

ONE HUNDRED FIFTEENTH CONGRESS
Congress of the United States
House of Representatives
COMMITTEE ON ENERGY AND COMMERCE
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MEMORANDUM

February 10, 2017

To: Subcommittee on Digital Commerce and Consumer Protection Democratic Members and Staff

Fr: Committee on Energy and Commerce Democratic Staff

Re: Hearing on “Self-Driving Cars: Road to Deployment”

On **Tuesday, February 14, 2017, at 10:15 a.m. in room 2123 of the Rayburn House Office Building**, the Subcommittee on Digital Commerce and Consumer Protection will hold a hearing titled “Self-Driving Cars: Road to Deployment.”

This hearing is the second in what is expected to be a series of hearings on autonomous vehicles, also known as self-driving vehicles. For more information on the first hearing, please refer to the staff memo prepared for that hearing.¹

I. TESTING OF AUTONOMOUS VEHICLES

Experts have stated that autonomous vehicles will need extensive testing and assessments to ensure that they can safely and reliably operate in both everyday driving conditions and in “corner cases” that occur infrequently.² The National Highway Traffic Safety Administration (NHTSA) is currently researching what objective tests or certification procedures may be

¹ Memorandum from Democratic Staff to Democratic Members of the House Committee on Energy and Commerce, Subcommittee on Commerce, Manufacturing and Trade, Hearing on Disrupter Series: Self-Driving Cars (Nov. 15, 2016).

² Senate Committee on Commerce, Science, and Transportation, Testimony of Dr. Mary Louise Cummings, Director of Humans and Autonomy Lab and Duke Robotics, Duke University, *Hearing on Hand Off: The Future of Self-Driving Cars*, 114th Cong. (Mar. 15, 2016); *When It Comes to Safety, Autonomous Cars Are Still "Teen Drivers,"* Scientific American (Jan. 18, 2017).

appropriate for evaluating autonomous vehicles.³ In January 2017, the U.S. Department of Transportation designated ten “Automated Vehicle Proving Grounds” at universities, state agencies, and private entities throughout the country to support testing and data sharing.⁴ In addition, a number of legacy automakers (including Ford and GM) and technology companies (including Bosch, Uber, and Waymo) have begun testing self-driving cars on public roads in the U.S.⁵ Others (including BMW, Audi, Tesla, and Baidu) have announced plans to do so in the near future.⁶

NHTSA created a model policy for states seeking to authorize autonomous vehicle testing, and the agency also has provided guidance to individual state regulators.⁷ California, Florida, Michigan, Nevada, Utah, and Washington, D.C. have enacted legislation that addresses testing, while the governors of Arizona, Massachusetts, and Virginia have signed executive orders regarding such testing.⁸ Autonomous vehicles are currently being tested on public roads in Pennsylvania, Texas, and Washington, although the states have not explicitly allowed it.⁹

Specific safety requirements for testing autonomous vehicles on public roads vary by state.¹⁰ Existing state regulations generally require the presence of a human operator inside or outside the vehicle who is able to immediately assume control if necessary.¹¹ Florida and Michigan also require that the vehicle be able to slow or stop itself safely if the human operator

³ National Highway Traffic Safety Administration, *Federal Automated Vehicles Policy* (Sept. 20, 2016); Letter from Mark Rosekind, Administrator, National Highway Traffic Safety Administration, to Jean Shiomoto, Director, California Department of Motor Vehicles (Apr. 1, 2015).

⁴ U.S. Department of Transportation, *U.S. Department of Transportation Designates 10 Automated Vehicle Proving Grounds to Encourage Testing of New Technologies* (Jan. 19, 2017) (press release).

⁵ *These 19 Companies are Racing to Build Self-Driving Cars in the Next Five Years*, Business Insider (Jan. 12, 2017); General Motors, *GM to Start Autonomous Vehicle Manufacturing and Testing in Michigan* (Dec. 15, 2016) (press release).

⁶ *These 19 Companies are Racing to Build Self-Driving Cars in the Next Five Years*, Business Insider (Jan. 12, 2017).

⁷ National Highway Traffic Safety Administration, *Federal Automated Vehicles Policy* (Sept. 20, 2016).

⁸ National Conference of State Legislators, *Autonomous Self-Driving Vehicles Legislation* (www.ncsl.org/research/transportation/autonomous-vehicles-legislation.aspx) (accessed Feb. 3, 2017).

⁹ *No Driver? Bring It On. How Pittsburgh Became Uber’s Testing Ground*, New York Times (Sep. 10, 2016); *As Self-Driving Cars Come to More States, Regulators Take a Back Seat*, Washington Post (Aug. 29, 2015); *Washington State Lawmakers Grapple with Coming Wave of Self-Driving Vehicles*, GeekWire (Dec. 1, 2016).

¹⁰ See note 8.

¹¹ See note 8.

does not respond in an emergency.¹² In Michigan and Nevada, autonomous vehicles are required to have a special license plate.¹³ Manufacturers in California and Nevada must be granted a permit before deploying an autonomous vehicle on state roads, while other states only require that manufacturers provide them with proof of insurance and some notice of testing.¹⁴ California and Nevada are also the only states that require manufacturers to submit a report to the state Department of Motor Vehicles if a vehicle being tested is involved in an accident.¹⁵

While these recent developments in testing are important, some researchers have determined that alternative methods of demonstrating safety will have to be developed because self-driving cars cannot possibly be driven the millions or billions of miles needed to establish reliability.¹⁶

II. WITNESSES

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¹² Fla. Stat. § 319.145(a)(2); Mich. Comp. Laws § 257.665(2)(b).

¹³ Nev. Admin. Code § 482A.050(3); Mich. Comp. Laws § 257.244.

¹⁴ See note 8.

¹⁵ Nev. Admin. Code § 482A.130(4); Cal. Veh. Code § 38755(e).

¹⁶ Rand Corporation, *Driving to Safety: How Many Miles of Driving Would It Take to Demonstrate Autonomous Vehicle Reliability?* (2016).