

Testimony of Gary Shapiro, President and CEO, Consumer Technology Association  
Self-Driving Vehicle Legislative Framework: Enhancing Safety, Improving Lives and Mobility, and  
Beating China  
House Energy and Commerce Subcommittee on Innovation, Data and Commerce  
July 26, 2023

Chair Bilirakis, Ranking Member Schakowsky and members of the Subcommittee, thank you for the opportunity to testify today. I am Gary Shapiro, president and CEO of the Consumer Technology Association (CTA)<sup>®</sup>.

The Consumer Technology Association represents the \$422 billion U.S. consumer technology industry, which supports more than 18 million U.S. jobs. CTA's membership is over 1200 American companies – 80% of which are small businesses and startups. We also own and produce CES<sup>®</sup>, the world's most powerful technology event. For four decades, I have been fortunate to lead the industry association as American entrepreneurs at both start-ups and big companies developed and introduced innovative and life-changing products and services, created jobs and grew the economy. I have appreciated how our government, especially Congress, has fostered American innovation leadership by removing barriers and roadblocks to innovation and rejected demands by legacy industries for laws and regulations that would impede new products and services.

Over the past several decades, CTA's efforts ensured the legality of VCR recording technology, guided the transition to the world's best HDTV system, helped create a global legal framework for the commercial Internet, advocated opening GPS for commercial use, led efforts to allow a robust drone industry, spearheaded the effort to create "airplane mode" and developed scores of standards for newer technologies such as video streaming, wearables and health technology devices. Last week, the Biden administration announced a multi-stakeholder effort, advanced by CTA, to create the U.S. Cyber Trust Mark, a cybersecurity labeling program for consumer devices that meet certain standards.

As part of our mission to further American innovation, CTA represents over 100 companies in the diverse vehicle transportation ecosystem, including those developing and deploying highly automated and self-driving technologies. Since I last appeared before the Subcommittee in 2020, the range of business models enabled by these self-driving technologies has grown. CTA represents companies providing services from ride-hailing and transit applications to neighborhood package delivery and short-haul and long-haul trucking.

The self-driving vehicle (SDV) industry offers huge economic benefits for the United States — generating up to \$796 billion by 2050, according to a study by Securing Americas Future Energy.<sup>1</sup> In the next twelve years alone, this market could create \$300 to \$400 billion in revenues globally.<sup>2</sup> More, we expect reduced energy use, including fossil fuels, as cars spend less time idling in traffic and improved productivity as commuters spend their time working

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<sup>1</sup> [https://avworkforce.secureenergy.org/wp-content/uploads/2018/06/Americas-Workforce-and-the-Self-Driving-Future\\_Realizing-Productivity-Gains-and-Spurring-Economic-Growth.pdf](https://avworkforce.secureenergy.org/wp-content/uploads/2018/06/Americas-Workforce-and-the-Self-Driving-Future_Realizing-Productivity-Gains-and-Spurring-Economic-Growth.pdf)

<sup>2</sup> <https://www.mckinsey.com/industries/automotive-and-assembly/our-insights/autonomous-drivings-future-convenient-and-connected#/>

rather than driving. Self-driving vehicles will require fewer parking structures, opening new areas for green space and development.<sup>3</sup> Consumers want the benefits SDVs offer. According to CTA research, two-thirds of U.S. adults are interested in replacing their cars with self-driving vehicles.<sup>4</sup>

The possibilities for progress are inspiring. Realizing them will be driven not just by our great American entrepreneurial spirit and the desires of American consumers, but the efforts of American businesses working to propel self-driving technologies forward.

American companies are already all-in. At least 80 companies are testing self-driving vehicles across 30 states, including California, Arizona, Georgia, Pennsylvania, Florida, Texas and Michigan. Cruise vehicles have operated over 1 million driverless miles.<sup>5</sup> Waymo's autonomous ride-hailing service is operating 24/7 to citizens in the metro-Phoenix area.<sup>6</sup> Just last week, Aurora announced \$820 million in capital raise, representing the third-largest tech equity transaction of 2023.<sup>7</sup> Kodiak's autonomous trucks deliver 50 loads a week in Texas, up to Oklahoma City, and East to Atlanta for partners including IKEA and Tyson Foods.<sup>8</sup>

Certainly, we share a vision for our nation as the leader in technology. America must remain the "shining city on the hill" for innovators to call home as they dream big, start companies, and improve lives.

To lead in the self-driving industry, or any new area of technology, government must remain engaged to help American companies compete globally. In this case, the solution is simple: passing legislation which unanimously passed the House of Representatives in 2019. Sadly, that legislation stalled in the Senate because of lobbying efforts and broken promises on the House compromise by those who make billions annually from avoidable death and injury on American roads. To keep America in the game and accelerate development and scaling in the U.S. rather than abroad, Congress must pass and the President must sign legislation creating a federal SDV framework for development and deployment.

