

January 28, 2021

U.S. Department of Transportation
National Highway Traffic Safety Administration
1200 New Jersey Avenue SE
Washington, DC 20590

RE: The National Society of Professional Engineer’s Public Comments on Docket ID No. NHTSA-2020-0106, Framework for Automated Driving System Safety.

On behalf of the nearly 23,000 members of the National Society of Professional Engineers, these comments are submitted in response to the National Highway Transportation Safety Administration’s request for comment on “Framework for Automated Driving System Safety.”

NSPE is committed to creating a world where the public can be confident that engineering decisions affecting their lives are made by qualified and ethically accountable professionals. [NSPE Position Statement No. 03-1772](#) states that the testing and deployment of AVs must include a professional engineer. The rationale for the position is rooted in a professional engineer’s ethical obligation to protect the public health, safety, and welfare. The duty to protect the public goes beyond an ethical obligation, however; every state licensing board has a system of laws and regulations that holds professional engineers accountable for protecting the public.

Professional engineers also must complete continuing education (the number of hours varies by state) to maintain their license. By fulfilling a continuing education requirement, professional engineers are able to stay abreast of new developments in ADS technology and can use that knowledge to shape a safety framework for automated driving systems. By virtue of their ethical duty to protect the public and technical expertise, professional engineers are uniquely positioned to contribute to the development of this safety framework.

With this role in mind, the National Society of Professional Engineers urges NHTSA to rely on the subject-matter expertise of professional engineers when creating a safety framework for automated vehicles. NSPE also suggests that NHTSA follow the recommendations in NSPE’s [Autonomous Vehicles Policy Guide](#) to assist with the development of this framework.

As recommended in NSPE’s Autonomous Vehicle Policy Guide, NSPE urges NHTSA to include a third-party verification process as part of a federal safety framework. A third-party verification process should establish that the ADS technology under review meets a minimal level of safety, as determined by an

assessment of risk. This can be done through the submittal of risk assessments audited by a professional engineer who is in responsible charge of the third-party verification process. When using the expertise of a PE as a third party, one can be sure that their decisions are being made with the utmost consideration for the public health, safety, and welfare rather than out of loyalty to the manufacturer or owner of the ADS system. By suggesting this guide rail of third-party verification, we ensure responsible innovation in ADS technology.

Regarding NHTSA's question about ADS development in a manner that helps address safety without unnecessarily hampering innovation, NSPE would like to point out that by prioritizing safety, ADS developers would reduce unintended consequences stemming from innovation. When safety is set aside, some great innovations may need reconsideration if it is determined that the public is facing harm. If developers put safety first, however, there would be fewer instances of "two steps forward, one step back." In the end, ADS developers would be able to avoid retracing steps, thus saving time and money and protecting the public.

NSPE agrees with the core elements of sensing, perception, planning, and control put forth by NHTSA in the notice. All of these functions are needed for the safe operation and deployment of a vehicle that relies on ADS to navigate. To ensure public safety, NSPE would like to see further details on how these components are expected to safely work together to protect fellow road users. If just one of these components is lacking or if standards are not created for a level of functionality that all components must match, the public will be at risk, especially as more vehicles driven by ADS are on the roadways.

NSPE greatly appreciates this opportunity to comment on NHTSA's request for comment on "Framework for Automated Driving System Safety." Any further questions can be directed to Margaret Edwards, policy associate, at medwards@nspe.org.

Sincerely,

A handwritten signature in cursive script, appearing to read "Tricia H. Hatley".

Tricia H. Hatley, P.E., F.NSPE
President