

Motor & Equipment Manufacturers Association

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Testimony of Ann Wilson
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“Self-Driving Cars”
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Introduction

Chairman Burgess, Ranking Member Schakowsky, members of the Subcommittee:
Thank you for the invitation to testify before you today on automated vehicles.

The [Motor & Equipment Manufacturers Association \(MEMA\)](http://www.mema.org) is the leading international trade association in the fast-changing mobility industry. Representing vehicle suppliers that manufacture and remanufacture components, technologies, and systems for use in passenger cars and heavy trucks, MEMA works to ensure that the marketplace and legislative and regulatory environment support the development and implementation of new technical capabilities transforming the automotive industry, including autonomous vehicles and vehicle connectivity.

Our members lead the way in developing advanced, transformative technologies that enable safer, smarter and more efficient vehicles, all within a rapidly growing global marketplace with increased regulatory and customer demands. Vehicle suppliers play a key role in the motor vehicle industry particularly in developing and deploying a whole host of Advanced Driver Assistance Systems (ADAS), vehicle-to-vehicle (V2V) technology and other advanced vehicle safety innovations. Working collaboratively with vehicle manufacturers (a.k.a. original equipment manufacturers, or OEMs), suppliers are critical in the ongoing development and implementation of these technologies, which are the building blocks necessary to enable highly automated vehicles to reach their full potential.

By directly employing more than 871,000 Americans and generating a total employment impact of 4.2 million jobs, MEMA’s supplier companies are the largest sector of manufacturing jobs in the U.S. MEMA represents suppliers in all areas of mobility through its four divisions: Automotive Aftermarket Suppliers Association (AASA), Heavy Duty Manufacturers Association



(HDMA), Motor & Equipment Remanufacturers Association (MERA), and Original Equipment Suppliers Association (OESA).

Vehicle Safety Today

Vehicle component suppliers are dedicated to vehicle safety with the design and manufacture of their components and systems. To fully appreciate the state of vehicle safety today, over 50 years of crash data show that an estimated 613,501 lives have been saved by vehicle safety technologies and associated Federal Motor Vehicle Safety Standards (FMVSS).¹

Today, there are many advanced safety features available in the vehicle marketplace ranging from passive to active systems that either warn, aid and/or assist a driver in order to avoid or mitigate vehicle crashes. These advanced technologies have foundational systems upon which the more complex systems are built. These technologies are mature, affordable and effective.

As over 94 percent of traffic crashes are the result of human error, the potential impact of automated vehicles is wide reaching and unprecedented. Suppliers have long been creating foundational ADAS features and V2V communications with the forward-looking approach to make these systems increasingly more automated. Ultimately, goal is to improve the safety, mobility and productivity of all road users.

Advanced Driver Assistance Systems (ADAS) and the Impact on Safety

In 2015, MEMA and the Boston Consulting Group (BCG) released a report exploring the safety benefits of Advanced Driver Assistance System (ADAS) technologies. ADAS technologies, many of which are referred to as crash avoidance technologies, can provide immediate safety benefits and form the pathway to a partially and fully automated vehicle fleet that could virtually eliminate traffic fatalities. The study found that a suite of ADAS technologies has the potential to prevent 30 percent of all crashes – a total of 10,000 lives saved annually.² It is important to note that some of these ADAS technologies constitute ASAE Level 2 automated systems.

Highly Automated Vehicles

Today's ADAS technologies are the safety foundation upon which the highly automated and self-driving cars of tomorrow are built.

As you know, NHTSA recently announced a Federal Automated Vehicle Policy, designed to establish vehicle performance guidance for automated vehicles, identify distinctions between federal and state roles, and to address current & future tools and authorities.

¹ NHTSA, "Lives Saved by Vehicle Safety Technologies and Associated Federal Motor Vehicle Safety Standards, 1960 to 2012: Passenger Cars and LTVs" [DOT HS 812 069](#), January 2015.

² MEMA and BCG, "[A Roadmap to Safer Driving Through Advanced Driver Assistance Systems](#)," page 2, September 2015.

MEMA applauds NHTSA for developing guidance at this critical juncture. Given the rapidly evolving technological advances in vehicle technologies, we believe guidelines – as opposed to regulations – that clarify a national framework with a clear role for the states sets pathways for all stakeholders to navigate the complexities of automated vehicle technologies and vehicle supply chains.

MEMA wants to ensure that these pathways avoid unintended impediments to product design, enhancements and innovative advancements in automated technologies. The benefits of these technologies are evolutionary; thus, the endeavor to tackle public policies while also balancing innovation is massive and requires the collaboration and cooperation among all public and private stakeholders.

While we understand that some aspects of this policy may become future requirements (i.e. the voluntary “Vehicle Performance Guidance” information collection request),³ the guidance approach is still appropriate for the larger scope of this policy in NHTSA’s ability to stay flexible on these quickly evolving technologies. Even though voluntary, as with other agency guidelines, there is a *de facto* establishment of criteria that will be used by the vehicle industry and its stakeholders going forward. Therefore, it is very important to get the foundational policy as clear as possible in these early stages for all entities to prevent uncertainty from inadvertently delaying technology development.

MEMA encourages NHTSA to take the lead with their global counterparts to cooperate in developing AV policy beyond the U.S. for the benefit of the global community that are working to manage this transformative technology. Unified approaches with our international partners can bring about greater compatibility across national regimes. The earlier we get ahead of opportunities to align the better it will be for all stakeholders – government, industry, and the driving public.

