AUTO ALLIANCE

DRIVING INNOVATION®

STATEMENT

OF

THE ALLIANCE OF AUTOMOBILE MANUFACTURERS

BEFORE THE:

House Energy and Commerce Committee

Subcommittee on Digital Commerce and Consumer Protection

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PRESENTED BY:

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Chairman Latta, Ranking Member Schakowsky, and Members of the Digital Commerce and Consumer Protection Subcommittee. Thank you for the opportunity to testify today on self-driving vehicle technology and the role that Congress and this Committee can play to foster important safety improvements and other benefits for the American public. I am here on behalf of twelve iconic manufacturers who produced 80 percent of the cars now on American roads and are investing billions of dollars annually on R&D to improve fuel efficiency and enhance safety. Self-driving technologies have the potential to do both. I would like to say from the outset that the Alliance and its members are deeply appreciative that this Committee has invested so much time on the policy questions relating to self-driving vehicle technologies. We support the concepts outlined in the staff drafts, particularly related to clarifying federal and state roles, as well as expanding exemptions, and we look forward to engaging collaboratively on both sides of the aisle in hopes of passing bipartisan legislation.

As we prepare for the bright future ahead for mobility, it may be instructive to take a step back in time. This week we commemorate President Eisenhower's signing into law the Federal-Aid Highway Act in 1956 − 61 years ago. Today, it seems like a clear decision – obvious even. Six decades ago, however, it was a bold piece of legislation that helped transform our country. It improved the safety of our roadways and the mobility of our fellow citizens. It also grew the U.S economy by facilitating the efficient movement of bulk goods and freight.

A little more than 10 years later, President Johnson signed the Highway Safety Act into law. That legislation was a major Congressional achievement designed to address rising highway fatalities on our roadways. To set the context, in 1966 there were 50,894 fatalities on the roadways, more

than 20 percent higher than today in absolute numbers, despite the fact that the population was far smaller and vehicle miles travelled far fewer. Public Works Chairman George Fallon of Maryland said at the time that the bill reflected a "…policy of meaningful cooperation between the states and the Federal Government on highway matters. I believe it is a firm step forward in the struggle to save lives, and I urge we act with strong voice to put it into effect."

The Safety Act, which created what later became known as the National Highway Traffic Safety Administration (NHTSA) within the U.S. Department of Transportation, provided the agency with broad safety authorities to research, develop, and enforce vehicle safety performance standards. Today, that legislation forms the structural base the agency relies upon for its mission. Importantly, the Act struck a balance between giving the agency wide latitude to create and enforce Federal Motor Vehicle Safety Standards (FMVSS) and remaining flexible enough to allow car makers to self-certify their vehicles. This ensures automakers can continue to innovate and bring new technologies to market. Without question, this balance in the Safety Act helped reduce injuries and fatalities tremendously, even as there has been a near quadrupling of vehicle miles traveled on our nation's roadways since the 1950's. The CDC recognized this remarkable progress in 1999, calling the increase in motor vehicle safety one of the 10 Great Public Health Achievements of the Century.

> "The reduction of the rate of death attributable to motor-vehicle crashes in the United States represents the successful public health response to a great technologic advance of the 20th century--the motorization of America. Six times as many people drive today as in 1925, and the number of motor vehicles in the country has increased 11-fold since then to approximately 215 million (1). The number of miles traveled in motor vehicles is 10 times higher than in the

mid-1920s. Despite this steep increase in motor-vehicle travel, the annual death rate has declined from 18 per 100 million vehicle miles traveled (VMT) in 1925 to 1.7 per 100 million VMT in 1997--a 90% decrease (Figure 1)."[1]

While the safety improvements over recent decades are a tribute to policy and engineering, we are mindful that our work is not done. We are all familiar with government statistics regarding highway fatalities: 35,092 people died in traffic crashes in 2015[2], an increase over 2014. Preliminary results for 2016 project another increase. This is a disturbing upward trend, especially when you consider that the rise in fatalities went beyond VMT growth. We have looked at the early numbers to better understand why this is happening. While it is too early to be conclusive, we know that the higher rate is NOT a function of the car itself. Motor vehicle defects as a cause appear to remain under 1 percent of the challenge. Other factors that did contribute to the higher rate include older cars, older drivers and more losses among pedestrians and motorcyclists. Distraction is a part of the problem, but the challenge is far broader.

