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Subcommittee of Digital Commerce and Consumer Protection
Hearing "Self-Driving Vehicle Legislation"
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Executive Summary

- The Association of Global Automakers represents major automotive manufacturers and suppliers that are making enormous investments in connected and automated vehicles in the United States in order to save lives. We thank the Committee for its interest in vehicle automation and are encouraged by the discussion draft which advances a number of important ideas to help deploy automated vehicles.

- As these technologies are developing rapidly, we are in an interim period, while federal regulators develop the necessary policy and regulatory framework. At the same time, some states, perceiving a vacuum, have begun to regulate. This is a problem that will lead to conflicting rules that could delay deployment of life-saving technologies. In this interim period, we believe policymakers and regulators should:

    - Clarify that the federal government is the primary regulator of motor vehicle safety. This is not a departure from the Motor Vehicle Safety Act, but an application of its core principles to new and emerging forms of technology. The law recognizes that a national vehicle marketplace needs uniform safety standards, and that a vehicle purchased in one state can drive to a neighboring state.
    - Support a flexible process that provides safety assurance while allowing meaningful deployment of these technologies. This process should assure the regulator and the public that automakers are designing their systems safely.
    - Remove barriers to deploy automated technologies by expanding the current exemption levels for certain motor vehicle safety standards that did not contemplate automated driving systems, while maintaining motor vehicle safety.
    - Congress should ensure that any framework does not pick winners and losers, but instead encourages all levels of vehicle automation. While Level 4 and 5 “driverless cars” will bring significant benefits, Level 3 vehicles, where the driver is still in the loop, can also provide major gains in safety. Any framework should allow testing and deployment of all levels.

- While safety is our first priority, automated vehicles also create other benefits, such as improved mobility for underserved communities and environmental benefits, as automation combined with transportation as a service could significantly increase the demand for electric vehicles.

- We believe consumer education is an essential component for helping ensure the successful adoption and utilization of new technology, and a collaborative approach will be needed to identify the most effective means of providing relevant information to owners and operators of automated vehicles.

- We also believe that industry-led approaches can provide greater flexibility to respond in these dynamic areas of privacy, cyber, and data-sharing to best protect consumers.

- We look forward to working with the Subcommittee on legislation to promote the rapid and safe deployment of automated vehicles.

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Testimony

Chairman Latta and Ranking Member Schakowsky, on behalf of the Association of Global Automakers ("Global Automakers"), I thank you for the opportunity to testify before the Subcommittee today. Global Automakers represents major automobile manufacturers and suppliers operating in the United States. Our automaker members have invested $56 billion in U.S. facilities and directly employ 98,500 employees located throughout the United States. Global Automakers' members have 28 manufacturing facilities in twelve states and built 4.6 million vehicles in the United States in 2016, a 41 percent increase in production in the last decade. Global Automakers and our member companies are committed to creating the safest, cleanest and most technologically advanced vehicles on the road.

The automotive industry is making major investments in the research and development of automated vehicle technology in the United States, and Global Automakers thanks the Committee for its interest and proactive approach to vehicle automation. Automated vehicle systems present significant potential to save lives, enhance mobility, improve transportation efficiency, and reduce fuel consumption. It is important therefore that public policy help spur this innovation, encourage testing, and enable nationwide deployment of vehicles across all levels of automation. It is also critical to acknowledge the role of vehicle-to-vehicle communications in enhancing safer, more efficient transportation. It would be a significant missed opportunity if, after making great progress in automating the vehicle fleet, we fail to deploy an interoperable, nationwide system to connect vehicles, road users, and infrastructure wirelessly to complement and expand the benefits of automation. With the right policies, the United States can continue to

lead in the development of these technologies and bring their benefits to the American people as quickly as possible.

Automated vehicle technology offers a tremendous opportunity to improve highway and traffic safety. Over 35,000 people lost their lives on America's roadways in 2015. Unfortunately, this number is going up, despite the fact that vehicles are safer than ever before. We need to work toward a future where cars no longer crash, and zero lives are lost on roads. To get to zero, we need a comprehensive safety approach that involves all road users and transportation providers. Automated and connected vehicle technology is fundamental to this effort.

Right now, the auto industry is developing and deploying an array of automated vehicle technologies, transforming the conversation from crash survival to crash avoidance. These advancements are developing rapidly, and we can put vehicles on roadways now and in the near future that will help save lives while regulators develop the necessary policy framework. So the question is: What do we do in this interim period?

The federal government has already taken an important step through the Department of Transportation's Federal Automated Vehicle Policy (the "Federal Policy"). While the details of the Federal Policy are currently under review, the safety assurance approach represented by the Federal Policy sets up a flexible interim framework which ensures that safety is being supervised and protected. The policy establishes a process that allows manufacturers to innovate, while keeping the National Highway Traffic Safety Administration (NHTSA) informed about new automated vehicle technologies and how they operate safely. These steps will help advance

deployment and will provide the necessary data that will inform future policy decisions and the scope of new regulations, but more needs to be done.

