

**Re: Advanced Notice of Proposed Rulemaking on Framework for Automated Driving System Safety, Docket No. NHTSA-2020-0106-0001.**

Under the National Traffic and Motor Vehicle Safety Act of 1966 (Safety Act), the National Highway Traffic Safety Administration (NHTSA) is tasked with reducing traffic accidents, deaths, and injuries resulting from traffic accidents through issuing motor vehicle safety standards for motor vehicles and motor vehicle equipment and carrying out needed safety research and development. 85 Fed. Reg. 78058, 78062 (Dec. 3, 2020). The Federal Motor Vehicle Safety Standards (FMVSS) are the main way NHTSA uses its regulatory authority to promulgate minimum safety standards for motor vehicle performance and motor vehicle equipment performance. The FMVSS established by NHTSA must (1) meet the need for motor vehicle safety, (2) be practicable, both technologically and economically, and (3) be stated in objective terms. *Id.*

Under its authority granted by the Safety Act, NHTSA requested comments on developing a framework for Automated Driving System (ADS) safety. *Id.* at 78058. An ADS is the hardware and software that maintains the control and driving functions within the driving situations that the system operates in. *Id.* at 78059. NHTSA currently only seeks to promulgate a safety framework for ADS because the establishment of FMVSS without the appropriate knowledge could result in unintended consequences and stifle innovation. *Id.* An initial safety framework for ADS would encourage manufacturers to pursue safety and design innovations without preventing the development of new ADS technology. *Id.* Therefore, this advanced notice of proposed rulemaking (ANRPM) departs from past regulatory notices NHTSA has issued because NHTSA is looking beyond the existing FMVSS and is considering a safety framework *specifically* tailored for ADS until a regulatory path for ADS-related FMVSS becomes more clear. *Id.*

I am a second-year law student that is pleased to have the opportunity to submit a comment to NHTSA on the ANRPM on Framework for Automated Driving System Safety, per the document published on December 3, 2020, in the Federal Register. I am interested in the outcome of this rulemaking because the widespread use of ADS-equipped vehicles is in the near future and will change the nature of using public roads. I advise that (1) in response to questions 16, 17, and 18, NHTSA should initially rely on voluntary mechanisms to gather and generate information and then shift to using regulatory mechanisms to monitor and ensure safety, (2) in response to question 19, NHTSA should also consider a performance-based test as an additional regulatory mechanism, and (3) in response to question 20, there is one notable pro and one notable con to incorporating an ADS safety framework into existing FMVSS framework.

**I. NHTSA should initially rely on voluntary mechanisms and then shift to regulatory mechanisms to implement an ADS safety framework.**

In response to question 16, a combination of the voluntary and regulatory mechanisms would best enable NHTSA to carry out its safety mission. NHTSA's main goal with this ANRPM is to gather information and design an ADS safety framework that improves safety, mitigates risk, and enables developing new safety innovations. *Id.* at 78060. Alongside this goal, NHTSA reiterates that it does not want to prevent technology development or stifle innovation. *Id.* Therefore, NHTSA can best achieve its mission by combining a voluntary information disclosure program with a later regulatory information disclosure program.

A voluntary information disclosure program can help NHTSA to initially collect information about how industry developers analyze the safety of their ADS, what risks the

developers are identifying, and how the developers are mitigating these risks. *Id.* at 78066. This approach emphasizes NHTSA's encouragement to develop new technologies while also reinforcing the importance of standard safety and testing. An example of this kind of mechanism is a Voluntary Safety Self-Assessment (VSSA), a concept mentioned in the ANRPM. *Id.* at 78067. ADS developers have previously been encouraged by NHTSA to publish VSSAs to demonstrate to the public that they are considering the safety aspects of an ADS and working with NHTSA to develop it. *Id.*

Next, a regulatory information disclosure program can help NHTSA collect the vital information that it needs to understand the technology being used by developers, the safety implications of this technology, and any other information needed to fulfill NHTSA's mission. This approach still emphasizes NHTSA's encouragement to develop innovative technologies while recognizing that there may be particular information NHTSA needs to create an ultimate ADS safety framework for the industry to comply with. An example of this kind of mechanism is a mandatory reporting program. *Id.* at 78068. NHTSA could require the disclosure of specific information on the operation of ADS-equipped vehicles, the collision history of these vehicles, and more. By requiring a combination of voluntary and regulatory disclosure mechanisms, NHTSA can obtain all of the information that it needs while achieving a balance with promoting industry innovation.

