

November 26, 2018

Docket Management Facility  
U.S. Department of Transportation  
Room W12-140  
1200 New Jersey Avenue, S.E.  
Washington, DC 20590-0001

**Re: Docket ID No. NHTSA-2018-0092; 83 FR 50872; RIN 2127-AL99; Pilot Program for Collaborative Research on Motor Vehicles with High or Full Driving Automation National Highway Traffic Safety Administration (NHTSA), Advance Notice of Proposed Rulemaking**

Dear Deputy Administrator King:

The National Association of Mutual Insurance Companies (“NAMIC”) is pleased to offer comments on the ANPRM. NAMIC is the largest and most diverse national property/casualty insurance trade and political advocacy association in the United States. Its 1,400 member companies write all lines of property/casualty insurance business and include small, single-state, regional, and national carriers accounting for 50 percent of the automobile/ homeowners’ market and 31 percent of the business insurance market. NAMIC has been advocating for a strong and vibrant insurance industry since its inception in 1895.

These comments are submitted in response to the NHTSA Advanced Notice of Proposed Rulemaking (ANPRM), Pilot Program for Collaborative Research on Motor Vehicles with High or Full Driving Automation, which “seeks comments on potential factors that should be considered in designing a pilot program for the safe on-road testing and deployment of vehicles with high and full driving automation.”

Background

NHTSA was established, as a successor to the National Highway Safety Bureau, by the Highway Safety Act of 1970 to carry out safety programs under the National Traffic and Motor Vehicle Safety Act of 1966, which the Department of Transportation “(1) to prescribe motor vehicle safety standards for motor vehicles and motor vehicle equipment in interstate commerce; and (2) to carry out needed safety research and development.” 49 U.S.C. 30101. NHTSA’s authority over ADS is



broad and clear. The Act obligates NHTSA to regulate the safety of motor vehicles and motor vehicle equipment.

The ANPRM focuses on how the NHTSA can best encourage and facilitate the necessary research to allow for the development and establishment, as needed, of standards for ADS vehicles, including vehicles that have unconventional designs, can operate in “dual modes”, and can comply with the existing FMVSS. While NHTSA is considering the establishment of a national pilot research program, NHTSA has not made any decisions whether to establish a pilot program or how to structure one, nor have funding or other resource been identified that may be necessary to establish and implement any such program.

Recognizing the monumental nature of this task, NHTSA wants the entities involved in this research to gain practical, real world experience to determine the best approaches to enhancing safety, under its broad authority to “enter into cooperative agreements, collaborative research, or contracts with Federal agencies, interstate authorities, State and local governments, other public entities, private organizations and persons,” and other appropriate institutions. 49 U.S.C. § 30182(b)(5).

The development of Automated Driving Systems (ADS) may be the most consequential transportation issue of our time. New technology and novel service strategies promise faster and better mobility that will be less expensive, and more environmentally friendly. Spring boarding from existing and widely accepted “assisted driving” systems such as cruise control, ADS developers promise a wider array of functions from greater driver assistance to vehicles that will perform every driving operation with no human intervention.

### Safety Must Be the Primary and Overriding Focus

The single most important reason to support the development of highly Automated Driving Systems (ADS) is the potential for ADS to enhance safety and save lives. While the idea of working, napping, or watching a movie while the car drives itself may be enticing to many, enhanced safety must always be the primary focus of ADS development. ADS that are proven safer than existing drivers will have innumerable benefits to society. The development and deployment of proven, safe ADS will require significant technological advances, revisions to the regulatory paradigm, and the active participation of far more than just the auto manufacturers and technology companies.

The potential of technology to move the needle on crash statistics is extraordinary; however, there will still be crashes, especially in an environment where autonomous vehicles continue to share the road with human drivers. It is important to note that ADS, in and of themselves, do not fundamentally change the legal theories of liability associated with motor vehicle crashes. As these



ADS crashes happen and questions of liability arise insurance will play a crucial role for ADS manufacturers, suppliers, owners, operators, and passengers.

The critical issues related to passenger safety, liability, and recovery after a crash require that insurance companies are included in the development, deployment, regulation, and use of ADS, including any NHTSA research program. Consumers will continue to look to property/casualty insurers to provide them with the protections they have come to expect as this new frontier of automotive products and services evolves. A 2018 JD Power survey found that consumers have the highest levels of confidence in insurance dealing with ADS.

