

PUBLICATION

Autonomous Vehicle Statutes and Regulations Across the 50 States

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Introduction

Fully autonomous vehicles (AVs) do not yet exist, and similarly, federal statutes and regulations to oversee AVs, also do not exist. What has resulted is a plethora of state statutes attempting to oversee AVs, a summary of which follows. [Linked](#) is a complete state-by-state survey of current AV statutes and regulations.

State AV statutes can be divided into three broad categories: 1) statutes that accommodate the piloting and testing of current AV technology, as seen in places such as California and New Mexico; 2) statutes, somewhat theoretical in nature, which approve the use of AVs once a certain, not yet existing, standard has been met; and 3) states with no statute whatsoever. The first group, 12 states (including Washington, D.C.), is assisting with AV technology development. The second group, 19 states, is positioned to be ready for when AV technology is practically available. The third group, 17 states, for the meantime, is by default relying on existing federal and state regulations, primarily related to safety, in order to oversee future AV usage. Lastly, there is a small group (3 additional states) with very specific statutes related to the limited use of AVs. All told, there are now 34 states with some sort of AV statute in place.

There had been movement in 2017 and 2018 for federal oversight of AVs, but those efforts have since stalled, and any regulatory changes are now years away. The government has resorted to now working within its existing authority to provide guidance. The latest proposed changes are to require new AV-like functionality in traditional automobiles, expected not to be implemented sooner than 2027. The U.S. Department of Transportation (DOT) announced a new research group to assess artificial intelligence (AI) impact on self-driving cars and to possibly assist in setting common metrics and standards. In the meantime, the current oversight is what would apply to any vehicle in general. Federal Motor Vehicle Safety Standards (FMVSS) do carry the power to prevent the sale of any vehicles, autonomous or otherwise, that either don't meet or are deficient in meeting its standards.

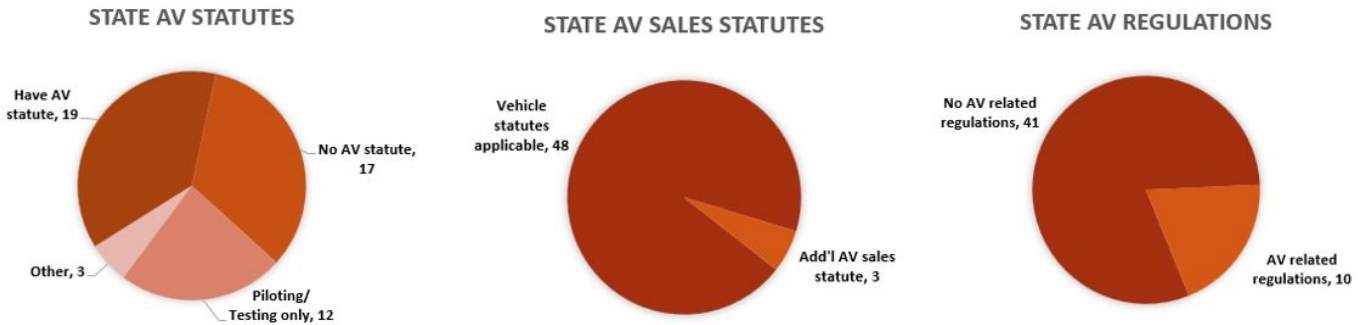
Despite the publicity of specific, isolated, and sometimes tragic, accidents, there is now emerging evidence that AVs being piloted can be safer than traditional vehicles. Both the University of Michigan and the Insurance Institute for Highway Safety have reviewed industry-produced reports comparing AV safety performance to federal safety data specific to where the AVs are currently being piloted. While encouraging, AVs will continue to struggle in novel situations because of their inability to make cause-effect connections.

While there may have been some apparent setbacks to the use of AVs in a consumer setting (e.g., robotaxi services), commercial usage of AVs continues to expand. One advantage to commercial AV usage is the opportunity to place discrete parameters around a particular solution. This includes moving AV tractor-trailers between nodes (hubs) in a traditional hub-and-spoke network or operating within the confines of a non-public work site. Complementary to this, the DOT released a new zero-emission infrastructure strategy targeted towards freight trucks.

Multiple technologies are in play across the various vehicles being tested, and they don't necessarily coordinate or communicate with one another. It remains to be seen whether current federal oversight can provide coordination, or alternatively, the industry can self-regulate for what may be required.

What follows is a summary and analysis of the 50-state survey along with additional insights into the trends discussed above. It also provides examples and explanations of the types of state statutes that exist. A deeper evaluation of any particular state may be required if some sort of AV initiative is under consideration for that state.

The Charts



The pie charts above summarize what the 50 states (plus Washington, D.C.) have done when it comes to the operation, selling, and regulating of AVs. The first pie chart on the left breaks down how states have created AV-specific statutes: (1) 19 states (over one-third) permit them, subject to certain conditions; (2) another 17 states (another one-third) are currently silent to them; and (3) 12 states permit them, but only in some sort of testing or pilot environment. Finally (4), another three states have their own individual special case statutes.

