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To: The Honorable Doug Green, Chair
House Transportation and Public Safety Committee

From: Ryan Gammelgard, CPCU, CLU, ChFC
State Farm Insurance Companies

Date: April 11, 2018

RE: Automated Vehicle Technology

Mr. Chairman and Members of the Committee,

My name is Ryan Gammelgard and I am Counsel at State Farm, where I work on public policy issues related to automated vehicles. Thank you for the opportunity to provide comments regarding automated vehicle technology and automated driving systems today.

State Farm's mission is to help people manage the risks of everyday life and recover from the unexpected. State Farm has been the nation's largest auto insurer for over seventy-five years, with over 45 million auto policies in force. Its 18,000 agents and more than 65,000 employees serve more than 83 million policies and accounts. While State Farm provides over a hundred product lines, the majority of our \$76 billion annual revenue comes from auto insurance. Automated and connected vehicle technology will significantly impact how insurers protect policyholders from financial loss and risk – and, to the extent these advancements enhance auto and highway safety, State Farm is excited about and supportive of these technologies.

Throughout our ninety-five year history, State Farm has supported technology advancements that improved safety for the benefit of our customers, including seatbelts, airbags, and child car seats. We support developments that have the promise of saving lives and avoiding injuries, including automated driving systems (ADS). According to the National Highway Traffic Safety Administration (NHTSA), over 90 percent of car crashes are attributable in some part to driver error; ADS may eliminate a large number of these crashes, benefiting all. While ADS will reduce or eliminate some risks that drivers face today, new risks are likely to emerge.

In order to learn more about automated vehicle technologies, State Farm takes an active role in collaborative, multi-industry conversations and research. State Farm has a unique public-private relationship with the University of Michigan called Mcity, providing early access to the latest data and research findings in the area of connected and automated ecosystems. State Farm is also a key partner in Stanford University's Center for Automotive Research and was the only insurer to be appointed to the U.S. Department of Transportation's Advisory Committee on Automation in Transportation. . From these efforts, State Farm has data, insight, and experience regarding existing risks that may be mitigated by this technology and the new risks that may emerge.

State Farm understands that ADS and connected technology, including vehicle-to-vehicle (V2V), vehicle-to-infrastructure (V2I) and vehicle-to-“all” (V2X), will impact our business. Currently, cars are capable of varying levels of automation from SAE Levels 0 to 3; however, the timing for movement to the SAE Level 4 and 5 is of great interest and speculation. Most recently, GM announced its intentions to have a commercial fleet of SAE Level 4 vehicles on the road in 2019. The Insurance Institute for Highway Safety (IIHS), however, estimates that it may take thirty years from the time fully automated and connected vehicles are introduced to market saturation. In the meantime, our roads will include a range of SAE levels, requiring State Farm to continue to adapt to needs of customers while focusing on the future.

Key issues for State Farm and insurers in this public policy discussion relate to our ability to assess risks presented by our customers, to price that risk appropriately, and to handle claims that result from crashes. State Farm helped create NAMIC’s Automated Vehicle (AV) Council, which is comprised of public policy and technical experts from select member companies. The AV Council, with State Farm input, adopted these public policy principles regarding automated driving systems:

- **Safety is paramount:** We fully support ADS innovation and development that enhances safety.
- **Insurer data access is critical:** Insurers should have access to ADS information and data – including crash accident and incident information and data – that is timely, complete and useful.
- **Standards should be set nationally:** The Federal government – through NHTSA – should have the authority to make determinations for the required performance and safety, as well as data integrity, of ADS.
- **Administration should remain local:** States and localities should have the authority to make their own determinations of the registration, licensing, and operation of ADS in their jurisdictions
- **Insurance requirements should be set by the states:** States should continue to regulate ADS insurance for the vehicle or operator.
- **Existing liability principles/authorities should apply:** States should define and address ADS personal liability issues in state/tort law and regulation in line with existing liability constructs. States and federal authorities should have the authority to define and address ADS liability issues in law and regulation.
- **Data security/privacy standards must adapt to the reality of ADS:** States and federal authorities working together should make clear and workable data security and privacy requirements for AVs.

From these public policy principles, several key issues emerge for State Farm – data access, liability laws, and advisory councils.

First, data access is a key issue for the insurance industry. Data access is (1) essential to developing proper pricing and underwriting of vehicles, (2) critical for liability determinations, and (3) from the general public’s perspective, important in determining the safety and reliability of technology. Insurers should have access to automated driving system information and data – including crash accident and incident information and data – that is timely, complete, and useful. It is important to note that access to data does not infringe on the proprietary nature of that data and the access is relevant to specific issues of, for example, underwriting and liability, as opposed to the wholesale collection of all data associated with a vehicle.