Global Automakers believes the discussion drafts released by the Subcommittee contain a number of important ideas designed to advance automated vehicle systems and their benefits. Congress should play a critical role in removing road blocks for these new technologies. We look forward to working with the Subcommittee to advance legislation that clarifies that the federal government has exclusive jurisdiction over the design and performance of motor vehicles and legislation that establishes a clear pathway to encourage deployment of automated driving systems.

Ensure the federal government continues to have primary authority over motor vehicle performance and design

We support the Subcommittee's efforts to clarify the federal government's primary responsibility over motor vehicle safety. The United States has long recognized that automobiles are sold in a national market, and that manufacturers' success rests on the ability to sell vehicles that can be sold and operated in all fifty states. The federal government further recognizes that vehicle safety is a national priority, and the Motor Vehicle Safety Act has set clear limits on the role of states in regulating the design of motor vehicles. Automated vehicles should be no different. Global Automakers therefore supports continued efforts by Congress and the Administration to ensure that there is a consistent national approach to automated vehicle policy, and to clarify the respective roles of federal, state and local governments. Unfortunately, some states, perceiving a

vacuum, have begun to regulate. This is a problem that will lead to conflicting rules that could delay deployment of life-saving technologies.

The primary roles and responsibilities of the federal government include setting Federal Motor Vehicle Safety Standards (FMVSS), ensuring compliance with standards, investigating potential safety defects, and issuing guidance for manufacturers and other entities. In contrast, state responsibility focuses on issues related to the operation of those vehicles on their roads, such as driver licensing and responsibility, vehicle registration, and insurance. Ensuring federal primacy over laws and regulations that prescribe design and performance standards for automated vehicles would help spur the further development, testing and deployment of automated vehicles. This approach has supported decades of improvement in motor vehicle safety and it is critical to ensuring the widespread benefits of automated vehicle systems can be realized nationwide.

Establish a path for the initial deployment of automated vehicles and ensure greater regulatory certainty

Policymakers and regulators should support a flexible process that provides safety assurance while allowing meaningful deployment of these technologies. Such a process can assure the regulator and the public that automakers are designing their systems with safety in mind. It's important that this assurance process be nimble and account for the rapid pace of innovation, in this interim period, as NHTSA develops a foundation for updating regulations.

We support the Subcommittee's efforts to create a clear path for the near-term deployment of highly automated vehicles. Congress can help expedite automated technology deployment by

providing NHTSA with authority to exempt an increased number of highly automated vehicles from standards that would otherwise limit their deployment. Existing regulations, understandably, did not envision the emergence of automated vehicle technology, and as a result there is uncertainty when seeking to certify a vehicle that is designed to operate without the engagement, or possibly the presence, of a driver. The standards assume traditional features that may no longer be necessary and are often written in mechanical terms that do not translate well to connected and automated technology. As noted in a March 2016 report by the U.S. DOT Volpe Center, there are a number of FMVSS that may limit the deployment of automated vehicles due to either explicit or implicit references to the presence of human driver.

The current DOT approach focusing on a safety assurance process, combined with NHTSA's existing authority to oversee motor vehicle safety through its investigation and recall authority, can help support the safe testing and deployment of automated vehicles on public roads as the Department considers the appropriate regulatory framework for automated vehicle systems. While expanded exemptions may provide greater opportunities for the deployment of automated vehicle systems in the short-term, it may not provide the necessary long-term certainty for manufacturers. It is therefore important that the federal government identify any outdated standards that may unnecessarily limit innovation and work collaboratively with industry and other stakeholders to update those standards to accommodate automated systems.

Ensure the policy framework supports all levels of automation

SAE International has established a "Taxonomy" for automated vehicles in its Standard J3016, which defines different levels of automation, ranging from Level 0 (meaning no automation at all) to Level 5 (where a car can drive itself in all conditions with no supervision or input from a human driver). We believe that any legislative efforts should enable a level playing field that encourages innovation across all levels of automation. While we believe that Level 4 and 5 "driverless cars" will bring significant benefits, Level 3 vehicles, where the driver is still in the loop, can also provide major gains in safety, particularly for rural areas where highway fatalities are over twice the rate of urban areas. Any framework should allow testing and deployment of all levels. Legislation should not favor one business model over another. The use of uniform SAE definitions that recognize the various levels of automation is also critical to consumer understanding of the technology and consistent treatment of automated vehicles on our roadways.

