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Of The House Energy and Commerce Committee
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Hearing Entitled "Self-Driving Vehicle Legislation"

Chairman Latta, Ranking Member Schakowsky, and Members of the Subcommittee, thank you for the opportunity to provide the U.S. Chamber's perspective on self-driving vehicles.

The U.S. Chamber of Commerce is the world's largest business federation representing the interests of more than 3 million businesses of all sizes, sectors, and regions, as well as state and local chambers and industry associations.

The Chamber established the Technology Engagement Center (C_TEC) to advance technology's role in the U.S. economy. Our members are excited about the future of technology to drive economic growth and create jobs. C_TEC promotes policies that foster innovation and creativity and sponsors research to inform policymakers, regulators, and the public at large.[i]

Today's hearing takes place at an important time in the development of an emerging technology. With our deep automobile manufacturing experience and our world-leading technology companies, the United States has the potential to define and lead the world in the self-driving vehicle industry. Self-driving vehicles have tremendous potential to make travel safer, enhance

worker productivity, increase transportation efficiency, improve our economy, and increase mobility for the elderly.

However, without solutions and frameworks in place, America runs the very real risk of missing out on the incredible economic and lifesaving potential of self-driving vehicles. This United States is by no means guaranteed to lead the self-driving vehicle industry. In 2013, almost all self-driving vehicle development took place in the United States. On June 15 of 2017, the California Department of Motor Vehicles reported that more than 25% of its permits for self-driving vehicle tester program were issued to foreign companies.[ii] In April of this year, Chinese technology giant Baidu released plans to open source its self-driving vehicle technology in an effort to become the industry leader in self-driving vehicles.

I am here to testify on a vital aspect of this business environment: preemption. The Chamber of Commerce, being the voice of business, has historically supported preemption for all modes of transportation, as transportation is key to healthy interstate commerce. To be competitive in the global self-driving vehicle market, the United States needs to make sure that innovators face a single set of standards as opposed to a patchwork of standards from different states. Without preemption, we risk impeding our innovators and ceding our leadership in this industry.

My testimony today will be supported by the findings from a Morning Consult survey that C_TEC conducted just last week. The survey results are clear:

- Three in five voters support the use of self-driving vehicles;

• Voters are much more likely to support self-driving vehicles when they are told statistics related to traffic fatalities;

• Voters overwhelmingly predict the positive impact of self-driving vehicles on disabled and elderly Americans, as well as on issues of drunk and distracted driving;

• Voters strongly prefer federal standard when it comes to laws governing use of self-driving vehicles, and most agree with its importance regarding safety and state coordination; and

• Voters overwhelmingly say laws governing use of self-driving vehicles should be a bipartisan issue.

Today, I will focus on the following topics. First, I will lay out some of the core principles that regulators should follow to encourage growth and innovation in our economy. Next, I will identify some of the benefits of self-driving vehicles in terms of increased safety, mobility, and job creation. I will then explain in detail the regulatory needs of the industry, including preemption, and how they are necessary for U.S. entrepreneurs to stay competitive.

To start, it is important for me to lay out principles that will encourage growth in the self-driving vehicle industry. Emerging technologies such as self-driving vehicles are facilitators. They enable growth across many sectors of our economy, from transportation companies, to energy companies, to finance and investment companies, to even medical companies. Almost all industries today rely on technology to interact with their customers, improve their services, and make their operations more globally competitive.

To achieve growth in emerging technologies, our leaders have to make sure to keep their eyes on three overarching principles:

1) Encouraging emerging technologies to get to the open market, not stifling them before they can even be tested;
2) Maintaining one national standard rather than a patchwork of state regulations, a patchwork which will lead to uneven solutions; and
3) Preserving the ability of inventors and creative companies to fully utilize data and iterative learning from that data to produce technologies to better American lives.

My testimony focuses on the first and second of these principles: encouraging emerging technologies to come to market and maintaining a single set of regulations. To understand and fully appreciate the policy implications of these rapidly emerging technologies, C_TEC believes we need to bring together diverse perspectives on a host of related topics. We cannot think of these issues as "technology" industry specific. That is why C_TEC's Autonomous Vehicles Working Group co-chairs and members draw from a broad cross-section of business experience – from pure-play technologies to automakers to insurance and more. Each has something to offer in this conversation. Our three co-chairs are in fact from Allstate, INRIX, and Intel – each representing a very different perspective on the future of self-driving vehicles.

C_TEC's AV working group has already engaged on self-driving vehicle guidance with the National Highway Traffic Safety Administration and connected devices before the National Institute of Standards and Technology and the House Energy and Commerce Committee.

