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The Impact of Autonomous Vehicles on the Future of Insurance

Testimony of Ryan Gammelgard, Counsel, State Farm Public Policy Resource Group, Before the House Financial Subcommittee on Housing and Insurance

Mr. Chairman and Members of the Committee,

My name is Ryan Gammelgard and I am Counsel in the Public Policy Resource Group 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 its impact on insurance.

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 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 higher levels of automation associated with 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.

I. Collaboration and Research

In order to learn more about ADS technologies and its potential impact on insurance and our policyholders, State Farm takes an active role in collaborative, multi-industry conversations and research. For example, 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 the only insurance company Leadership Circle Member of MCity. In this role, it helps guide MCity's research programs along with other automotive and tech Leadership Circle Members such as Ford, GM, Intel, Verizon, and LG. State Farm recognizes that development of ADS is occurring with a heightened state

of interconnectivity between a number of different industries, and this is reflected in the membership of MCity.

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. State Farm also conducts ADS research at its Vehicle Research Facility and Technology Research and Innovation Laboratory. State Farm also conducts surveys on the public's perceptions of ADS technology.¹ 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.

II. Public Policy Considerations

State Farm understands that ADS will impact its 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 the National Association of Mutual Insurance Companies' (NAMIC) Automated Vehicle (AV) Council, which is comprised of public policy and technical experts from select member companies. The NAMIC 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.

¹ <https://newsroom.statefarm.com/state-farm-releases-autonomous-vehicles-survey-results/>

- **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 the ability for the insurance industry to innovate.

a. Data

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.

It is important to note that ADS data access is a key issue for numerous stakeholders. State Farm was encouraged to see the U.S. Department of Transportation’s and NHTSA’s “Automated Driving Systems 2.0: A Vision for Safety” Guidance noting the importance of ADS data being made available to other parties and specifically referencing federal regulations on event data recorders in discussing how ADS should collect and make available crash data.² More recently, the American Association of Motor Vehicle Administrators (AAMVA) issued its “Jurisdictional Guidelines for the Safe Testing and Deployment of Highly Automated Vehicles” highlighting in a number of sections the need to make crash related data available to law enforcement and other parties.³

b. Liability Landscape

The liability landscape is critical to insurers from two perspectives – liability laws and cybersecurity issues. State Farm’s current position is that existing state liability and tort laws are sufficient and can evolve sufficiently to handle evolving technology, just as tort law has evolved historically. There is a growing perception that with the move to higher levels of automation and more of a move to a commercial fleet ownership of ADS vehicles, there will be more of a shift toward commercial insurance and product liability issues. Accordingly, there may be continued examination in the insurance industry as to how to position itself to transition from personal owned automobile insurance to commercial (including ride sharing companies) owned fleets and product liability coverage. In addition, there may be greater focus on personal mobility coverage (i.e., insurance that covers the passenger as opposed to the vehicle). However, before there is any attempts to define or create new liability structures there needs to be additional research and thought in regards to what is the best approach going forward.

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

² U.S. Dept. of Transportation and National Highway Traffic Safety Administration’s “Automated Driving Systems 2.0: A Vision for Safety” Guidance at page 14 (2017).

³ American Association of Motor Vehicle Administrators “Jurisdictional Guidelines for the Safe Testing and Deployment of Highly Automated Vehicles (2018) (<https://www.aamva.org/default.aspx>).

causing accidents. These risks will increase the complexity of underwriting and adjusting cyber insurance products, but may also provide opportunities for new product development.

c. Ability to Innovate

Finally, as there is a continued focus on allowing manufacturers, suppliers, and tech companies innovate in the connected and automated vehicle space, there needs to be an examination of how insurers will also be able to innovate in relation to product and coverage development for these new technologies. There is a greater understanding of the role of the insurance industry as a stakeholder in the future of these technologies. As recent events show, there will continue to be crashes regardless of what level of automation exists on a vehicle, and thus a need for the ability to properly address risk in the future state.

As laws expand and are amended to allow for testing and implementation of these technologies, it will be appropriate to determine how insurers can appropriately match price to risk and develop new products. For example, how will insurers be able to match price to risk when there is limited data to use to underwrite these technologies. Also, considering the traditional way of reviewing and approving insurance coverages and rates, will insurers be able to sync up their new products with the pace of development of connected and automated vehicle technologies? It may be worth exploring the need to allow for the insurance industry to better adapt to the future state of connected and automated vehicles. This in turn can help encourage the safe implementation of connected and automated vehicle technologies.

Conclusion

State Farm supports technology advancements that improve safety for the benefit of our customers, and is a key stakeholder in the development of automated vehicle technologies. We look forward to continue to help influence the safe development of these technologies and look forward to continued opportunities to help shape this debate. Please let us know if you have additional questions as we continue to work on these issues together. Thank you again for the opportunity to provide this testimony.

Sincerely,

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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