Regarding the sale of AVs on the second pie chart, all states' current definitions of a "motor vehicle" equally apply to an AV and therefore AVs are subject to the same sales statutes and regulations that would pertain to other motor vehicles. Only three states drafted additional statutory language pertaining to the sales of AVs.

Regarding the regulations (distinguished from statutes) in the third pie chart pertaining to AVs, only 10 states currently have them on the books.

State Statutes Regarding the Permission to Operate Autonomous Vehicles		
Statutes Permitting AV Operation	No. States (Including Washington, D.C.)	Individual State Codes
States with statutes permitting AV operation	19	FL, GA, IA, KS, KY, LA, MS, NB, NC, ND, NV, SD, TX, TN, UT (AZ, OK, PA, WV – submission required)
No state statute referencing AVs	17	AK, DE, HI, ID, IN, MA, MN, MO, MT, NJ, NY, OH, RI, SC, VA, WI, WY
Statute permitting only testing or piloting	12	AR, CA, CO, D.C., MI, NM, WA, VT, CT, ME, NH, OR

Special cases statutes	3	AL, MD, IL
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State Statutes Permitting the Operation of Autonomous Vehicles

Nineteen states permit AVs subject to specific requirements. Most of the primary requirements are common across these states and include the following:

1. Being compliant with federal motor vehicle safety regulations;
2. Being compliant with state safety and traffic laws; and
3. AV functionality to include what is referred to as a "minimal risk condition" (vehicle in a state when the autonomous system is inoperative, as described below).

The Georgia statute is a representative example (the common requirements have been **emphasized**):

40-8-11. Operational rules for autonomous vehicles; state consumer laws applicable.

(a) A person may operate a fully autonomous vehicle with the automated driving system engaged without a human driver being present in the vehicle, provided that such vehicle:

(1) Unless an exemption has been granted under applicable federal or state law, is capable of being operated **in compliance with Chapter 6 [Rules of the Road] of this title and this chapter** and has been, at the time of its manufacture, certified by the manufacturer as being **in compliance with applicable federal motor vehicle safety standards**;

(2) Has the capability to meet the requirements of Code Section 40-6-279 [notification of an accident];

(3) Can achieve a **minimal risk condition** in the event of a failure of the automated driving system that renders that system unable to perform the entire dynamic driving task relevant to its intended operational design domain.

...

O.C.G.A. § 40-8-11 (emphasis added).

The Florida Statute looks similar (with common sections **emphasized**):

319.145. Autonomous vehicles

(1) An autonomous vehicle registered in this state must meet all of the following requirements:

(a) When required by federal law:

1. Have been certified in accordance with federal regulations in 49 C.F.R. part 567 as being **in compliance with applicable federal motor vehicle safety standards**.

2. Bear the required certification label or labels including reference to any exemption granted under applicable federal law.

(b) Be capable of being operated ***in compliance with the applicable traffic and motor vehicle laws of this state***, regardless of whether the vehicle is operating with the automated driving system engaged.

(2) If the AV is not fully autonomous, the vehicle must have a system to safely alert a licensed human operator physically present in the vehicle if an automated driving system failure is detected while the automated driving system is engaged. When an alert is given, the system must require the licensed human operator to take control of the AV or must achieve a minimal risk condition. The term "minimal risk condition" means a reasonably safe state, such as bringing the vehicle to a complete stop and activating the vehicle's hazard lamps.

(3) If the AV is fully autonomous, it must be able to achieve a **minimal risk condition** if a failure of the automated driving system occurs which renders that system unable to perform the entire dynamic driving task relevant to its intended operational design domain.

(4) Federal regulations promulgated by the National Highway Traffic Safety Administration shall supersede this section when found to be in conflict with this section.

[Fla. Stat. Ann. § 319.145](#) (emphasis added).

Note how Florida defines "minimal risk condition" directly within the statute as a "reasonably safe state, such as bringing the vehicle to a complete stop and activating the vehicle's hazard lamps." This definition is typical across multiple jurisdictions where they have defined it. California, as a second example, defines it as "a low-risk operating condition that an AV automatically resorts to when either the automated driving systems fails or when the human driver fails to respond appropriately to a request to take over the dynamic driving task."

Among these 19 states, four of them also require a submission to the government, either a passive (one-way) declaration or a more active one, requiring interaction (including feedback) with the government.

For example, Arizona's passive submission requirement entails:

A written statement to the DOT acknowledging all of the following:

- (a) [in compliance with federal] AI law;
- (b) [minimal risk condition];
- (c) [in compliance with applicable traffic and motor vehicle safety laws];
- (d) [meets all applicable certificate of title, registration, licensing, and insurance requirements].

[Ariz. Rev. Stat. Ann. § 28-9702 \(C\) \(2\)](#)

West Virginia's requirement is more active and requires the submission of a Law Enforcement Interaction Plan:

Prior to operating a fully-autonomous vehicle on the public roads of this state without a human driver, a person as defined in this article shall submit a law enforcement interaction plan to the department . . .

[W. Va. Code Ann. § 17H-1-5\(b\) \(West\)](#).