The 2015 increase in fatalities was a 7 percent increase from the prior year. The National Highway Traffic Safety Administration's (NHTSA) early estimates for calendar year 2016 suggest a possible 10 percent increase, to about 38,600. While not adjusted for the significant increases of overall miles driven, this is nearly the same number of roadway fatalities that occurred when President Eisenhower signed the Federal-Aid to Highways bill into law. These numbers are concerning and warrant attention, especially since according to a NHTSA crash causation study,

[1] Centers for Disease Control, Ten Great Public Health Achievements in the 20th Century (1900 – 1999), https://www.cdc.gov/mmwr/preview/mmwrhtml/mm4818a1.htm
[2] NHTSA 2015 Quick Facts

94 percent of car crashes are attributable to human behavior or error. These figures are particularly relevant to today's hearing and the transformative role that self-driving technologies can play in possibly reducing overall crashes and fatalities.

I would like to make five broad points to frame the issue and then close with three thoughts for the Committee to consider as it works to craft bipartisan legislation to help spur additional technological and safety advances.

Point 1 – Four trends are merging to dramatically reshape mobility as we know it: increasing automation, connectivity, ride sharing and electrification. These trends are mutually reinforcing but not mutually dependent. The move toward **autonomy** during this past decade has accelerated significantly – with advanced driver assist systems that offer important features like adaptive cruise control and active lane keeping. Effectively, these technologies have a multiplier impact: the more consumers experience driver assist systems, the more excited they become about the prospect of self-driving technologies.

The Alliance has conducted several public opinion surveys that show the generational shift that is emerging with acceptance of these technologies. A sample is provided below:

What best describes your view about so-called autonomous vehicles that drive for you?

	All	M	W	GOP	Dem	18-29	30-39	40-49	50-64	65+	Assists: 0	1	2
Can't wait for this awesome technology	13	16	11	12	15	23	23	9	7	5	10	14	31
Not sure, but keeping an open mind	33	34	31	30	36	39	34	29	30	30	33	32	32
Not sure, but wary of the technology	27	24	31	29	25	19	21	30	35	32	28	29	22
It's a terrible idea	24	24	24	27	21	14	18	30	27	31	26	24	13
Not sure	3												
	-11	-8	-13	-15	-6	+9				-26	-16	-10	+18

Almost two-thirds (62 percent) of those under 29 years of age are open to self-driving technology, including 23 percent who view the technology as "awesome." Only 5 percent of people over 65 years of age think the technology is "awesome," and almost a third believe self-driving technologies are a "terrible idea" – twice the number than the views of those under 29 years of age. But, importantly, experience with driver assists has a profound impact on attitudes. Drivers who have cars with at least two driver assists are dramatically more favorable (63-35) about autonomy than those who have none (43-54). Thus, as these technologies make their way into the national fleet, consumer acceptance will grow materially.

Trend two is **connectivity** – characterized by growing technological capabilities that improve the driving experience, vehicle performance and safety. Trend three is **ride sharing** – and while we think of companies like Uber, Lyft, Car2Go, Chariot, Maven and ReachNow to name a few, there are a huge number of new entrants in this space, all predicated on the idea that in certain instances car sharing and ride hailing is a more efficient use of a high cost asset versus personal ownership. Finally, trend four is **electrification**. Adoption of electrification has been slower

than some predicted and other experts hoped – including in California. However, we expect that as range increases and battery costs fall, EV powertrains will become more competitive with internal combustion engines. Other coming market forces, like self-driving ride share fleets, may further spur electric vehicle deployment. We will see a tipping point – we just do not know exactly when this will occur.

