



MEMORANDUM

May 14, 2021

To: Subcommittee on Consumer Protection and Commerce Members and Staff

Fr: Committee on Energy and Commerce Staff

Re: Hearing on “Promises and Perils: The Potential of Automobile Technologies”

On Tuesday, May 18, 2021, at 10:30 a.m., via Cisco WebEx online video conferencing, the Subcommittee on Consumer Protection and Commerce will hold a hearing entitled, “Promises and Perils: The Potential of Automobile Technologies.”

I. BACKGROUND

Automobile fatalities remain one of the leading causes of death in the United States.¹ Preliminary data from the National Safety Council indicate that over 42,000 people were killed and 4.8 million people were injured in motor vehicle crashes in 2020, despite dramatic decreases in the number of cars on the road.² These automobile fatalities and injuries impose a nearly \$500 billion cost on society every year.³

II. ADVANCED DRIVER ASSISTANCE SYSTEMS

Advanced driver assistance systems (ADAS), such as automatic emergency brakes, blind spot detection, and lane departure warning, are suites of safety technologies that monitor a vehicle’s surroundings and automatically respond to human error or unsafe road conditions. If adopted on all vehicles, existing ADAS systems could save 16,800 to 20,500 lives per year.⁴ ADAS systems are not required equipment on passenger motor vehicles nor must they meet specific performance standards. Deployment of these systems has been slow and performance

¹ *Death Index: Top 59 Ways Americans Die*, CBS News (Mar. 31, 2021).

² National Safety Council, *Injury Facts, Preliminary Semiannual Estimates* ([www.injuryfacts.nsc.org/motor-vehicle/overview/preliminary-estimates/#:~:text=The%20National%20Safety%20Council%20\(NSC,8%25%20from%2039%2C107%20in%202019.&text=The%20estimated%20mileage%20death%20rate,24%25%20from%201.20%20in%202019\)](http://www.injuryfacts.nsc.org/motor-vehicle/overview/preliminary-estimates/#:~:text=The%20National%20Safety%20Council%20(NSC,8%25%20from%2039%2C107%20in%202019.&text=The%20estimated%20mileage%20death%20rate,24%25%20from%201.20%20in%202019)) (accessed May 3, 2021).

³ *Id.*

⁴ Consumer Reports, *Safety First: Car Crashes, Innovation, and Why Federal Policy Should Prioritize Adoption of Existing Technologies to Save Lives* (June 29, 2020).

varies across vehicle models.⁵

III. AUTONOMOUS VEHICLES

Autonomous vehicles (AVs) use sophisticated suites of sensors, systems, and software, to perform the entire driving task without human intervention.⁶ AVs have the potential to reduce crashes attributable to human error and expand mobility for the elderly, disabled, and those who lack access to public transportation.⁷ AVs are currently in the research and development phase, with hundreds of vehicles being tested on public roadways across the country.⁸

A. Deployment and Standards

Companies that manufactured vehicles as of 2015 can deploy AVs without traditional human controls (e.g., steering wheels, brake pedals, and rearview mirrors) solely for testing.⁹ The Secretary of Transportation can grant a manufacturer an exemption to sell or deploy a limited number of AVs that do not comply with existing safety standards.¹⁰ Before granting an exemption, the Secretary must make an affirmative determination that the exemption would provide a minimum level of safety.¹¹

Under existing law, state and local governments are preempted from prescribing or continuing in effect any safety standard that conflicts with a federal motor vehicle safety standard.¹² As there are no federal safety standards regulating the automated driving system—the sensors and software that perform the driving task of an AV—state and local governments are free to set standards related to many elements of the design, construction, or performance of AVs.

B. Safety

In March 2018, a pedestrian was struck and killed by a self-driving Uber vehicle—the

⁵ *Id.*; Insurance Institute for Highway Safety, *Vehicle Ratings* (www.iihs.org/ratings) (accessed May 9, 2021).

⁶ Department of Transportation, *Federal Automated Vehicles Policy: Accelerating the Next Revolution in Roadway Safety* (Sept. 2016).