Our AV working group has been convening conversations and partnerships with stakeholders to help guide policymakers, regulators, the public at large and the business community on the benefits of self-driving vehicle technologies. It is already clear that four things will result from the incorporation of self-driving vehicles onto our highways:

1) a significant decrease in highway fatalities;
2) improved efficiency for businesses and consumers;
3) improved quality of life for currently homebound populations – namely America's seniors and individuals with mobility impairments; and
4) faster and cheaper delivery of goods to consumers.

To underscore these benefits, let me quote from C_TEC member Intel's recent testimony before Congress: "[our] vision for the future of transportation is one of zero accidents, mobility for all, environmental sustainability, reduced congestion, increased efficiency and innovation that evolves at the pace of technology to ensure U.S. global leadership."[iii]

Let us begin, as always, with safety first.

Right now in the United States, there are approximately 38,000 vehicle accident deaths a year. Overall, we have seen improved statistics on vehicle deaths in the last decade, but in 2015 alone, traffic fatalities rose by the largest percentage in 50 years.

National Highway Traffic Safety Administration research suggests that 93% of accidents are caused by human error and the increasing role of driver distraction in accidents has become a

topic of national debate. In 2012, driver distraction was identified as the primary cause of over 3,000 deaths and 421,000 injuries, figures up 9 percent from the year before.

A recent INRIX study of consumer experiences and attitudes around connected cars and self-driving vehicles shows that vehicle safety and technology's solutions are very much on consumers' minds. When INRIX asked for the most desired new car feature, respondents replied overwhelmingly: blind spot warning. The next most popular answers were also ones to which technology integration and the internet of things will be key: stolen vehicle warning/tracking, night vision enhancement, road incident alerts and resulting re-routing, and alerts to rear or front collisions. INRIX also found that 73 percent of those surveyed expect self-driving vehicles to be as safe as or safer than today's cars.

In the age of technology, we can combat vehicle accident deaths and driver distraction.

Just this month, Intel and Strategy Analytics released a report on the new "Passenger Economy" that will result from self-driving vehicles. It states a number of safety improvements that the U.S. could see with the emergence of self-driving vehicles:

- Conservatively, 585,000 lives can be saved due to self-driving vehicles in the era of the Passenger Economy from 2035 to 2045.
- Reductions in public safety costs related to traffic accidents could amount to more than $234 billion over the Passenger Economy era.

In 2015 a study by the University of Michigan's Transportation Research Institute found that while driverless cars were more likely than human-operated vehicles to get into accidents, all of those accidents were the fault of the human drivers of other cars. None of the driverless cars caused an accident and the authors of the study said that often, the driverless cars were struck because they were adhering to traffic laws, only to get rear-ended by an inattentive human in a conventional car.[iv]

In 2016, Allstate announced a multi-year research agreement with the Intelligent Systems Laboratory at Stanford University to help pave a way for safer roads. Allstate's Director of Innovation and Research said "(w)e see a self-driving vehicle future more as a matter of when, not if, and we want to be prepared to best serve our customers no matter who or what is behind the wheel. Allstate has long supported auto highway and safety reforms like seat belts, air bags and teen driver education. This is the logical next step as driverless technology continues to evolve."

Self-driving vehicles also have the potential to restore the mobility of those who cannot drive a car. This includes mobility impaired individuals or Americans with circumstances that leave them dependent on others.

Additionally, self-driving vehicles also present an opportunity to make our lives more productive. In 2016, research by Allstate showed the country's transportation network is highly inefficient, with vehicles sitting idle for most of the day. Allstate's CEO said "even moderate increases in effectiveness and efficiency have the potential to raise household income by 5

percent annually. I know of no other economic opportunity to generate this much wealth for Americans. Now, Allstate is leaning in to this opportunity."[v]

Lastly, self-driving vehicles also offer immense economic opportunity. The Chamber is proud to have had a long history of developing solutions that have brought growth and prosperity to this nation. The Chamber sees self-driving vehicles as another growth opportunity. A study by Intel completed just this month shows that the economic opportunity from self-driving vehicles will grow from $800 billion to $7 trillion as self-driving vehicles become mainstream. The same study finds that by 2050, the passenger economy will be a $7 trillion global industry. [vi] Consumer use will account for about $3.7 trillion of that industry as consumers will continue to seek out self-directed personal mobility. Business use will generate $3 trillion as industries use self-driving vehicles to reshape their businesses and leverage new opportunities.

Intel's study also shows that self-driving vehicles will spur change across a range of industries. For example, self-driving vehicles could define a new landscape of concierge and ride-hailing services, as well as pilotless vehicle options for businesses in industries like package delivery and long-haul transportation. The study shows that new and emerging applications and services will account for $203 billion in revenues from new use cases. [vii] Self-driving vehicles will also empower the commercial transportation industry too, reducing the time and cost of transporting goods.

I have laid out some of the benefits that self-driving vehicles can bring to communities all over the United States. I will now explain some of the regulatory steps that need to be taken to ensure that these benefits come to fruition.

