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April 1, 2020

The Honorable Elaine Chao
Secretary
U.S. Department of Transportation
1200 New Jersey Avenue, SE
West Building
Washington, DC 20590

RE: Request for Comments: Ensuring American Leadership in Automated Vehicle Technologies: Automated Vehicles 4.0 (AV 4.0) [Docket No. DOT-OST-2019-0179]

Dear Secretary Chao:

With more than 60 million members, AAA is a not-for-profit member services organization dedicated to advancing safe mobility. Similar to other stakeholders in this space, we are excited about the future of automation and the safety benefits and mobility options that it represents. However, we also recognize the challenges associated with the pace of innovation and technology adoption, and the implications for standards development and the important role of public education. New AAA statistics on consumer attitudes show that only 12% of US drivers would currently feel safe riding in a self-driving car, and 51% are interested about laws to make sure self-driving cars are safe.¹ As a result, ongoing research and safe deployment of emerging vehicle technologies will be important to foster consumer acceptance. The benefits of the technology could be unfulfilled if American drivers remain skeptical of the safety of automated vehicles (AVs).

While AV 4.0 makes great strides in providing critical information to the public on the wide-ranging AV-related activities currently undertaken by 38 offices and agencies across the federal government, it does not provide the much needed regulatory framework that will ensure AV development and deployment are safe endeavors. For that reason, AAA offers the following recommendations for U.S. DOT and OSTP to consider as they work to advance the safe integration of new vehicle technologies into the existing national fleet. Over the next decade, consumers may see a mixed fleet of new and existing technologies on the nation's roads and highways. The U.S. DOT should make it a top priority to facilitate safe innovation as these technologies grow in use, while meeting the critical on-road safety expectations consumers expect from the federal government.

Safety

AAA recognizes the federal government's statutory oversight and enforcement authority relative to federal motor vehicle standards for ADS-equipped vehicles. NHTSA's authority to oversee these standards was clearly outlined in the National Traffic and Motor Vehicle Safety Act of 1966, and for over 50 years, these standards have led to safer vehicles. Within AV 4.0, NHTSA acknowledges "the safe operation and reliable performance of ADS are critical to public acceptance and successful integration of future ADS. As the dynamic driving tasks are transferred from the human driver to the ADS, human sensing and cognitive

¹ <https://newsroom.aaa.com/2020/03/self-driving-cars-stuck-in-neutral-on-the-road-to-acceptance/>

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functions are essentially being relegated to the machine through a collection of integrated hardware and software subsystems. Accordingly, methods and tools are necessary to assess the functional safety of ADS subsystems and their building block components.”² AAA agrees with this assessment and recommends that NHTSA build upon its efforts and initiate a rulemaking to regulate the safety of ADS, in accordance with its automation principles. A regulatory framework is needed to strengthen and formalize the voluntary guidance provided thus far given that ADSs have already been deployed in a number of vehicles in several states, and ADS developers intend to deploy their ADSs on a wider range of vehicles with passengers in the future.

Additionally, we encourage the agency to move cautiously when considering changes to the current Federal Motor Vehicle Safety Standards (FMVSS) process. U.S. DOT should ensure that any exemptions or alterations undertaken to the FMVSS process or any amendments to a standard provide an appropriate level of safety to all road users. We call upon the safety agency to continue its vigorous review of proposals to revise current standards to ensure there is convincing evidence to justify changes. The department should require supporting research and documentation in support of any requests, and the agency’s decision must be transparent and fully explained in a final rulemaking. AAA fully supports innovative approaches under consideration by NHTSA, but expediency to modernize the process cannot be the sole or overriding factor for change. Safety itself must remain paramount.

AV Research

AAA recognizes the federal government plays a critical role in guiding a comprehensive strategy for national AV deployment. Not only will this require collaboration between intra-departmental U.S. DOT agencies but also coordination with other federal agencies responsible for issues such as cybersecurity, defense and manufacturing. While U.S. DOT agencies are instrumental in guiding automation research, cooperation and support from other stakeholders is essential. The AAA Foundation for Traffic Safety has long been recognized as a leader in traffic safety, with a current focus on four research priorities: driver behavior and performance; emerging technologies; roadway systems and drivers; and vulnerable road users. Many recent and ongoing research projects at the Foundation examine driver perceptions and understanding of and their interactions with new in-vehicle technology.^{3,4} The Foundation also co-hosted forums in 2019⁵, 2018⁶ and 2017⁷ on the impact of vehicle technology and automation on road users, attended by representatives from the automobile and technology industries, government, private research facilities, and university technology centers. Through expert panels and group discussion, a wide array of pressing research needs have been identified through these forums—many of which can be useful in informing federal research priorities. Summary reports of the 2018 and 2017 forums are available to the public. A summary of the 2019 forum is forthcoming and AAA would welcome an opportunity to share key findings from the forum with U.S. DOT’s team when the summary is released.