Safety must be the primary goal for ADS development but defining and proving what “improved safety” means for ADS are not simple. Currently, federal auto safety regulations focus more on the structure and design of vehicles and less on the driving operations that are subject to human control. With ADS, the vehicle will assume driving operations formerly performed by the human driver. Thus, the safety responsibilities of the vehicle will expand and will continue to expand until the vehicle assumes all driving operations without any human control. On the one hand, most car crashes involve driver error and ADS promises computer systems that will not replicate the conditions that lead to those errors – i.e. sleeping, intoxication, distraction, speeding.

According to the NHTSA, “Fully automated vehicles that can see more and act faster than human drivers could greatly reduce errors, the resulting crashes, and their toll.” On the other hand, the elimination of certain human errors does not tell us anything about the introduction of computer, sensor, or software error. Safe ADS will require a substantial amount of specialized software, sensors, controllers, and actuators to collectively perform without error the large universe of operations that human drivers already perform, or at least as well as those human drivers. The bar for performance has been set high: human drivers average 3.4 million vehicle hours (390 years of non-stop driving) between fatal crashes and 61,400 vehicle hours (7 years of non-stop driving) between injury crashes.

The development of ADS will require a new way to look at the fundamental nature of driving, and that development should not be hindered by requiring outdated safety requirements that do not apply to new technologies. At the extreme end of the spectrum, the development of ADS with no driver controls will mean that vehicle features that are now required for human operation may not be necessary or practical. Sound policy should include a review of which requirements would no longer be relevant for a fully autonomous vehicle. The FMVSS are the U.S. federal regulations specifying nationwide design, construction, performance, and durability requirements for auto-safety-related components, systems, and design features.

FMVSS focus mostly on crash avoidance, crashworthiness, and crash survivability. Existing FMVSS specify that controls and displays must be located where they are visible to or within the reach of a



person sitting in the driver's seat. Depending on whether the occupants have "dual mode" or no control of an ADS, there may not be a "driver's seat" or the relevant controls or displays of driving operations may vary with the driving operations that the human retains. In various iterations of ADS, auto parts subject to FMVSS such as rearview mirrors may or may not be superfluous for driving operations. Similarly, controls for turn signals, lights, or wipers may or may not be required and may or may not be subject to safety standards.

The focus must remain on ensuring that critical safety aspects are examined and validated and that any safety assurance gaps that may be created by the introduction of ADS onto the roads are identified and addressed. This is far more complicated than it may seem. While many human-driver-focused FMVSS do not make sense for ADS, perhaps ADS-specific safety tests should accompany broad exemptions. Pre-market approval has many downsides, but some level of independent ADS safety review could supplement self-certification. Existing self-certification should be supplemented by governmentally defined and publicly disclosed standards and then supplemented by third-party validation of design and testing.

#### Insurance Companies Must be Included in Any Pilot Program

Insurers have long championed auto and highway safety issues and have helped raise public awareness through the creation of auto safety research organizations such as the Insurance Institute for Highway Safety. The IIHS is an independent, nonprofit scientific and educational organization dedicated to reducing the losses – deaths, injuries, and property damage – from motor vehicle crashes. Insurers have allied with safety groups such as the Advocates for Highway and Auto Safety to work together to make America's roads safer.

The business of insurance demands that it applies hard data and institutes actuarial science to assess and mitigate risk. It was more than 30 years ago that coalitions of insurance companies together with consumer groups first favored state requirements for seat belts and air bags and opposed the auto makers reluctance to provide such safety features.

Insurers have a long and proven history of working hand-in-glove with regulators and auto manufacturers to facilitate developments that save lives and prevent injuries and damage. The revolutionary replacement of the human driver with ADS will require auto insurers to understand each vehicle's design and operation. Ultimately, drivers may not be comfortable with "dual mode" or no control whatsoever, which means that the insurer of that human driver must fully understand the planned automated driving operations as well as any possible human operation of the vehicle under any circumstances.

The insurance industry understands that new and different data will be needed for insurers to write



ADS-related insurance policies. The extensive history and level of human driving data that insurers have developed must now be supplemented by increasingly complex data on the automated driving systems that assist or replace the human drivers. Insurers have a proven record of assessing driving risks and communicating to auto owners the methods to mitigate that risk.

- While we highly respect the talents and commitment of NHTSA, it is not at all clear that the resources and budget will be available to address this monumental and evolving task. An alternative that NHTSA may want to consider is their authorization of an ADS *safety standards board* to establish and improve principles of ADS safety that could be accepted as authoritative by many organizations and governmental agencies. Such a board could establish and continually improve ADS safety standards and reporting standards to provide useful information to vehicle users and educate vehicle companies on how to most effectively understand and implement those standards.