Beyond the economic benefits, SDVs will make our roadways safer for both drivers and other roadway users. SDVs cannot become distracted, fatigued or impaired, have a 360-degree view around the vehicle, and use technologies to identify roadway risks easily missed by human drivers. Nearly 43,000 people died on U.S. roads in 2022 – more than 115 traffic deaths per day – and 94% of serious crashes are due to human error.<sup>9</sup> Every family who has lost a loved one to a crash caused by speeding or drunk or distracted driving cares deeply about this issue. The status quo is unacceptable and can no longer be tolerated.

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<sup>3</sup> [Autonomous Vehicles And Their Impact On The Economy \(forbes.com\)](https://www.forbes.com)

<sup>4</sup> <https://shop.cta.tech/collections/research/products/self-driving-vehicles-consumer-sentiment-2021>

<sup>5</sup> [Cruise's Safety Record Over 1 Million Driverless Miles | Cruise \(getcruise.com\)](https://www.getcruise.com)

<sup>6</sup> [Self-Driving Car Service - Ride-Hailing in Phoenix, AZ - Waymo](https://www.waymo.com)

<sup>7</sup> [Why Wall Street is Backing Aurora](https://www.wallstreetjournal.com)

<sup>8</sup> <https://www.cnn.com/2022/10/18/ikea-kodiak-robotics-test-driverless-trucks-in-texas.html>

<sup>9</sup> <https://www.nhtsa.gov/press-releases/traffic-crash-death-estimates-2022#:~:text=The%20National%20Highway%20Traffic%20Safety,42%2C939%20fatalities%20reported%20for%202021>

By avoiding the traffic violations that cause so many accidents, self-driving technology has the potential to significantly reduce roadway fatalities and save thousands of lives a year. Some have argued that SDVs should not be deployed until the systems are perfect. That argument delaying deployment is costing American lives today. SDV systems that are even 10% better than human drivers will deliver significant public safety benefits.

SDV technology will also empower millions of Americans, providing greater independence and mobility for seniors and people with disabilities. For many people with disabilities, a lack of accessible transportation remains a significant barrier to employment. That's one reason disabled individuals have significantly lower workforce participation rates than their non-disabled peers – 21% vs. 67%. A study from the National Disability Institute found that SDV deployment in the U.S. could create 4.4 million jobs for people with disabilities and 9.2 million total jobs across the U.S. while adding \$867 billion to the U.S. GDP and \$1.6 trillion to U.S. output.<sup>10</sup> More, this technology's positive impact on the quality of life for mobility-challenged individuals goes beyond what can be captured in economic statistics.

Global competition in this sector is fierce and growing. The U.S. is now in the lead, but adversaries and allies alike know where the U.S. is struggling to keep pace and are gunning to seize U.S. market share. China has emerged as a formidable player in the sector, with huge state support and funding driving technology advances and adoption by consumers.<sup>11</sup> The Chinese government has prioritized SDVs as a strategic industry, allocating substantial resources to expand its influence and overtake the United States as the world leader in the sector. To counter the huge financial support and avoid reliance on foreign-made systems, we must be smarter. We must set national goals and ensure the development and deployment of self-driving vehicles aligned with our broader national interests of creating jobs, boosting economic growth, and strengthening America's position in the global market.

Since early 2021, the United States federal government has emphasized promoting electric vehicles. We ask the federal government to expand its efforts to include self-driving vehicles. This is consistent with, and may even be necessary to ensure, the United States meets currently established electric vehicle goals. In time, SDVs may be lighter, less expensive to manufacture, and electric SDVs may eventually use a smaller battery. To ensure a balanced approach to sustainable transportation, the federal government must foster the growth of self-driving vehicles alongside the continued promotion of electric mobility.

Congressional action now is particularly critical. Pioneering American companies have encountered significant market challenges, with several closing or seeking acquisitions by larger players in the market to bolster their autonomous capabilities. Argo AI, a Pennsylvania-based company backed by investments from Ford Motor Company and Volkswagen AG, shut down in

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<sup>10</sup> <https://www.nationaldisabilityinstitute.org/reports/autonomous-vehicle-adoption/>

<sup>11</sup> <https://www.reuters.com/technology/china-drafts-rules-use-self-driving-vehicles-public-transport-2022-08-08/>

2022.<sup>12</sup> Local Motors, an Arizona-based SDV company, filed for bankruptcy in 2022.<sup>13</sup> It is alarming that American companies are struggling to succeed at home.

While not every entrant into a nascent market can or will succeed, part of the challenge every player in the U.S. SDV market faces is an absence of clear and consistent rules fostering innovation and investment across the United States. Thirty-four states and the District of Columbia have enacted laws, executive orders, or programs expressly permitting a mix of testing and deployment of SDVs, but under varying conditions and restrictions. Federal and state governments have different roles in the deployment of SDVs – and the expanding patchwork of local rules across the country will only delay SDV deployment and hinder America’s global technological leadership. The setbacks some American companies faced, and others face now, tell us that inaction over the last two Congresses has contributed to an unstable landscape for American self-driving vehicle companies.

This Committee knows the benefits and opportunities self-driving vehicles can provide. In the 115th Congress, you led a bipartisan effort to advance legislation on self-driving vehicles. CTA strongly supported the SELF DRIVE Act, which passed both this Committee and the House unanimously. While politics got in the way of getting it across the finish line, we are encouraged by the continued efforts of this Committee and the Department of Transportation to move our country forward. We cannot afford for this process to be further delayed.