⁷ *Id.*

⁸ National Science and Technology Council and Department of Transportation, *Ensuring American Leadership in Automated Vehicle Technologies* (Jan. 2020); National Highway Traffic Safety Administration, Test Tracking Tool (www.nhtsa.gov/automated-vehicle-test-tracking-tool) (accessed May 11, 2021).

⁹ 49 U.S.C. § 30112(b)(10).

¹⁰ 49 USC § 30113.

¹¹ *Id.*

¹² 49 USC § 30103.

first pedestrian death associated with fully self-driving technology.¹³ A National Transportation Safety Board (NTSB) investigation faulted Uber’s inadequate safety culture and recommended additional government oversight and guidance for testing.¹⁴ The NTSB has also investigated several crashes involving Tesla vehicles operating in ‘autopilot’ mode, finding that such vehicles face limitations that create safety risks.¹⁵ In February, the NTSB sent a letter to NHTSA calling on the auto safety agency to prescribe “sensible safeguards, protocols, and minimum performance standards” for ADAS systems and lower levels of automation to create a “foundation” for the regulation of AVs.¹⁶ In April, two people were killed in a Tesla that, according to local authorities, had no one in the driver’s seat.¹⁷ Tesla has disputed the claim that the vehicle was operating in autopilot mode.¹⁸ One week ago, a video emerged of a person sitting in the back seat of a driverless Tesla operating on public roads in California.¹⁹

C. Workforce

In the United States, about four million people are employed as drivers, including heavy truck and tractor-trailer drivers; light truck drivers; passenger vehicle drivers; driver and sales workers; bus drivers, transit, and intercity workers; ambulance drivers; and other motor vehicle operators.²⁰ AV developers are already deploying self-driving cars for ride-hailing, transit, and delivery, with experts projecting that AV fleets could become the dominant delivery option.²¹

¹³ *Self-Driving Uber Car Kills Pedestrian in Arizona, Where Robots Roam*, New York Times (Mar. 19, 2018).

¹⁴ National Transportation Safety Board, *Collision Between Vehicle Controlled by Developmental Automated Driving System and Pedestrian Tempe, Arizona March 18, 2018* (Nov. 19, 2019) (NTSB/HAR-19/03)

¹⁵ Letter from Robert L. Sumwalt, III, Chairman, National Transportation Safety Board, to the Department of Transportation (Feb. 1, 2021) (Docket No. DOT-NHTSA-2020-0106); Tesla, *Future of Driving*, (www.tesla.com/autopilot) (accessed May 9, 2021); National Transportation Safety Board, *Collision Between a Sport Utility Vehicle Operating with Partial Driving Automation and a Crash Attenuator* (Mar. 23, 2018) (NTSB/HAR-20/01).

¹⁶ *Id.*

¹⁷ *Tesla is Casting a Spotlight on the Government’s Struggle to Keep Up With Self-Driving Cars*, Vox (May 12, 2021) (www.vox.com/recode/22425169/autonomous-features-cars-elon-musk-autopilot).

¹⁸ *Id.*

¹⁹ *Id.*

²⁰ Bureau of Labor Statistics, *Occupational Employment and Wage Statistics* (www.bls.gov/oes/home.htm) (accessed May 9, 2021).

²¹ National Highway Traffic Safety Administration, Test Tracking Tool (www.nhtsa.gov/automated-vehicle-test-tracking-tool) (accessed May 11, 2021); KPMG, *Autonomy Delivers: An Oncoming Revolution in the Movement of Goods* (2018).

D. Recourse for Legal Claims Related to AVs

Generally, aggrieved parties can sue in court for a harm caused by a manufacturer or an operator of a vehicle. As AVs are deployed as ride-sharing or delivery vehicles, the party responsible for a crash may become less clear and forced arbitration clauses may become more common, limiting consumers right to sue.²²

IV. DRUNK AND IMPAIRED DRIVING

Drunk driving is the number one cause of death on America's roadways.²³ More than 10,000 deaths are caused by drunk driving each year, with the annual cost of alcohol-related crashes totaling more than \$44 billion per year.²⁴ The average drunk driver has driven drunk 80 times before a first arrest.²⁵

Drunk driving prevention technologies are systems that monitor a driver's performance or passively detect a driver's blood alcohol content to identify impairment and prevent the vehicle from operating. Since 2008, the Driver Alcohol Detection System for Safety (DADSS) Research Program has been researching and developing breath-based and touch-based prototypes.²⁶ Mothers Against Drunk Driving (MADD) has identified more than 180 technologies that could help prevent drunk driving.²⁷

V. VEHICULAR HEATSTROKE

Since 1990, nearly 1,000 children have died from vehicular heatstroke in the United States.²⁸ Technologies that can detect children, pets, or others in the backseat and alert the driver

²² *House Driverless Car Draft Doesn't Touch the Still-Contentious Issue of Arbitration*, Politico (Feb. 12, 2020).