Consumer education, awareness and training

We support the Subcommittee's recognition of the importance of consumer education regarding automated vehicle systems. We believe consumer education is an essential component for helping ensure the successful adoption and utilization of new technology, and a collaborative approach will be needed to identify the most effective means of providing relevant information to owners and operators of automated vehicles.

There are significant benefits that can be achieved across all levels of automation, and it is important that consumers develop an understanding of the level of automation of a particular vehicle, the conditions or limitations under which the system may be operated, how the system may be designed to provide warnings to the driver, and how to activate and deactivate the system or resume manual control, if applicable. Manufacturers, car dealerships, rental car companies, ride-sharing or on-demand transportation providers, and other entities should each play a role, and federal and state governments can help support efforts to increase public awareness.

It is also important that drivers understand and recognize their roles and responsibilities when using automated vehicle systems, and recognize system limitations. As manufacturers research new approaches for how drivers interact with the technology, flexibility is essential to allow for innovative designs to develop.

Permit testing by both automakers and automotive suppliers to encourage innovation

Global Automakers' thanks the Subcommittee for its proposal to clarify that provisions allowing for the testing of non-FMVSS-certified vehicles apply to automotive suppliers as well as automobile manufacturers. Automotive suppliers are integral partners in researching, developing, and testing new automated driving technologies.

A flexible approach to data, privacy and cybersecurity

As vehicles have become more connected and automated, the industry has taken a number of proactive steps to address privacy and cybersecurity, and continues to engage with the various stakeholders on these important issues. We believe that industry-led approaches can provide greater flexibility to respond in these dynamic areas to best protect consumers.

In 2014, automakers proactively took steps to establish Federal Trade Commission-enforceable "Privacy Principles" to protect consumers' personal information. These principles are based on the Fair Information Practice Principles, and outline the various types of vehicle and driver information that are collected and how this data is used; they treat personally identifiable information, such as geolocation, driver behavior, and biometric information, with additional heightened protections. These Privacy Principles are applicable to vehicles manufactured after January 2016.

In 2015, the auto industry proactively established the Auto Information Sharing and Analysis Center, or Auto-ISAC, to share intelligence on immediate threats and vulnerabilities between industry stakeholders, and did so before any real-world cyber incidents. The organization has since grown to include 34 member comprised of 15 OEMs, and 19 suppliers and commercial vehicle companies. Additionally, the members of the Auto-ISAC have been actively engaged in the development of industry cybersecurity best practices to help enhance vehicle cybersecurity throughout the entire product lifecycle.

Similarly, we believe that an industry-led approach is best to address the quickly evolving issue

of data-sharing for automated and connected vehicles. There are a number of significant questions and challenges to be addressed, and we have already begun discussing these issues with our members to explore how effective data-sharing can promote continued safety improvements for automated vehicle systems.

Beyond Safety

While safety is paramount, automated vehicles also create other benefits, such as improved mobility for underserved communities and environmental benefits, as automation combined with transportation as a service could significantly increase demand for electric vehicles. Congress now has the opportunity to set the policy framework that will help make these benefits a reality. The combined effect of these trends has been recognized by a diverse group of organizations. For instance, Securing America's Future Energy (SAFE), which focuses on the need for energy security, believes that:

> *…the market environment will strongly favor the adoption of shared, autonomous cars powered by advanced fuels like electricity, promoting fuel diversity in a transportation sector…Modeling also shows that if a driverless future includes significant carsharing, petroleum usage in the transportation sector could decline by 50 percent by 2040, or perhaps even faster given the right mix of technology and regulatory developments.*[1]

McKinsey also supports this point of view, pointing to examples such as shared mobility

[1] http://secureenergy.org/report/safe-testimony-to-senate-commerce-on-driverless-car-rules/

resulting in more electric-vehicle sales because of lower costs of ownership and increased urbanization providing the right conditions to support these trends.[2] Also, Dr. Dan Sperling, a professor at the University of California-Davis, and his colleagues at the University, have been studying the effects of "the three revolutions" and how to maximize these trends in the context of urban transportation to significantly reduce greenhouse gases globally through 2050.[3] This further reinforces the need to promote automated vehicle deployments for the greater public good.

Conclusion

Global Automakers thanks the Subcommittee for its efforts to promote innovation and U.S. leadership in the area of vehicle automation. We look forward to working with the Subcommittee on automated vehicle legislation that clarifies the exclusive federal authority over motor vehicle performance and design criteria, and provides a pathway for the increased deployment of highly automated vehicles. Establishing a balanced federal policy will help spur the development and deployment of automated vehicle technologies that will improve motor vehicle safety, enhance personal mobility, and bring new efficiencies to our transportation system.

[2] http://www.mckinsey.com/business-functions/sustainability-and-resource-productivity/our-insights/an-integrated-perspective-on-the-future-of-mobility
[3] https://www.itdp.org/publication/3rs-in-urban-transport/