² Ensuring American Leadership in Automated Vehicle Technologies: Automated Vehicles 4.0. U.S. DOT. January 2020. (p. 18). Retrieved from: <https://www.transportation.gov/sites/dot.gov/files/2020-02/EnsuringAmericanLeadershipAVTech4.pdf>

³ <https://aaafoundation.org/users-understanding-of-automated-vehicles-and-perception-to-improve-traffic-safety-results-from-a-national-survey/>

⁴ <https://aaafoundation.org/understanding-the-impact-of-technology-do-advanced-driver-assistance-and-semi-automated-vehicle-systems-lead-to-improper-driving-behavior/>

⁵ <http://www.aaa.biz/Conference/2019FoundationForum/2019Forum.htm>

⁶ <https://aaafoundation.org/2018-forum-on-the-impact-of-vehicle-technologies-and-automation-on-vulnerable-road-users-and-driver-behavior-and-performance-a-summary-report/>

⁷ <https://aaafoundation.org/2017-forum-impact-vehicle-technologies-automation-users-summary-report/>

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Additionally, our Automotive Engineering experts test and evaluate emerging vehicle technologies to inform our understanding of the benefits and limitations of these systems. Since 2014, AAA has reviewed elements that are considered to be the building blocks of automated vehicles: blind spot monitoring, lane departure warning/lane keep assistance, automatic emergency braking, self-parking, adaptive cruise control, rear cross-traffic alert systems and Level 2 partially-automated systems. AAA's testing has shown that while these partially automated systems can offer safety benefits, system performance varies greatly among automakers and an engaged driver is still a critical safety element. For example, recent AAA research found that pedestrian detection safety systems in vehicles often fail to work at night when the majority of pedestrian fatalities occur.⁸ This example underscores the need for federal research to ensure that new technologies are tested during scenarios that represent common situations that could leave all road users vulnerable as technologies are deployed. Moreover, consumer education will need to clearly articulate the capabilities and limitations of new automated technologies in vehicles, while guiding consumers on how to use them appropriately.

AV 4.0 outlines a number of important research projects that the U.S. DOT is undertaking including researching alternative metrics and safety assessment models, functional safety and ADS subsystems, occupant protection in alternative vehicle designs, human factors for ADS vehicles and cybersecurity protections.⁹ AAA believes that the research projects identified in AV 4.0 are vital to understanding the safe operation of ADS and urges U.S. DOT to move forward with the research to help inform their future rulemakings and policy guidance.

Stakeholder Engagement and Public Education

Based on AAA's experience, the importance of using common terminology when describing vehicle automation technologies and their functionality cannot be overstated. AAA appreciates U.S. DOT's recognition of efforts by AAA and others to standardized common nomenclature for advanced driver assistance systems. This work will help to lay the foundation for future naming efforts for AVs, giving consumers greater clarity on the full capabilities and limitations of future technologies. AAA believes that system functionality and capabilities must be explicitly defined in efforts to minimize potential risk to all road users. We encourage the federal government to take the same approach to educate the public on AV technologies as they are deployed.

Conclusion

As the AV industry matures, AAA urges the federal government to remain vigilant in its oversight authority and responsibilities to ensure transportation safety is not compromised during AV research, development and deployment. AAA will continue to share our research and policy positions with U.S. DOT as we strive to ensure safe mobility during this new era of vehicle automation.

Sincerely,



Jill Ingrassia
Executive Director
AAA Advocacy & Communications

⁸ <https://newsroom.aaa.com/2019/10/aaa-warns-pedestrian-detection-systems-dont-work-when-needed-most/>

⁹ Ensuring American Leadership in Automated Vehicle Technologies: Automated Vehicles 4.0. U.S. DOT. January 2020. (p. 18). Retrieved from: <https://www.transportation.gov/sites/dot.gov/files/2020-02/EnsuringAmericanLeadershipAVTech4.pdf>