²³ Mothers Against Drunk Driving, *Drunk Driving Impacts Every American. Every Day.* (www.madd.org/the-problem/) (accessed May 2, 2021).

²⁴ National Highway Traffic Safety Administration, *Drunk Driving* (www.nhtsa.gov/risky-driving/drunk-driving#:~:text=In%202019%2C%20there%20were%2010%2C142,year%20in%20drunk%2Ddriving%20crashes) (accessed May 3, 2021).

²⁵ Mothers Against Drunk Driving, *Sober to Start* (www.madd.org/the-solution/drunk-driving/ignition-interlocks/) (accessed May 9, 2021).

²⁶ Driver Alcohol Detection System for Safety, *Home Page* (www.dadss.org/) (accessed May 9, 2021).

²⁷ Mothers Against Drunk Driving, *Report on Advanced Drunk Driving Prevention Technologies* (Jan. 11, 2021).

²⁸ KidsandCars.org, *Child Hot Car Dangers Fact Sheet* (2020).

exist, but they are not yet widely available.²⁹

VI. KEYLESS IGNITION SYSTEMS—CARBON MONOXIDE POISONING AND VEHICLE ROLLAWAY

Since 2006, more than three dozen people have died of carbon monoxide poisoning from a keyless-ignition vehicle—vehicles in which a driver merely pushes a button to start or turn off a car.³⁰ Further, drivers can turn off and exit some keyless ignition vehicles without the car in park, increasing the risk of a vehicle rollaway.³¹ In 2015, 142 people were killed and another 2,000 were injured in vehicle rollaway events.³² NHTSA proposed a rule to address these safety issues in 2011, but the rulemaking has yet to be completed.³³

VII. NEW CAR ASSESSMENT PROGRAM

The New Car Assessment Program (NCAP) provides star ratings for vehicle performance in crash and rollover tests.³⁴ One star is the lowest rating; five stars is the highest.³⁵ The program no longer provides consumers with meaningful comparative information about the safety of vehicles as nearly all vehicles receive a four or five-star rating for frontal and side impact tests.³⁶ In 2015, NHTSA sought comment on proposed updates to NCAP, but has yet to finalize the proceeding.³⁷

VIII. WITNESSES

The following witnesses have been invited to testify:

²⁹ *New Radar Technology Approved by FCC Could Reduce Hot Car Deaths*, Consumer Reports (Apr. 15, 2021).

³⁰ *'Very Smart People,' but a Keyless Car's Downside Killed Them*, New York Times (June 28, 2019).

³¹ *Id.*

³² National Highway Traffic Safety Administration, *Non-Traffic Surveillance: Fatality and Injury Statistics in Non-Traffic Crashes in 2015* (Apr. 2018) (DOT HS 812 515).

³³ National Highway Traffic Safety Administration, *Federal Motor Vehicle Safety Standards; Theft Protection and Rollaway Prevention*, 76 Fed. Reg. 77183 (Mar. 15, 2012) (proposed rule; extension of comment period).

³⁴ National Highway Traffic Safety Administration, *Ratings* (www.nhtsa.gov/ratings) (accessed May 10, 2021).

³⁵ *Id.*

³⁶ National Highway Traffic Safety Administration, *2018 NCAP Combined Crashworthiness Rating Calculator-9-19-18* (Sept. 20, 2019) (www.regulations.gov/document/NHTSA-2017-0037-0037).

³⁷ National Highway Traffic Safety Administration, *New Car Assessment Program*, 80 Fed. Reg. 78522 (Dec. 16, 2015) (request for comments).

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