#### Defining and Analyzing the Appropriate Safety Data is Critical

The types of objective and verifiable data that will be required to provide insurance for ADS – data on frequency, severity, repairs – are the same types of data that can authoritatively validate safety levels of ADS to the public and regulators. Auto insurance rates and coverage are established by insurance companies using vast amounts of historical data and established actuarial science, analyzing years of relevant data on frequency and severity of incidents. The rates determined by insurance companies are then frequently subject to a review by the state insurance regulators to ensure that they are fair and supported by data.

Valid and understandable data on ads is critical to safety. The development and deployment of ADS – particularly the proposed ADS with “dual mode” or no controls for a human driver – is a game changer. It will entail a fundamental change in transportation, mobility, infrastructure, and myriad other areas. The adoption of ADS on a wide scale will impact millions of people and will require adaptation by governments, industries, and the culture in general. The precondition to this development is an accepted belief that ADS improve safety, which will itself require sufficient data and information upon which to validate that belief. To date, information about ADS development in general and safety specifically has been limited.

ADS development is still in the early stages and myriad business, design, technical, and other issues are still only being discussed. In the competition to bring ADS to market, there should be a requisite level of confidentiality; premature disclosure of technical issues can have disastrous financial and developmental effects and potentially stifle innovation. Basic ADS design decisions such as whether to utilize vehicle-to-vehicle communication systems or to include an “emergency stop control” remain subject to internal corporate debate, technical questions, and related business considerations.



Insurance companies understand confidential information and have a long history of working with auto companies to obtain and use available data. Similarly, insurance companies have deep experience in data security and the wide scope of data privacy requirements.

At the same time, there is a significant level of concern that this system of voluntary self-certification by manufacturers of the safety of ADS may not be adequate to enable the development and public acceptance of safe ADS. Having defined and transparent government standards will result in more and better data and information on ADS that will help its development, the understanding and acceptance by the public of ADS, and the development of related businesses like insurance that will be critical to ADS use.

It would be in the best interests of proponents of safe ADS to coordinate and consider new and improved alternatives to communicate on ADS technology and performance. Somewhere between the extreme poles of “just trust us” and reams of federal regulations requiring submission of millions of certified data points is a system of information and communication that is usable and comprehensible for the public, governments, and other industries. Validation of safe ADS development and a resulting public acceptance can be greatly enhanced by a measurable gauge of ADS safety/risks through recognized analysis of most relevant data. Insurers, with their direct and ongoing contact with drivers and owners, are a most effective way to enhance that communication.

### Conclusion

NHTSA is considering the establishment of a national pilot research program, and as the many substantive questions raised by NHTSA in the ANRPM clearly show, the structure and operations of such a research project are vast, complex, and most likely rapidly evolving. What is without question, however, is the fact that safety must be the primary focus of the research and that experts in the business of safety – insurance – must be well entrenched in that research.

The insurance industry has continuously proven its commitment to supporting the development and deployment of real auto safety benefits at the earliest time. These benefits are dependent, however, on many and daunting technological, logistical, and regulatory revisions that remain to be designed and successfully implemented. The existing environment of auto safety regulation evolved with a human-driver focus and has not fully considered the many nuances of increased assisted and automated driving systems. As these systems develop and evolve, the risk of regulatory safety gaps increases and the need for a comprehensive reassessment of driving operation safety grows exponentially, starting with the paramount focus on the safety of vehicle occupants, occupants of other vehicles, and the public.



For the public to understand and accept ADS safety developments, we must show how we got to the answer; to illustrate the exact steps taken to achieve specific metrics of safety for ADS. Broad assurances of overall safety must be bolstered by facts and data on ADS design and operation. Third-party validation of ADS data and safety testing by insurers will help to develop the requisite public, insurer, and governmental trust to support further ADS deployment.

A prerequisite of that trust, particularly for insurers, is the access to more and better data on the proposed and adopted design and operation of ADS. Through their highly regulated development of rates and coverage, insurers apply many of the objective and independent validations sought for ADS operational safety. Just as with the established and active advocacy of seat belts and air bags, auto insurance companies can work with auto manufacturers and safety advocates to develop and implement commercial standards that can save lives.

If you have questions or comments, also please feel free to contact me at 202-628-1558, [tkarol@namic.org](mailto:tkarol@namic.org).

Respectfully submitted,

Thomas Karol  
General Counsel, Federal  
National Association of Mutual Insurance Companies  
122 C St NW, Suite 540  
Washington, D.C. 20001  
The difference is in the experience<sup>SM</sup>