We applaud the Committee for building upon that bipartisan effort to move legislation addressing SDVs in this Congress by considering both majority and minority legislation. For self-driving vehicles to save lives and empower seniors and people with disabilities, we urge Congress to confront the realities that must be addressed in self-driving vehicle legislation:

**Rulemaking, including updating existing standards and setting new standards;**

- The Federal Motor Vehicle Safety Standards (FMVSS) were created when the driving task was assumed to be performed by a human driver. As a result, standards are typically drafted in a way that directly or indirectly refer to vehicle controls being operated by a human. Current FMVSS limit the ability to make significant changes to vehicle design, which can preclude truly innovative approaches to fully self-driving vehicles. NHTSA should evaluate the FMVSS and update outdated standards. NHTSA should retain flexibility to update existing FMVSS to allow for self-driving vehicles, create new FMVSS, or a combination of both options. Additionally, NHTSA should update its test procedures for certifying compliance in a world where humans are not always the direct operators. A timeline for NHTSA to complete rulemakings will help industry’s long-term planning.

**Federal, State and Local Roles and access to courts;**

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<sup>12</sup> <https://triblive.com/business/technology/ford-cuts-investment-in-autonomous-vehicle-unit-posts-loss/>

<sup>13</sup> <https://www.wvlt.tv/2022/03/24/autonomous-vehicle-company-local-motors-goes-out-business/>

- The federal government holds responsibility for regulating vehicle safety and performance standards (FMVSS), recalls and issuing guidance for manufacturers to follow. States regulate insurance and liability, vehicle safety inspection, vehicle registration, human driver licensing requirements and enacting and enforcing traffic laws. Any legislation should follow this division of responsibility and ensure the federal government remains solely responsible for regulating vehicle safety and performance standards.
- CTA opposes limiting the use of arbitration, a legal mechanism used to reduce the cost of litigation for both companies and consumers and provide more timely remedies for everyone involved in a dispute. There is no clear public policy reason to narrow it in the context of SDVs, and we should not make changes to the Federal Arbitration Act.

### **Testing Expansion;**

- Congress should expand eligibility of the FMVSS testing exemption created in the FAST Act (40 USC 30112) to provide parity among automobile manufacturers (OEMs), suppliers, manufacturers of automated driving systems (ADS) components, and developers of automated driving vehicles and automated driving systems (ADS).

### **Exemptions;**

- NHTSA can exempt vehicles from existing FMVSS to allow for testing of new vehicle designs and safety features, and for the limited sale of such vehicles. Exemptions are now available to vehicle manufacturers only on a temporary basis, typically two-to-three years. Only a small number (2500) of exemptions are available. Expanding NHTSA's exemption authority would allow manufacturers and other entities to gather the data they need to improve safety and performance while preserving the agency's oversight authority through the terms and conditions of individual exemptions. CTA supports an exemption procedure that directs the U.S. Department of Transportation to determine whether to approve or deny an exemption application in a timely manner. The exemption process must be available to all petitioners (e.g., traditional OEMs, suppliers, tech companies, and new entrants) on a level playing field.

### **Global Competitiveness;**

- Congress should emphasize the need for federal legislation to remain globally competitive and maintain our leadership position in automotive innovation and safety. Regulations rolled out in 2018 by the Chinese Industry Innovation Alliance for Intelligent and Connected Vehicles set consistent rules for SDV development throughout the country.<sup>14</sup> China declared the Regulations on the Administration of Road Testing of Autonomous Vehicles to advance the transformation, upgrading and innovation of transportation, and regulate the administration of road testing of self-driving vehicles in

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<sup>14</sup> <https://www.cta.tech/Advocacy/Innovation-Scorecard/International-Scorecard/Map/>

2018.<sup>15</sup> Japan's Ministry of Economy, Trade and Industry and the Ministry of Land, Infrastructure, Transport and Tourism opened roads to Level 4 self-driving vehicles in 2023.<sup>16</sup> In 2019, the European Union's Vehicle General Safety Regulation established the legal framework for the approval of self-driving vehicles across the region.<sup>17</sup> SDVs will drive demand for cutting-edge software and hardware development, thereby fostering innovation and driving growth in other technology-related industries.

By embracing self-driving vehicles, Congress can strengthen American technological leadership and ensure a safer, more inclusive and equitable transportation system. On behalf of CTA, I appreciate the opportunity to testify before the Subcommittee and highlight the urgent need for legislation unlocking self-driving technology.

We look forward to working with you to advance legislation enabling the development and use of vehicles that will make our roads safer.

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<sup>15</sup> <https://www.dentons.com/en/insights/guides-reports-and-whitepapers/2020/january/29/global-guide-to-autonomous-vehicles-2020>

<sup>16</sup> <https://www.iotworldtoday.com/transportation-logistics/japan-to-greenlight-self-driving-vehicles-in-2023>

<sup>17</sup> [https://ec.europa.eu/commission/presscorner/detail/en/ip\\_22\\_4312](https://ec.europa.eu/commission/presscorner/detail/en/ip_22_4312)