



Public Affairs

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**Written Testimony of Jill Ingrassia
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before the Ohio House Transportation and Public Safety Committee**

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On behalf of AAA, we would like to thank you for the opportunity to express our views on public policy related to Connected and Automated Vehicles (CAVs). As North America's largest motoring and leisure travel organization, AAA provides over 58 million members with travel, insurance, financial and automotive-related services. AAA has six clubs in the state of Ohio serving nearly 3 million members. Since our founding in 1902, the not-for-profit, fully tax-paying organization has been a leader and advocate for the safety and security of all travelers.

AAA commends the committee on its thoughtful and deliberative approach to studying CAVs and their many implications through a multi-session hearing process. Today's hearing comes at an optimal time given how quickly transportation technology is evolving and its growing visibility among policymakers and motorists. AAA is actively working to help make sense of all of this innovation – and in some cases, hype – for our members and consumers. The implications are significant and cross every aspect of our daily lives.

While CAVs have many potential benefits, the one that is most important to AAA is safety. We've made tremendous progress over the last couple of decades to bring down motor vehicle-related fatalities, through improved vehicle crashworthiness, better roads and stronger laws. However, despite this progress, more than 37,000 people died on America's roadways last year, with human error contributing to more than 90% of today's crashes. The good news is that government and safety experts estimate that up to 80% of today's crashes could be prevented by CAVs.

But, the evolution from human driven vehicles to fully self-driving cars is not going to happen overnight. The process will take time, for a number of reasons, including: the development of the technology, the long fleet turnover as consumers buy new cars (the average vehicle age is 11.5 years old); technical and human factors challenges; and the need to set insurance liability and appropriate laws, etc. The U.S. will likely see a mix of vehicles with differing levels of automation on our roads for decades to come.

As we move toward the adoption and use of these technologies, there are risks that need to be understood and managed.

AAA Automotive Engineering Testing

AAA is engaged in many facets of this issue—from research and engineering to public policy and consumer education. To help inform and educate our members, AAA tests and evaluates emerging vehicle technologies, including automated vehicle features.

Automated vehicle technologies refer to not only fully self-driving cars, but also a range of different technologies, some of which are already on the roads. Vehicles equipped with adaptive cruise control or lane keeping technologies are considered “autonomous” by industry definitions. Since 2014, AAA has evaluated blind spot monitoring; lane departure warning/lane keep assistance; automatic emergency braking; self-parking; adaptive cruise control; and rear cross-traffic alert systems. Our research found that consumers can easily be confused by these systems because there is a high degree of variability among automakers, including naming, designs, implementation, algorithms and ultimately performance. The capabilities of the technologies varied dramatically.

No system we have evaluated performed flawlessly in every environment. This indicates that, for now, an engaged driver is a necessary component to CAV deployment. AAA is confident that automated technologies have the potential to keep drivers safer, as long as they are aware of system requirements and limitations.

AAA will continue to evaluate advanced automotive technology to ensure consumers have a clear understanding of these systems and how to interact with them. Future testing will look at how well systems work together to achieve higher levels of automation. The AAA Foundation for Traffic Safety also is undertaking research in this area, including a new project with the University of Iowa designed to examine motorists’ experiences with, reactions to, and training needs for advanced driver assistance systems. This research will be published in 2018.

Consumer Perspective

Consumer acceptance will be crucial to the successful deployment of CAVs. Despite the prospect that automated vehicles will be safer, more efficient and more convenient than their human-driven counterparts, in a recent AAA survey three-quarters of U.S. drivers report feeling afraid to ride in a self-driving car, and only 10 percent report that they’d actually feel safer sharing the roads with driverless vehicles. The survey also found that the majority (59 percent) of Americans would like to have automated features in their next vehicle. This marked contrast suggests that American drivers are ready to embrace automated technology, but they are not yet ready to give up full control. The survey also found that drivers who own vehicles equipped with semi-automated features were 75 percent more likely to trust the technology than those without it, suggesting that gradual experience with these advanced features may ease consumer fears.

In a recent local poll, more than a third of Ohio drivers said they think the new technology will lead to more—not fewer crashes, and a majority of Ohio drivers surveyed don’t believe the new technology will be available for at least another decade. A majority of drivers said they want these autonomous

features on their vehicles, but were unaware of the fact that these technologies might already be in their vehicles today (See Attachment A for detailed survey results).

