

January 29, 2021

Mr. Steve Cliff
Deputy Administrator
National Highway Traffic Safety Administration
US Department of Transportation
1200 New Jersey Avenue SE
Washington, DC 20590

Re: Docket No. NHTSA-2020-0106 (Framework for Automated Driving System Safety)

Dear Deputy Administrator Owens:

The Institute of Transportation Engineers (ITE) is pleased to provide comments regarding Docket No. NHTSA-2020-0106, the Framework for Automated Driving System Safety.

ITE is an international membership association of transportation professionals who work to improve mobility and safety for all transportation system users and help build smart and livable communities. Founded in 1930, ITE is a community of more than **16,000 transportation professionals**, including transportation engineers, transportation planners, consultants, educators, technologists, and researchers, with equal representation from the public and private sectors, who network through meetings, seminars, and technical publications.

ITE believes strongly that the development of solutions and technology such as connected and automated vehicles (CAVs) are an important element in achieving “Vision Zero” - an international movement to end fatalities on our roadways. Nearly 40,000 people die each year on America’s highways and 1.25 million people die worldwide. This is unacceptable. Vision Zero must be our goal.

The comments included in this letter incorporate input from our members and reiteration of previously stated comments submitted to the US DOT through prior open comment periods.

Build Public Confidence Through Dialogue

The referenced Advanced Notice of Proposed Rulemaking (ANPRM) Framework for Automated Driving System Safety (herein referred to as the ANPRM) appropriately calls out the fact that many companies are actively developing and testing automated driving system (ADS) technology throughout the United States. We agree that this development process is complex and iterative. However, we have also publicly stated our position that governments must provide the regulatory oversight to **give the public confidence** that CAV testing and deployment is being done in a transparent manner and that public safety is not compromised.¹

¹ <https://www.ite.org/pub/?id=CFAD9221-B559-7D79-A09A-DAF0D549109A>

We believe the private sector must share the responsibility for instilling public confidence in these technologies and ensuring public safety. Structured collaboration is needed among manufacturers, technology developers, infrastructure owners and operators, law enforcement, and relevant government agencies to establish protocols that will help advance safe operations during testing and development.

The ANPRM Question 8 asks whether “regulation is actually needed” and “can it be done effectively at this early stage?” ITE believes that the US DOT can and should play a more proactive role in convening a structured collaboration that will help address those questions. NHTSA’s launch and then expansion of the Automated Vehicles Transparency and Engagement for Safe Testing (AV TEST) Initiative was a valuable first step to facilitate further dialogue and transparency of the state of ADS development.

A strong government role will be critical to ensure that the deployment of CAV improves the quality of life for all citizens. ITE believes this role transcends beyond just the federal government and wish to strongly encourage NHTSA, and the US DOT more broadly, to engage infrastructure owners and operators (IOOs) every step of the way. Not only are IOOs better equipped to identify and categorize the wide variety of operational design domains (ODDs) that ADS-equipped vehicles will need to navigate through, but they can help developers to better understand inflection points in various scenarios (e.g., high risk crash areas by geometry, by geography, vehicle types, etc).

Automation Without Connectivity is Shortsighted

The ANPRM Question 6 and Question 7 address the four “core elements” set forth by NHTSA in this framework. ITE believes a fifth core element should be added to incorporate vehicle-to-everything (V2X) communications.

We acknowledge that the category of “sensing” is eventually defined to incorporate V2X but it’s presented as a parallel or option to on-board sensors. We believe that **V2X should be a requirement, not an option.**

As we have stated in previous filings with the US DOT, cooperative systems achieved through communication between vehicles, infrastructure, and other users will provide an enhanced layer of safety and must be advanced. This ability to communicate will be essential for extending the range of vehicle-based sensing and achieving the full potential of safety benefits envisioned by CAVs.²

The overwhelming support for the development and deployment of connected vehicle technologies is evident in the significant commitment that the states and local agencies have made to leading, supporting, and fostering the deployment and testing of CAV systems.

We point out that one of the other core elements of “perception” is defined in the ANPRM to be based on sensors, but there are obvious faults with that definition where V2X should be required to fill those gaps. Additional factors are also mentioned - including awareness of emergency vehicles, over-the-air

² <https://beta.regulations.gov/comment/DOT-OST-2018-0210-0100>

software updates, and system redundancies. These are all critical to safety AND could be addressed by incorporating V2X as a core function instead of being lumped in with sensors as an afterthought.

NHTSA has demonstrated its belief in potential V2X safety benefits through previously considered rulemakings (e.g., FMVSS 150 that was proposed), and through more recent presentations that have suggested V2X be incorporated into the New Car Assessment Program (NCAP).^{3,4} It is clear that NHTSA understands the value of connectivity in automation, and therefore should incorporate this as a core element in the safety framework.

Speaking the Same Language

As mentioned previously in our comments, there exists today an extremely wide variety of ODDs that ADS-equipped vehicles will need to navigate through. Question 9 of the ANPRM asks how NHTSA might validate the appropriateness of its standards, and while we believe it is critical to recognize and categorize these different ODDs - NHTSA should also **acknowledge and categorize the different vehicle purposes** in the process. How a full-size truck equipped with ADS navigates a freeway is significantly different from how a low-speed shuttle carrying 6 passengers might navigate the parking lot of an amusement park. Establishing agreed-upon language for each scenario is critical to the success of any future regulatory development.

The US DOT recently published its Automated Vehicle Comprehensive Plan, which conveniently identifies several key classes of vehicle types that could form the basis for this categorization.⁵ They include:

1. Occupant-Less Low-Speed Vehicles (aka personal package delivery devices)
2. Passenger Vehicle Conditional Driving Automation (for individual ownership)
3. Passenger Vehicle Automated Driving Systems (for fleet ownership and/or ride-hailing services)
4. Automated Trucking Operations
5. Low-Speed Passenger Shuttle

While this may or may not constitute the principle categories of vehicle types it represents a step in the right direction. The industry-government collaboration mentioned previously is a good forum for solidifying these scenarios so that standards-development is purpose-driven in addition to being vehicle-driven.

Closing Statement

ITE looks forward to continuing to work with NHTSA and all the US DOT modal administrations in the implementation of both connected and automated vehicles. We ask the department to continue its dialogue with the FCC toward maintaining dedicated spectrum for V2X communications, and likewise stand ready to assist in any way needed.

³ <https://www.federalregister.gov/documents/2017/01/12/2016-31059/federal-motor-vehicle-safety-standards-v2v-communications>

⁴ <https://www.transportation.gov/safety-band/whatsnext>

⁵ https://www.transportation.gov/sites/dot.gov/files/2021-01/USDOT_AVCP.pdf

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We are happy to meet with NHTSA and other US DOT technical and/or policy staff to discuss our comments at your request.

Sincerely,



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International President
ITE Board of Direction



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Executive Director and CEO
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