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## RESEARCH BRIEF ON

# AUTONOMOUS VEHICLES

Car manufacturers and technology companies are pushing for technological advancements for autonomous vehicles that have the potential to revolutionize transportation. The possibilities for private, public, and commercial transportation appear to be endless. Autonomous vehicles could have applications for ride-sharing schemes and potentially lead to fully connected communities that reduce traffic jams, human error related crashes, and the need for parking spaces.

However, it remains to be seen how autonomous vehicles will interact with the current infrastructure and traditional traffic participants. Further, there are still questions to be answered on how autonomous vehicle manufacturers deal with privacy concerns and how vulnerable to cyberattacks autonomous vehicles are.

It might still be some time until fully autonomous vehicles are the norm on our roadways. Nevertheless, cities, states, and the federal government have to continue to review issues surrounding autonomous vehicles. They have to ensure there are sufficient laws and regulations that both foster this nascent technology and safeguard everyone's safety.

## NEVADA

In 2011, Nevada was the first state to authorize the operation of autonomous vehicles. That year, the Nevada Legislature passed [Assembly Bill 511](#), which requires



California, for example, passed a variety of legislative measures that affect the testing and operating of autonomous vehicles in the state. In 2017 alone, the California State Legislature passed three bills repealing requirements that restrict the application process and extend the testing opportunities. One of the bills also authorizes the Livermore Amador Valley Transit Authority to conduct a testing project with fully autonomous vehicles. Utah, on the other hand, only has authorized its Department of Transportation to execute a testing program and a study related to autonomous vehicles that reviews federal guidelines.

The executive orders mainly created committees that are tasked with coordinating different agencies' efforts to study autonomous vehicles and assist with issues surrounding the testing and operating of autonomous vehicles. For example, Arizona's governor signed an executive order in 2015 that established a "Self-Driving Vehicle Oversight Committee." Similarly, Wisconsin's governor signed an executive order in 2017 that created the "Steering Committee on Autonomous and Connected Vehicle Testing and Deployment."

### FEDERAL GUIDELINES

The National Highway and Transportation Safety Administration (NHTSA) issued guidelines in [2016](#) and [2017](#) for autonomous vehicle technology. The latest set of federal guidelines, *Automated Driving Systems 2.0: A Vision for Safety*, offers technical assistance to states and entails voluntary guidelines that focus on normed levels of automation. As such, the guidelines include best practices for highway safety officials and state legislatures.

In September 2017, the United States House of Representatives passed [H.R. 3388](#)—the Safely Ensuring Lives Future Development

and Research in Vehicle Evolution (SELF DRIVE) Act. At the same time, the United States Senate introduced [S. 1885](#)—the American Vision for Safer Transportation through Advancement of Revolutionary Technologies (AV START) Act. These bills contain provisions preempting states from regulating autonomous vehicles to a certain degree. The bills also would create a highly automated vehicle technical committee and start the process to update the federal vehicle safety standards.

### OTHER SOURCES

- "[Autonomous Vehicles in California](#)," California's Department of Motor Vehicles, 2017.
- "[How an Automated Car Platoon Works](#)," Volpe Center, U.S. Department of Transportation, July 2017.
- [Autonomous Vehicles Meet Human Drivers: Traffic Safety Issues for States](#), Governors Highway Safety Association, February 2017.
- [Autonomous Vehicles Legislative Database](#), National Conference of State Legislatures, 2017.