AAA's Guiding Principles for Autonomous Vehicle Testing & Deployment

As automakers press forward in the development of CAVs, AAA urges the gradual, safe introduction of these technologies to ensure that drivers are informed, prepared and comfortable with this shift in mobility. AAA anticipates a number of long-term challenges to the automotive industry, legal and business environments, reparability, liability and ownership models. To address these challenges, we have developed the following *Guiding Principles for Autonomous Vehicles* that set forth a framework that facilitates and supports ongoing AV testing, driver safety and education.

- **Safety:** AAA believes that safety should never be compromised to hasten AV deployment. Motorists and all who share the roads with CAVs have a right to expect that the vehicles will be operated safely. AVs certified for operation on public roadways should meet all applicable Federal Motor Vehicle Safety Standards (FMVSS). In those incidents instances where a FVMSS cannot be met or the question is beyond the scope of existing standards, operators should seek NHTSA guidance for appropriate exemptions.
- **Testing:** AAA supports thorough testing of CAV technologies as they continue to evolve, including testing under progressively complicated driving scenarios and under varying conditions.
- **Public Education and Truth in Advertising:** The branding and advertising of ADAS and CAV features should accurately reflect the true capabilities and limitations of the technology and explicitly outline the operators' responsibilities. In the current vehicle fleet and for the foreseeable future, an engaged driver is/will be required to operate the vehicle safely, and it is critical that all stakeholders commit to educating drivers on the unique operations of ADAS and CAV technology at all stages of deployment. Industry, policymakers and stakeholders, including AAA, must work to mitigate consumer confusion on CAVs and autonomy levels.
- **Driver Education and Training:** Current driver training and education programs need to keep pace with evolving vehicle technology to include instruction on the operation and use of autonomous features. Looking forward, driver-training providers will need to further educate motorists on the skills necessary to operate and share the road with CAVs.

Public safety officials, including emergency roadside assistance providers and tow truck operators, must also be adequately informed and trained to respond to emergency and non-critical traffic incidents involving semi-automated, fully automated and mixed fleet vehicles.

- **Legislative Consistency:** The rules and regulations governing CAVs should be harmonized at the federal, state, local, and international levels so that consumers can purchase, operate and transfer AVs within and among different jurisdictions with only minimal, reasonable effort.

- **Data Sharing, Protection and Transparency:** Drivers need to clearly understand what information is being collected from CAVs and how it is being used. CAV providers should be transparent about the collection, protection and use of vehicle data and ensure that appropriate security protection protocols are in place to minimize potential security breaches of personally identifiable information.
- **Cybersecurity:** Drivers should expect that CAV manufacturers and service providers will use reasonable measures to protect vehicle electronic systems from unauthorized access and misuse that could impede the vehicle's safe operation.
- **Infrastructure:** Many CAV systems rely on clear lane markings and consistent signage. Maintaining and improving our roadways for these systems is critical to further deployment. Infrastructure improvements and system upgrades also need to incorporate intelligent transportation and connected vehicle technologies to ensure networks are built and maintained to support all levels of multi-modal connectivity that will benefit all users and improve safety.

Federal Legislation

Both the House and Senate have considered legislation related to autonomous vehicles. The House passed their bill in September and the Senate is teeing up their AV bill for a year-end vote. Both bills are similarly structured and cover many policy issues related to AVs, including: preemption, safety standard development, cybersecurity, exemptions for testing, and consumer education. Following Senate passage, policy differences between the bill drafts will have to be reconciled, which would require an agreement from both chambers to move forward toward passage.

AAA supports the continued advancement of technologies leading to the safe development, testing and use of CAV systems. As the technology develops, it is critical that all stakeholders commit to educating consumers on the unique operations of advanced driver assistance systems and CAVs at all stages of deployment. AAA is encouraged that policymakers continue to focus on the importance of robust consumer education and outreach in their legislative proposals and see the House and Senate bills as a positive step in vehicle and driver safety.

