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December 3, 2018

Docket Management Facility
U.S Department of Transportation
1200 New Jersey Avenue SE
West Building, Ground Floor
Washington DC 20590-0001

Re: U.S Department of Transportation Response to Request for Comment on Docket DOT-OST-2018-0149, Preparing for the future of Transportation: Automated Vehicles 3.0

Dear Docket Clerk:

The Maryland Department of Transportation (MDOT) is pleased to provide comments on the U.S. Department of Transportation's (U.S. DOT) request for comments on "Preparing for the Future of Transportation: Automated Vehicles 3.0," (Docket DOT-OST-2018-0149). Maryland is eager to support the advancement of automated driving systems to improve safety and enhance economic opportunities.

The MDOT is a multimodal agency with responsibility for and expertise in roadway and bridge planning, design, construction and operation, motor vehicle and driver safety, transit operations, bicycle/pedestrian issues, and aviation and ports administration. For more than three years, the MDOT has led a public-private working group that serves as the central point of coordination for connected and automated vehicle (CAV) planning, strategy and policy issues, to encourage and support the testing and deployment of CAV technologies in Maryland. On behalf of the MDOT and members of the *Maryland Connected and Automated Vehicles Working Group*, we offer the following comments on AV 3.0 to support the U.S. DOT's advancement of a safe, efficient, and equitable transportation future:

- I. We recognize that the U.S. DOT carefully considered and incorporated comments from the previous Automated Vehicles round 2.0 and has invested effort in improving messaging around the needs, strategies, and responsibilities of CAV. The incorporation of public comments promotes working relationships between U.S. DOT, states, and the private industry, and fosters trust among the public that the successful integration of CAV into our transportation systems is a collaborative effort.

- II. On page 7, the National Highway Traffic Safety Administration (NHTSA) indicates it may consider a “fundamental revamping” of Federal Motor Vehicle Safety Standards (FMVSS) as applied to autonomous vehicles (AV) that could include configurations without human controls. The NHTSA should address the issue of how to identify automated vehicle capabilities (including upgrades and modifications by the manufacturer or owners) and the automated driving system (ADS) status for purposes of operator awareness, use of appropriate standards in vehicle inspections, and for crash site response and reporting. The NHTSA should carefully consider how a vehicle could undergo significant modification over its lifespan. The NHTSA must consider how FMVSS and state motor vehicle agencies would treat a vehicle that was originally designed to be operated with human control but was retrofitted with autonomous vehicle technologies. This has already occurred within Maryland, where a private firm added after-market technology to sustain highly automated driving capabilities. The reverse scenario is also possible: a level 5 vehicle could be stripped of all automated features to revert to conventional control. This focus is especially important to support law enforcement and other first responders.
- III. On page 9, the Federal Motor Carrier Safety Administration (FMCSA) discusses that the human-specific Federal Motor Carrier Safety Regulations (FMCSR), including hours-of-service, drug testing, CDL operator licensure, and physical qualifications may not apply for automated truck operations. However, FMCSA should consider whether these provisions of the FMCSR should remain in place or be amended for any individual responsible for the automated operation or especially the monitoring of the vehicle even if the individual is not in the vehicle, as reasonable measures to ensure the safe monitoring and operation of all commercial vehicles.
- IV. On pages 23 to 25, the guidance does not discuss recommendations to ensure that AV support an equitable transportation system. Guidance on policy incentives, such as “Fix it first”, or infrastructure revitalization, such as dedicated transit lanes, are also absent among this document’s strategies towards multimodal access for the traveling public. Private sector automation will direct technology and services to markets capable of generating significant revenue, unless U.S. DOT can help guide new business strategies to ensure equitable transportation for all. This would ensure that private industry remains in compliance with the standards of the Americans with Disabilities Act (ADA) standards, multimodal platforms etc. as they rapidly move to implement AV technology.
- V. An update to the Manual on Uniform Traffic Control Devices (MUTCD) is welcome and recommended. We expect that the updates to the MUTCD will include close coordination with states, especially those states that adapt the MUTCD guidance to reflect their own laws, regulations and environments. States will need additional, specific guidance on providing “greater uniformity and quality of road markings, signage, and pavement condition” to accommodate CAVs, while ensuring that changes are not a burden to the states if U.S. DOT does require significant update to the MUTCD.

- VI. The U.S. DOT should consider continued and expanded sharing of ADS data, and support for data analysis to develop a better understanding of how CAV data can benefit roadway safety for all road users. Data could also help agencies implement more efficient mobility strategies, including vehicle operations, interactions with infrastructure, and route information to enhance system efficiency.
- VII. Law enforcement and emergency response guidance should be further considered for future guidance. For example, AV 3.0 does not discuss plans for incorporating CAV standards to ensure that technology allows law enforcement officers and first responders to direct or control CAVs during emergencies (e.g. flag vehicles down). Additional action and support on U.S. DOT's part in these areas could help to normalize safe vehicle operation standards across state lines.
- VIII. While AV 3.0 discusses the potential for various technologies, the infringement of the wireless industry on the reserved 5.9 GHz spectrum remains a serious concern. U.S. DOT should take immediate steps to ensure that the 5.9 GHz bandwidth will remain dedicated to supporting a safe transportation network, while also promoting scientific research into any technology able to support CAVs within its bandwidth. Even if dedicated short range communications is not the "chosen" technology for CAVs, the 5.9GHz bandwidth should remain a dedicated public safety channel, while working in coordination with technology such as cellular V2X for non-emergency messaging.
- IX. Educating the public on the capabilities of CAVs is critically important. A more systematic safety self-assessment mechanism for entities to submit information can help to inform states during testing and deployment regarding specific operational design capabilities of vehicles. Emphasis on transparency helps to ensure buy-in and support of stakeholders and the public. Private industry and States are directly involved in the CAV world, but the public's perception of CAVs is shaped by what is made available on public networks. U.S.DOT should provide model verbiage to help ensure that the public is educated on the capabilities of CAVs.
- X. In general, MDOT supports comments from the American Association of State Highway and Transportation Officials (AASHTO) as they reflect MDOT's concerns in the data governance gap and the lack of direction on the vehicle-to-vehicle (V2V) and vehicle-to-infrastructure (V2I) communication standards.

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The MDOT thanks U.S. DOT for providing this opportunity for state and local agencies to comment on the Automated Vehicles 3.0. MDOT continues to support advancement of CAV/ADS technologies in Maryland and is pleased to contribute to the national efforts on this important issue. Our Department, along with the State-wide CAV Working Group will continue collaboration with federal agencies, and other public and private partners to deliver innovative transportation solutions for the citizens of Maryland.

Respectfully submitted,

A handwritten signature in blue ink, appearing to read "James F. Ports, Jr.", written over the text "Respectfully submitted,".

James F. Ports, Jr., Deputy Secretary
Maryland Department of Transportation

A handwritten signature in black ink, appearing to read "Christine E. Nizer", written above the typed name.

Christine E. Nizer, Administrator
MDOT Motor Vehicle Administration