Point 2 – For self-driving technologies, the future is here but will take a while to be fully realized. Few debate where we are headed. However, there is significant debate about the length and even nature of this journey. Keep in mind, even small introductions of self-driving technologies can reduce fatalities and traffic congestion. The first driving automation systems – so called SAE Levels 1 and 2 − are on sale today. Levels 3, 4, and 5 self-driving technologies, or Highly Automated Vehicles (HAVs), are currently being tested, but are not yet available in the market. Level 3 features, such as automated driving in freeway traffic jams, are expected to be introduced soon, perhaps within a year. Level 4 geo-fenced self-driving vehicles that can only be operated by an Automated Driving System will probably begin in the next few years. But, retail sales to consumers of so-called Level 5 vehicles that can operate anywhere a person can drive a conventional vehicle today is unlikely to happen for several more years. Given how much vehicles cost and how long they last – more than 20 percent of cars on the road today were produced before 2000[3] – vehicles equipped with Level 5 systems will likely not be a majority of the fleet for three more decades. Ubiquity is not projected to occur for at least four decades largely due to the fact that over 260 million light duty vehicles are registered in the U.S. It is also difficult

[3] IHS data compiled by the Auto Alliance

to predict the percentage of vehicle miles traveled in personally owned cars versus ride hailing services. But we do know this: change is coming – and it is coming rapidly.

Point 3 – Self-driving vehicles will usher in a mobility era that offers profound social benefits. Self-driving technologies will potentially save thousands of American lives annually, addressing a large portion of roadway fatalities and crashes associated with human error. Cars with self-driving features also offer huge quality of life benefits – access for the disabled and elderly; time saved by being driven rather than driving so the commuting time can be spent on more productive activities; and the increased freedom that comes from quicker trips due to less congestion. Moreover, these technologies offer considerable economic benefits – less congestion, fewer injuries and medical claims, lower fuel costs, increased productivity, and better land use. The impact on cities may well be enormous. New communities and municipalities are eager to modernize their mobility patterns and learn where new mobility options are headed so they can begin the infrastructure build-out that could take a decade to complete. They want to prepare for tomorrow, today. Congress and the House Energy and Commerce Committee in particular has a long history of understanding the need for and benefits related to uniformity as a building block for innovation – just look at the railroad, aviation, telecommunication sectors and the Internet – all of which have spurred tremendous innovation, social benefits and U.S. leadership.

Point 4 – The rate of technological growth is faster than the rate of regulation and also confuses traditional regulatory responsibilities. Self-driving vehicle technologies will generate disruptions and challenges; no transition is ever easy. However, this is a transition this Committee should seek to accelerate, because the societal benefits are clear.

The last NHTSA Administrator, Mark Rosekind, was fond of saying that government must be nimble and flexible because it is difficult for the regulatory process to keep up with the rapid pace of innovation. Furthermore, not enough data is in hand to initiate the rulemaking process to create new standards for self-driving vehicles. If NHTSA were to prematurely set rules today, it would stifle innovation. The foundation of the Federal Automated Vehicles Policy (FAVP) that the Department of Transportation released last September is sound – relying on overarching guidance rather than rigid rules and seeking to clarify the division of responsibilities between states and the federal government. Nevertheless, additional federal leadership is required here.

With conventional vehicles, the states regulate the driver and the federal government regulates the vehicle. This division of responsibility still generally makes sense today for self-driving vehicle technologies, especially since a patchwork of differing safety and performance standards or other impediments from state to state, and even city to city, is a recipe for delayed deployment and realization of the safety and mobility benefits these technologies offer. Take for instance the fact that so far this year, there have been 70 different legislative proposals in 30 states that address self-driving vehicles. As we meet today, the U.S. lacks a critical uniform national framework to advance these technologies as was established before in the development of other key innovations. In fact, as other countries are moving to create uniform national structures, the U.S. has been moving in precisely the opposite direction, and accordingly, risks falling behind in this highly competitive area.

Federal leadership and clear rules of the road are essential, especially to underscore NHTSA's authority to issue nationwide safety and performance regulations for motor vehicles. America is the true innovation leader in this field − at least for now. It is in the national interest to protect that advantage. More importantly, members of the Auto Alliance share the belief that lives could be lost and that safety improvements will be delayed without your help.