In response to question 17, the voluntary mechanisms, such as voluntary information disclosure programs, would be the easiest for the Agency to implement in the near term. NHTSA has broad jurisdiction over motor vehicle safety under the Safety Act *Id.* at 78069. Motor vehicle safety extends to the performance of a motor vehicle or motor vehicle equipment in a way that protects the public from unreasonable harm because of the motor vehicle's design and more. *Id.* However, NHTSA does not need to invoke this authority to implement voluntary mechanisms. This is because voluntary mechanisms, by design, are voluntary and do not have any legal requirements that NHTSA or participants must meet. The voluntary mechanisms only seek to gather or generate particular information that NHTSA seeks in its mission to create a safety framework. *Id.* Therefore, voluntary programs such as VSSA can be mutually beneficial to NHTSA and developers because NHTSA receives safety and testing information without having to invoke authority or navigate legal pathways, and developers can promote that they are working with NHTSA and build public trust for ADS-equipped vehicles. *Id.*

Last, in response to question 18, regulatory mechanisms are the logical next step following the implementation of the voluntary mechanisms in the near term. Unlike voluntary mechanisms which have no legal consequences flowing from them, regulatory mechanisms require NHTSA to exercise legal authority and follow legal procedures like rulemaking to achieve its mission. Also, regulatory mechanisms may inherently conflict with existing state laws that govern driving so they cannot be promulgated straightaway. Bryant Walker Smith, *How Governments Can Promote Automated Driving*, 47 N.M.L. REV. 99, 104 (2017). Thus, while NHTSA will inevitably need to intervene and regulate ADS, a careful balance in mechanisms is required until the time for regulation comes because NHTSA does not want to create unnecessary barriers to innovation or conflict with state laws. 85 Fed. Reg. 78058, 78068 (Dec. 2003). NHTSA's mission to create a safety framework for ADS can begin by implementing voluntary mechanisms, such as VSSA, to gather and generate the information it

needs to establish a basic understanding and structure for how ADS is being created, tested, and used by developers. Then, at an unspecified future time where NHTSA feels, based on the information it has gathered, that it can intervene and begin promulgating regulatory mechanisms it may logically do so. As aforementioned, NHTSA has broad jurisdiction over motor vehicle safety under the Safety Act. *Id.* at 78069. This jurisdiction easily allows NHTSA to monitor and require the utmost safety in ADS testing and performance while it forms a safety framework. As a result, this approach benefits NHTSA, the developers, and the public.

## **II. NHTSA should consider a performance-based test as an additional regulatory mechanism for ensuring the safety of ADS-equipped vehicles.**

In response to question 19, NHTSA should consider a performance-based test as an additional regulatory mechanism to carry out its mission of developing an ADS safety framework. Demonstrating the safety of ADS is critical to capturing the public's confidence in the system because without ensuring ADS' safety the public is not likely to adopt ADS-equipped vehicles or technology. *Id.* at 78067. A performance-based test could evaluate ADS competence and safety under secure conditions and support the notion that ADS-equipped vehicles are safe for the public.

Specifically, within a performance-based test, NHTSA should consider an obstacle-course performance test. Under an obstacle-course performance test, an ADS-equipped vehicle could navigate variable road environments and complex sets of interactions with "stimulus road users" including dummy vehicles and pedestrians on a closed course. *Id.* Based on how the ADS-equipped vehicle completes each course, data can be collected and variances in how the ADSs completed the course can be noted. *Id.* All ADS-equipped vehicles should be expected to demonstrate a baseline ability to avoid collisions while adhering to a driving standard that minimizes the overall risks of getting into "crash-imminent" situations. *Id.* Likewise, all ADS-equipped vehicles should be able to demonstrate that they can complete a threshold number of obstacle-course performance tests without getting into or causing collisions.

While an obstacle-course performance test alone is not enough to guarantee safety, NHTSA could eventually implement this test as part of its New Car Assessment Program (NCAP). Under NCAP, new passenger vehicles must be labeled with safety rating information published by NHTSA. 49 C.F.R. § 575.301. The purpose of NCAP is to aid potential purchasers in the selection of new passenger motor vehicles by providing them with safety rating information. *Id.* Incorporating an obstacle-course performance test for ADS into the NCAP program's safety rating system for passenger vehicles could strengthen an ADS-equipped vehicle's overall safety rating. This would be because the ADS-equipped vehicle could guarantee that it possesses a certified ability to avoid collisions and that it completed a threshold number of performance tests without getting into or causing a collision. NHTSA is best able to regulate and determine testing conditions for evaluating the safety performance of an autonomous vehicle, so it could seamlessly integrate this testing into NCAP. Mark A. Geistfeld, *A Roadmap for Autonomous Vehicles: State Tort Liability, Automobile Insurance, and Federal Safety Regulations*, 105 CALIF. L. REV. 1161, 1678 (2017). The overall information provided by NCAP and NHTSA would represent good public policy because it would empower consumers to compare the safety of new ADS-equipped vehicles and to make informed purchasing decisions. 85 Fed. Reg. 78058, 78067 (Dec. 3, 2020).