As a core principle, C_TEC believes that government actions in this new area must be grounded in the realities of the complex and fast-changing self-driving vehicle testing and development process in order to foster rather than hinder investment and innovation.

As C_TEC member Qualcomm has noted previously, "much is unknown about the future uses" of emerging technologies. For this reason, "the U.S. Government should tread very carefully in the legislative and regulatory space to let any and all innovative, and potentially ground-breaking, technologies be freely developed."

To promote growth and innovation, C_TEC recommends five courses of action. First, regulations should be technology-neutral. Regulators must avoid even the accidental adoption of technology-specific processes for research and testing of self-driving vehicles. Doing so would run the potential risk of the U.S. government indirectly picking technology winners and losers by approving one manufacturer's system quickly while delaying another's time to market. Standards need to be voluntary and carefully designed so that they do not constrain innovation.

Second, there is another danger inherent in too much specificity in government standards. Regulators, even federal ones like NHTSA, cannot always be up to speed on the newest

technologies— it is just too difficult to build that kind of expertise given the fast pace of industry innovation.

The National Highway Traffic Safety Administration itself admits that "[g]iven the newness of HAVs and the private sector demand for persons with the necessary types of scientific expertise to work with those technologies, there is a shortage of suitable candidates to meet the Agency's critical hiring needs."[viii]

As a result, too much specificity in frameworks at this time without technical expertise to advise and review could prevent new life-saving technologies from entering the marketplace. A responsive and flexible regulator would give manufacturers the ability to quickly perfect critical new tools, both protecting consumers and keeping the industry competitive.

Third, exemptions in this industry will be critical. Entrepreneurs should be given the time and opportunities they need to develop new products. Exemptions should be granted by regulators to ensure that entrepreneurs can test new technology. Without adequate exemptions, innovators will struggle to even have the opportunity to test new technology and will not be able to compete with foreign companies in this highly competitive market.

Fourth, as has long been the practice, the government should consider defining objective performance standards for automobiles, and leave to manufacturers the important job of meeting those obligations and certifying compliance.

Finally, perhaps most importantly, a single set of federal standards is necessary for this industry to develop. While states would remain responsible for traditional state roles such as licensing, registration and insurance, a federal standard is important to ensure vehicles are able to seamlessly travel across state lines, adhere to common safety standards, and keep the U.S. competitive on a national scale.

The Chamber has historically supported federal preemption regulations for all modes of transportation, and supports preemption regulations for self-driving vehicles. Avoiding a patchwork of state laws enables manufacturers to be more innovative and ensures that any safety-enhancing automated vehicle technologies will be available throughout the country. To effectively support the development of self-driving vehicles and the safety benefits they will bring, it is important to avoid creating conflicts from multiple sets of standards.

Without a federal standard, we have seen in other industries that state laws and regulations rapidly become unnecessarily complex, time consuming, and costly – not to mention conflicting between states.

To conclude, the Chamber supports the development of voluntary standards that do not constrain innovation. The Chamber advocates for technology-neutral policies that will allow new technology to develop, and recommends against policies that are too specific. The Chamber also supports exemptions and recommends that regulatory agencies work closely with the industry to craft standards. Finally, the Chamber strongly supports preemption, as a patchwork of state regulations threatens the competitiveness of U.S. companies.

C_TEC and our members are ready and willing to engage constructively with Congress and the administration on these issues. Technology affects all of us, so C_TEC also strongly believes in the importance of working with both parties on these issues. We are here to serve as a resource to this committee and your colleagues to construct a framework to expand economic opportunities and develop forward-thinking policies in these areas. Thank you for this opportunity and I looked forward to your questions.

[i] This C_TECH description is pulled from: https://www.uschamber.com/press-release/us-chamber-report-data-centers-average-325-million-economic-impact

[ii] https://www.dmv.ca.gov/portal/dmv/detail/vehindustry/ol/auton_veh_tester

[iii] Prepared Statement for the Record of Intel Corporation, U.S. Senate Hearing on "How the Internet of Things Can Bring U.S. Transportation and Infrastructure into the 21st Century," at 4 (June 28, 2016), https://www.commerce.senate.gov/public/_cache/files/46c728ce-377e-40609cac-55db2230ddf8/17D163EB418271C1D3BBC8D572D589EE.doug-davis-testimony.pdf

[iv] http://fortune.com/2015/10/29/self-driving-cars-crash/

[v] http://www.insurancejournal.com/news/national/2016/09/14/426275.htm

[vi] https://newsroom.intel.com/newsroom/wp-content/uploads/sites/11/2017/05/passenger-economy.pdf

[vii] https://newsroom.intel.com/newsroom/wp-content/uploads/sites/11/2017/05/passenger-economy.pdf

[viii] [Federal Automated Vehicles Guidance at 82.]