Representing a wide range of suppliers of original equipment and aftermarket technologies for both light and heavy vehicles, MEMA can provide input to NHTSA on the multi-faceted issue of automated vehicles. MEMA anticipates that several members will also provide individual comments specific to their expertise and product offerings.

Vehicle Performance Guidance for Automated Vehicles

While we support the approach set forth by NHTSA, there are specific areas that we believe could benefit from clarification. From the outset, the policy indicates that the vehicle

³ 81 Fed. Reg. at 65709

performance guidance framework applies to both test and production vehicles; to both original equipment and replacement equipment (or updates); to cross-cutting functions and to specific automation functions. Some elements of this framework may not be equitably applicable to test vehicles and to production vehicles. Vehicles used for the purposes of testing and evaluation during developmental phases of a given vehicle technology system are often modified and instrumented. They are driven by professional drivers who are typically specifically trained by the company conducting the test evaluation. During the testing process, a system will be adjusted, refined, and re-adjusted – sometimes within hours and days, sometimes over a period of weeks and months.

Testing vs. Production - There are inherent and critical differences between highly automated vehicle (HAV) systems that are exclusively being evaluated and tested by trained professionals versus HAV systems that are intended for production and deployed to the general public. The AV policy does not make a distinction between test vehicles and production vehicles. It is important that the agency acknowledge and delineate these key differences as it relates to the expectations of the safety assessments and other measures in the policy.

Some elements of the 15-point Safety Assessment Letter (SAL) may not be applicable to the HAV systems being tested. And while an entity can indicate “not applicable” for some of these elements, the optics of a (SAL) that could potentially have several points marked “N/A” may raise flags unnecessarily. Essentially, testers want assurances that NHTSA understands these cases. Therefore, MEMA urges NHTSA to offer and permit a modified and truncated SAL just for any entity conducting testing and evaluation of HAV systems on public roads and a separate SAL version for companies deploying HAV systems in vehicles for sale or lease to consumers.

Roles & Responsibilities – Just as there are key differences between testing and production vehicles, there are also key differences within the various entities encompassed by the federal AV Policy. Specifically, MEMA emphasizes the need for NHTSA to clarify the roles and responsibilities for suppliers versus OEMs.

Original equipment suppliers do not have visibility into the full scope of issues to properly assess performance once it has been integrated in production vehicles. Details regarding how specific equipment interacts with other components or systems in a production vehicle are not always known to the supplier. When developing a product, a supplier may create a system independent of their OEM customer or, a supplier may create and develop a system collaboratively either with another supplier and/or with their OEM customer. Once the customer has it integrated with a production vehicle’s system, there are factors that are unknown to the supplier; also, an OEM may also make modifications over time (e.g. over-the-air update) where, again, a supplier would not know the conditions of how an OEM updated the integrated HAV system.

It is important for all stakeholders to have a clear understanding of NHTSA's expectations of the roles/responsibilities – particularly for OEMs and suppliers. Therefore, these distinctions should be clarified and articulated in the context of the AV Policy.

Exemption & Interpretations

The AV Policy stated that exemptions from “existing standards” are intended to provide flexibility to the general requirements that manufacturers must comply with FMVSS for limited exceptions and for limited periods of time. These exemptions are intended to be granted for in-production, available for sale vehicles. However, what is not clear is whether NHTSA intends that suppliers or other entities should also apply for exemptions for test vehicles in order to test and evaluate Level 2-5 systems on public roads. If that is the case, MEMA would urge the agency to reconsider this approach.

As repeated throughout this testimony, test vehicles should be treated differently with regards to many elements of the AV Policy, as well as to the agency's existing regulatory tools. Moreover, the time in which it would take to undergo an exemptions application process would, in the near term, unduly delay test programs and ultimately, in the long term, stifle technology advancements. Furthermore, suppliers and others are currently actively testing Level 2 and up vehicles in various states (per the states' respective laws and requirements). If exemptions were suddenly deemed necessary by NHTSA, such action could potentially halt these existing test programs.

Also, we are also seeking clarification with respect to test vehicles; under Section 24404 of the recently enacted FAST Act, OEMs can test and operate vehicles that do not meet Federal Motor Vehicle Safety Standards (FMVSS), provided they are not offered for sale, but this provision does not include suppliers.

Finally, we urge the committee and NHTSA to recognize that there are other parties who must be engaged in the development and implementation of the AV Policy for the challenges and benefits to be fully explored. The Commercial vehicle members of MEMA are particularly concerned about the protection of Intellectual Property as safety systems and other new technologies are key differentiators for fleets. Going forward, we encourage NHTSA and this committee to work closely with commercial and heavy duty vehicle stakeholders.

Conclusion

The members of MEMA are committed to vehicle safety, and are at the forefront of developing additional life-saving technologies.

We support a guidelines-based approach by NHTSA for Automated Vehicles, because we believe they will be more effective in keeping pace with rapidly changing vehicle technologies. We also believe the guidelines put forth can benefit from clarification and refinement, including greater distinctions between testing and production vehicles, certification and reporting responsibilities between suppliers and automakers, clarifications with respect to exemptions for test vehicles, and collaboration with heavy duty vehicle stakeholders.

We appreciate this opportunity to testify before you and will be happy to answer your questions.