Point 5 - The key question this Committee must ask is how to use public policy to optimize the safe deployment of these vehicles and their promise of social good, while continuing to let innovation spur economic growth?

Here are a few thoughts on the draft bills released recently:

1. It is critically important to expand the number and duration of the Federal Motor Vehicle Safety Standard (FMVSS) exemptions that NHTSA can grant under the Safety Act. There are existing safety standards that serve as direct barriers to the deployment of self-driving vehicles. Without providing NHTSA expanded authority to grant exemptions from these standards, traditional auto manufacturers and other developers will not be able to deploy the technology at a scale necessary to collect more robust real-world data to inform future regulatory action. Given the lengthy rulemaking process, NHTSA should also initiate rulemaking to update these standards to remove the barriers for self-driving vehicles.

   The existing FMVSS for conventional vehicles have served the public well. Because they were intended for vehicles with human drivers, however, they are ill-suited for vehicles with self-driving technologies. Alliance members also believe the process to modernize

conventional vehicle FMVSS for self-driving vehicles could be informed by the data generated from increased exemptions.

2. By providing a uniform national framework to address concerns about the development of a patchwork of conflicting rules and regulations, the draft legislation seeks to better clarify federal versus state regulatory roles to facilitate innovation and the expeditious deployment of life-saving self-driving technologies. This will provide certainty for all stakeholders in this area and ensure that the United States remains the leader in self-driving innovation.

   We support federal clarity that will eliminate impediments to the testing, development, and deployment of self-driving vehicles – particularly any state laws or regulations related to the design or performance of these vehicles. We recognize and continue to support the important role states play in insurance, licensure, registration, and traffic laws and enforcement for such Highly Automated Vehicles.

   Providing federal clarity on rules governing automated motor vehicle design, performance and safety does not mean there will be a vacuum in oversight with respect to the development and deployment of the technology for both automakers and new entrants. As discussed earlier in my testimony, NHTSA has broad enforcement authority under existing statutes and regulations to address current and emerging automated safety technologies. As evidence, look no further than the Enforcement Bulletin for Emerging Technologies that NHTSA published in concert with the FAVP last September. That document, which is still

operative, outlines NHTSA's authorities and how they apply to self-driving technology including software, hardware, sensors, GPS and vehicle electronics. For example, NHTSA recently used its extensive investigatory authorities with an aftermarket self-driving technology company named − Comma.ai − to ensure it was compliant with regulations before the product could be offered for sale.

3. By adopting a forward-leaning approach to the development and deployment of self-driving vehicle technologies, the draft legislation sends a clear signal **that will help foster greater public acceptance**. It also sends a clear and unambiguous signal to states and cities that will help trigger the planning necessary for adjusting to these new technologies.

The fact that we are all here today having this conversation is tremendously encouraging. I would like to reiterate the Alliance's and its members' appreciation of the Committee's work and leadership to date and indicate our eagerness to continue being a collaborative, thoughtful partner. The Alliance and its members look forward to providing constructive feedback on your ideas with a view towards passing critically important bipartisan legislation.

I began my testimony today by referencing the important bills that Presidents Eisenhower and Johnson signed, working with Congress on vital and transformative transportation and mobility policy. Those landmark legislative measures clarified state and federal roles and demonstrated that public policy can literally move a nation, improving safety and mobility in the U.S. for decades. We stand today at our own inflection point in history. I would suggest that this Committee and this Congress faces a similar moment – a chance to drive our nation forward in a

way that will generate enormous social and economic benefits for decades and generations to come. While there are challenges associated with this revolution in mobility, the net potential impact is so powerful that we are wise to push forward.

The decisions this Committee will make later this summer hold the possibility to foster a second great revolution in American mobility and auto safety. Although analysts do not expect self-driving vehicles to be ubiquitous until 2055, we can achieve a remarkable public good when we marry the brilliance of innovation with responsible and forward-leaning public policy.

Thank you and I look forward to answering your questions.