One limitation of implementing an obstacle-course performance test standard like this is that the test would never be able to recreate the infinite scenarios an ADS-equipped vehicle would encounter on the road. *Id.* at 78071. Thus, as above-mentioned, an obstacle-course test alone could never be sufficient to guarantee an ADS-equipped vehicle's safety to consumers. However, an obstacle-course performance test standard could easily be combined with other testing processes including simulations and on-road testing to examine an ADS-equipped vehicle's ability. *Id.* Also, as noted by other industry comments, a performance-test standard would not prevent design innovations like a design standard would because varying ADS designs could still meet the performance standard. In conclusion, NHTSA should use a performance-based test, in combination with other testing methods, as an additional regulatory mechanism to carry out its mission of developing a safe ADS. An obstacle-course performance test could ensure that all developers and manufacturers are holding their ADS-equipped vehicles to the same testing standards and that ADS-equipped vehicles that pass are competent for the road and safe for the public.

### **III. One pro and one con of incorporating an ADS safety framework into existing FMVSS.**

In response to question 20, there is one pro and one con to incorporating the elements of the ADS safety framework into existing FMVSS pathways. As aforementioned, FMVSS is the key way that NHTSA uses its regulatory authority to promulgate minimum safety standards for motor vehicle performance and motor vehicle equipment performance. NHTSA's existing FMVSS set minimum performance requirements for vehicles and equipment, and they follow an approach that is performance-based, objective, and established with precise and repeatable test procedures. *Id.* at 78059.

One notable pro of incorporating the elements of the ADS safety framework into existing FMVSS pathways is that the existing pathways are established and offer a smooth transition for the Agency to incorporate the ADS framework. Developing an FMVSS from scratch requires significant engineering research, the development of an objective metric, and the establishment of an appropriate performance standard based on that metric. *Id.* Also, rulemaking is a time-consuming course of action for technology like ADS that rapidly evolves. Spencer A. Mathews, *When the Rubber Meets the Road: Balancing Innovation and Public Safety in the Regulation of Self-Driving Cars*, 61 B.C. L. REV. 295, 303 (2020). Therefore, incorporating the elements of the ADS safety framework into existing FMVSS could save NHTSA a substantial amount of time, money, and research. *Id.*

One notable con of incorporating the elements of the ADS safety framework into existing FMVSS pathways is that converging these standards before the ADS framework is ready can pose unintended safety consequences. Though developing an FMVSS from scratch requires significant research and development, the final standard is likely to ensure that the objective performance standard is proven, practical, and safe. 85 Fed. Reg. 78058, 78067 (Dec. 3, 2020). If the ADS safety framework is incorporated into existing FMVSS pathways prematurely, the objective performance standard might focus on the wrong metric and place unnecessary constraints on the wrong performance factors. *Id.* Likewise, incorporating the ADS safety framework into existing FMVSS could cause researchers to overlook critical safety factors that

are unique and distinct to ADS, leading to an unreliable sense of security in the ADS-equipped vehicle and negative safety results. *Id.*

ADS-equipped vehicles are years away from implementation into daily, widespread usage. Therefore, I recommend that NHTSA does not incorporate the ADS safety framework into existing FMVSS pathways. NHTSA should strive to create FMVSS standards that are thorough, complex, and unique to ADS and ADS-equipped vehicles. While these FMVSS are in development, NHTSA's approach to creating a safety framework can be to (1) issue guidance documents with recommendations for best industry and safety practices, (2) seek voluntary self-reporting data through its voluntary mechanisms, and (3) eventually promulgate regulatory mechanisms requiring reporting, testing, and disclosure of information. *Id.* at 78059. Pursuing these options would best protect consumers because they are not put at risk of using unsafe technology, and it would best protect the industry because innovation will not be stifled and developers can work alongside NHTSA to create a safety framework.

#### **IV. Conclusion**

In conclusion, NHTSA is tasked by the Safety Act with reducing traffic accidents, deaths, and injuries resulting from traffic accidents through issuing motor vehicle safety standards for motor vehicles and motor vehicle equipment and carrying out needed safety research and development. *Id.* at 78062. Under its authority granted by the Safety Act, NHTSA requested comments on the development of a framework for ADS safety. I advise NHTSA that (1) in response to questions 16, 17, and 18, NHTSA should initially rely on voluntary mechanisms to gather and generate needed information and then shift to regulatory mechanisms to monitor and ensure safety, (2) in response to question 19, NHTSA should consider a performance-based test as an additional regulatory mechanism, and (3) in response to question 20, there is one pro and one con to incorporating ADS safety into existing FMVSS framework. As a second-year law student, I am pleased to have the opportunity to submit a comment on the ANRPM on Framework for Automated Driving System Safety. I am extremely interested in the outcome of this rulemaking and I look forward to seeing how NHTSA chooses to form its safety framework.

Sincerely,

Haley Walter