the important documents for laying the groundwork for our accessibility initiatives prior to *AV 3.0* was the publication by our Bureau of Transportation Statistics of *Travel Patterns of American Adults with Disabilities*.³ This report identified that most Americans will have a disability at some point in their lifetime, whether it's visual, auditory, cognitive, or mobility-related, or through the challenges of becoming older. Automated vehicle technologies can open new labor opportunities, or help people connect with their families and communities. As the Department works through its initiatives, we continue to encourage the industry to focus on a vision of universal accessibility and universally designed products that accommodate individual preferences and abilities. The Department will protect the ability of consumers to make the mobility choices that best suit their needs. We will support automation technologies that enhance individual freedom by expanding access to safe and independent mobility to people with disabilities and older Americans.

³ <https://www.bts.gov/topics/passenger-travel/travel-patterns-american-adults-disabilities>

One of the ways the Department is focusing on accessibility and working proactively with stakeholders is through the Inclusive Design Challenge, which Secretary Chao announced October 29, 2019 at the Access and Mobility for All Summit. This challenge, which will make up to \$5 million in cash prizes available, was developed alongside innovators, people with disabilities and advocacy groups, to support the development of vehicle design solutions to enable accessible automated vehicles. The Department aims to increase availability and decrease cost of aftermarket modifications that improve accessibility of vehicles today and spark development for future automated vehicles.

The Department has also been working with partners across the Federal government, industry, labor, and the public on the potential impacts of Automated Vehicle Technologies to the American workforce. The Department is conducting a study alongside the Departments of Labor, Health and Human Services, and Commerce to address issues pertaining to the workforce with the introduction and adoption of automation, primarily focused on impacts to commercial motor vehicle and transit bus operators. The study focuses on labor force transformation/labor force training, technology, operational safety, and quality of life.

The *AV 3.0* document continued this conversation, noting that this is not the first time the Department has faced concerns over people losing their jobs because of automation. The FAA has dealt with this question going back decades, as auto-pilot technologies developed. These concerns were understandable, but today we see that pilots are still very highly valued, very highly respected, and well-paid, and there is still a shortage of airline pilots. Automation improved their lives in many ways, notably improving safety and the quality of their jobs. While we cannot predict the development of automated trucking technologies, we've seen similar issues in the past and we must learn from these experiences.

As we look at all the AV-related actions across the government, we have asked ourselves how to best ensure they are aligned, complementary and non-duplicative. We are doing this in two ways.

First, the USDOT is working hand-in-hand with the White House Office of Science and Technology Policy to catalogue and align all of the activities among all of our Federal partners to ensure they are aligned under one set of principles. There are over 30 Federal agencies working in this area, with actions and authorities that can help provide a full understanding of the U.S. government's investments and engagements with the technologies. There is great value in bringing together this information in one place so that all partners – Congress, Federal, State, local, tribal, industry, advocacy groups and the public – can have a better understanding of the entire ecosystem.

Second, work continues on a comprehensive plan for the safe and full integration of automated vehicle technology into our national transportation system. As part of any comprehensive plan, one must envision the end state, compare it to the current situation, and outline the actions that the Department needs to take to support this future. As envisioned in *AV 3.0*, the foundation for this document will be the Department's approach to safety.

The Department looks forward to continuing to work with the Committee and the Congress to provide feedback and technical assistance on any automated vehicle-related bills or provisions. The Department has appreciated the opportunity to work closely with our Congressional partners on ongoing legislative development, as well as focusing the regulatory updates, policy initiatives, and research needed to enable a future with a safer and more efficient transportation system for all.

Thank you, and I look forward to answering any questions you may have.

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