State Overview

With a lack of solid federal guidance, states are enacting a variety of laws on this topic. The laws range from authorizing the use of AVs, to permitting truck platooning, or creating an advisory task force. To date, 21 states and D.C. have AV-related laws and five states have AV executive orders. Many states have created an AV task force comprised of key stakeholders to examine the issue and determine the best path forward for the state. To date, at least 15 states have created these task forces. AAA clubs are actively engaged in the AV policy dialogue in 11 states.

Recommendations for Ohio

Looking specifically at recommendations for Ohio, AAA recommends that safety be a top priority in decision making and the consumer perspective needs to be included. In addition:

- Consider establishing a state AV task force with key stakeholders representing the various interests, including industry, government, consumer groups, safety advocates and more.
- Begin to look at current state code/regulations to determine if impediments exist for CAV testing and deployment in Ohio. Reach out to other states that have taken steps into the CAV space with legislation, regulation and executive orders to learn best practices as well as pitfalls.
- Look at learnings from the initiatives already underway in Ohio with the Smart Columbus initiative and the Ohio Smart Mobility Corridor. As you know, the Smart Columbus initiative includes exploring Connected Electric Autonomous Vehicles to expand mobility options. Six electric autonomous vehicles on set routes will connect riders in the Easton neighborhood of Columbus to first and last mile stops. It will be important to monitor this project, educate consumers and discuss lessons learned. Our survey results show that 84 percent of Ohio motorists think local and state governments should inform the public when and where autonomous vehicles will be tested on roads in their area.

AAA will continue to advocate for informed policies and legislation that enable the many benefits of technology, while focusing on reductions in fatalities and injuries. We also remain committed to educating our more than 58 million members on the complexities of this developing and truly exciting technology.

Below are some resources that might be useful as the committee continues to delve into this issue.

American Association of Motor Vehicle Administrators AV Information Library:

<https://www.aamva.org/Autonomous-Vehicle-Information-Library/>

Governors Highway Safety Association AV Primer: <http://www.ghsa.org/resources/spotlight-av17>

National Conference of State Legislators AV Page:

<http://www.ncsl.org/research/transportation/autonomous-vehicles.aspx>

National League of Cities: <http://nlc.org/AVPolicy>

Transportation Research Board – upcoming research projects related to AVs:

<http://apps.trb.org/cmsfeed/TRBNetProjectDisplay.asp?ProjectID=3824>

Attachment A

Ohio Survey Results:

If you were behind the wheel of an autonomous vehicle or self-driving car, do you think you would watch the road the same way you would as if you were in a vehicle where you have complete control of driving, or not?

- More than half (56%) of drivers think they would still watch the road while being behind the wheel of an autonomous vehicle or self-driving car the same way they would as if they were in a vehicle where they have complete control of driving.
- 39% said they do not think they would still watch the road while being behind the wheel of an autonomous vehicle or self-driving car the same way they would as if they were in a vehicle where they have complete control of driving.
- 4% were not sure.

How soon can you imagine routinely riding in a fully autonomous or self-driving vehicle?

In 3 years	10%
Within 7 years	16%
Within 10 years	23%
Longer than 10 years from now	17%
Never	30%
Not sure	5%

In order for an autonomous vehicle to operate, it needs to exchange data regularly with other vehicles and infrastructure. How concerned are you about the security of data sent to and from autonomous vehicles?

Very Concerned	62%
Somewhat concerned	24%
Somewhat unconcerned	7%
Not at all concerned	5%
Not sure	3%

The latest research shows that most roadway crashes are caused by human error. What impact, if any, do you believe autonomous vehicle technology will have on roadway crashes: do you think it will result in fewer crashes, more crashes, or will it not have an impact on crash statistics?

Fewer crashes	33%
More crashes	38%
No impact on crash statistics	17%
Not sure	12%

Do you think local and state governments should inform the public when and where autonomous vehicles will be tested on roads in their area, or not?

84% Think local and state governments should inform the public when and where autonomous vehicles will be tested on roads in their area.

10% Do not think local and state governments should inform the public when and where autonomous vehicles will be tested on roads in their area.

6% Not sure.

When it comes to self-driving cars, what would you say is the factor that influences your opinion the most: the brand of the vehicle; what family, friends, colleagues and neighbors say; news reports; advertising; social media; or something else?

Brand of the vehicle	21%
What family, friends, colleagues and neighbors say	13%
News reports	23%
Advertising	3%
Social media	4%
Something else	28%
Not sure	8%