Second, the liability landscape is critical to insurers from two perspectives – liability laws and cybersecurity issues. Existing state liability and tort laws are sufficient and can evolve sufficiently to handle evolving technology, just as tort law has evolved historically. In considering the evolving liability landscape, cybersecurity is critical, as there are growing concerns regarding the ability for a person, entity, or state to hack into an ADS, ultimately causing accidents. These risks will increase the complexity of underwriting and adjusting cyber insurance products, but may also provide opportunities for new product development.

Finally, many states are considering automated vehicle issues, as over 40 states have introduced legislation and twenty-two states and the District of Columbia have passed legislation related to ADS. As states create stakeholder groups and advisory councils, State Farm believes insurers should be at the table to provide information about insurance and liability issues that will arise as this technology is adopted. The insurance industry's input on these issues is critical. We look forward to continuing to be part of the discussion and solution for protecting insurance consumers in this emerging landscape.

Thank you again for the opportunity to provide testimony today.

Sincerely,

Ryan Gammelgard, CPCU, CLU, ChFC
Counsel
State Farm Insurance Companies

Enclosure

Automated Driving Systems

State Farm® is committed to the safety of our customers and the motoring public. For decades, we have collaborated with academic, industry and advocacy organizations with the goal of preventing crashes, injuries and deaths on our nation’s roadways.

Many of today’s crash avoidance technologies, such as automatic emergency braking and electronic stability control, have demonstrated positive results in moving towards this goal.¹ However, there is still a long way to go and will require a holistic approach that encompasses the occupants, the vehicle and the environment (roadway, policy, social).

State Farm supports mobility innovation that enhances safety, including the development, testing and implementation of Automated Driving Systems (ADS).



The Society of Automotive Engineers (SAE) defined the six levels of automation, ranging from L0 (no automation) to L5 (full automation). The SAE levels are depicted below. Advanced driver assistance systems (ADAS) fall within levels 0-2, whereas ADS aligns with levels 3-5.

SAE Levels of Automation

	Level of Automation	Motion Control	Monitoring	Fallback Control	Where can it operate?
ADAS	0 No Driving Automation				n/a
	1 Driving Assistance <small>steering OR acceleration/braking</small>				limited
	2 Partial Automation <small>steering AND acceleration/braking</small>				limited
ADS	3 Conditional Automation				limited
	4 High Automation				limited
	5 Full Automation				unlimited

ADAS – Advanced Driver Assistance System

ADS – Automated Driving System

¹Insurance Institute for Highway Safety;
[IIHS Real-world benefits of crash avoidance technologies](#)

Recognizing the role of insurance within the transportation ecosystem, **State Farm recommends the following principles when considering public policy related to ADS:**

- Insurers should have timely access to comprehensive data about the vehicle and its ADS, including technical specifications, performance and crashes or notable incidents.
- The federal government, through the National Highway Traffic Safety Administration (NHTSA), should have the authority to make determinations for the required performance and safety, as well as data integrity, of the ADS.
- States and localities should have the authority to make determinations of the registration, licensing and operation of ADS in that state/locality.
- States should retain the regulation of ADS insurance for the vehicle or operator.
- States should define and address ADS personal liability issues in state/tort law and regulation in line with existing liability constructs. States and federal authorities should have the authority to define and address ADS liability issues in law and regulation.
- States and federal authorities working together should make clear and workable data security and privacy requirements for ADS.

We should never lose sight of the most important consideration — the safety and needs of the occupants.

State Farm gains understanding on automotive technology through its own research facilities and through support of a number of university research programs. In addition, State Farm has conducted extensive research with consumers to better understand their perspectives on automated vehicles. We have captured insights on their awareness and knowledge of the technology, comfort level and concerns, as well as current and future mobility needs. Select results from the latest studies indicate:

- **Sixty-eight percent** of respondents expect more safety testing to occur with new automated technologies compared to the testing of conventional vehicles. Seventy-nine percent expect even more testing of fully self-driving vehicles.^{2,3}
- **Over 70 percent** of respondents believe auto manufacturers should be involved in testing the safety of technologies/vehicles produced.^{2,3}
- **Nearly two-thirds** of respondents believe the federal government should be involved with regulating the development of new automated vehicle features, while even more (71 percent) feel the same way about the government's involvement in the development of self-driving vehicles.^{2,3}
- **Sixty-four percent** of respondents indicated they would be more likely to engage in at least one secondary task when the vehicle is driving itself compared to when they're driving. This is particularly problematic for SAE levels 3 and under, where the driver is required to instantly take back control of the vehicle at any time.^{2,3}

Results from additional State Farm consumer surveys are available online:

2016 State Farm Autonomous Vehicles Survey Report

<https://newsroom.statefarm.com/state-farm-releases-autonomous-vehicles-survey-results/>

2016 State Farm & Bloomberg Autonomous Vehicles Survey Report

<https://newsroom.statefarm.com/state-farm-driverless-car-survey-results/>

²State Farm, 2018 Automated Vehicles Survey

³State Farm, 2016 Autonomous Vehicles Survey