States Currently with No Statute

Another 17 states do not have an AV statute.¹ The highest level of automation commercially available in any vehicle still falls short of full autonomy, so arguably the need for a statute is still premature. In addition, the federal government has tried to enact its own legislation to preempt the need for state-by-state legislation, but so far that effort has failed. When the need for legislation does become imminent, these states may have to

rely on borrowing from other states' statutes or continue to solely rely on existing motor vehicle statutes in place.

Pilot-Only or Test-Only States

There are currently 12 states only offering in their statutes the ability to pilot or test AVs. This group is generally divided into two categories: 1) those states that are taking a cautionary approach to the implementation of AVs; and 2) those at the forefront wishing to promote the testing. Among those in the former category are many New England states that have set up committees or commissions to facilitate tests and look to those committees to recommend autonomous policy moving forward. They have essentially set up a two-step process towards AV implementation.

In the latter category are those states already at the forefront of concept testing AV. States such as California and New Mexico have statutes that facilitate the running of actual pilot tests in order to test and improve the technology.

One interesting caveat to the California law is that as a default, vehicles with autonomous features must nevertheless have a licensed driver in them. Only within an approved pilot can a vehicle be operated driverless. Pilots are restricted to manufacturers. Therefore, in California, only manufacturers in practice can own and operate driverless AVs.

Special Case States

Finally, there are a few states with their own unique AV statutes. Alabama's statute, for example, only applies to commercial vehicles. Maryland's statute was set up specifically for the conversion of non-autonomous cars to autonomous ones. Finally, Illinois only addresses AVs within the context that specific AV regulations cannot be drafted at the local (county, city, town) level. Perhaps this last statute was drafted in anticipation of a more comprehensive statute yet to be enacted at the state level.

Autonomous Vehicles Statutes and Sales		
Sales	No. States (Including Washington, D.C.)	Individual State Codes
Existing Motor Vehicle Laws Apply	48	AL, AK, AZ, AR, CO, CT, DE, D.C., FL, GA, HI, ID, IL, IN, IA, KS, KY, LA, ME, MA, MI, MN, MO, MT, NE, NV, NH, NJ, NM, NY, NC, ND, OH, OK, OR, PA, RI, SC, SD, TN, TX, UT, VT, VA, WA, WV, WI, WY
Existing Motor Vehicle Laws Apply Plus Additional Statute	3	CA, MD, MS

All of the states' definitions of a motor vehicle apply to AVs, making AVs subject to state motor vehicle laws. State law requires protecting dealers and does not permit manufacturers to circumvent them. The exception is manufacturers that do not sell through a dealer network.

Three states have sales-related provisions within their AV statutes: California, Maryland, and Mississippi. California's provision permits an AV manufacturer who is not tied to a dealer network, not be required to sell its vehicles through such a network. Maryland's AV statute addresses the conversion of traditional motor vehicles over to autonomous. The sales-specific provision in the statute permits the entity (shop) doing the conversion, the opportunity to also sell the converted vehicle. Mississippi's provision is specific and limited. It compels a dealer to assist the purchaser in processing the necessary title paperwork.

Autonomous Vehicles Regulations		
Specific Regulations (in addition to statutes)	No. States (Including Washington, D.C.)	Individual States Included
No Regulations Specific to Autonomous Vehicles	41	AL, AK, AZ, CT, DE, FL, GA, ID, IL, IN, KS, KY, LA, MA, MD, MI, MN, MS, MO, MT, NE, NH, NJ, NY, NC, ND, OH, OK, OR, PA, RI, SC, TN, TX, UT, VT, VA, WA, WV, WI, WY
Regulations Promulgating Statutes Specific to Autonomous Vehicles (or other existing statute)	10	AR, CA, CO, D.C., HI, IA, ME, NM, NV SD

Ten states have AV-specific regulations in addition to their AV-specific statutes. Overall, these regulations explain in more detail the pilot program, tests, or other temporary initiatives associated with their corresponding statutes. The lack of regulations reflects the relatively few current statutes permitting operation and the time still needed for AVs to approach being a commercial reality.

Recent Trends Outside of the Current State Statutes and Regulations

Statutory and Regulatory Changes at the Federal Level

The government has yet to pass any legislation specific to AVs. The closest it has come was when the House introduced the SELF DRIVE Act in 2017 (reintroduced in 2021), and the Senate introduced the AV START Act in 2018. But that is as far as they have gone, six years later. Both bills largely paralleled one another. From a regulatory perspective, two primary goals were to: (1) adapt FMVSS to accommodate AVs (many current standards assume a driver and/or operable driver controls); and (2) make it clear that federal regulations would not pre-empt states' current laws that regulate items such as licensing, registration, insurance, law enforcement, and traffic management. The bills would prevent states from imposing their own safety requirements, with the trade-off being that manufacturers could build to one safety design standard but still have to accommodate traffic regulation differences at the state level.

In May 2019, the DOT, under the National Highway Traffic Safety Administration (NHTSA), (oversight for vehicles in general), and the Federal Motor Carrier Safety Administration (FMCSA), (oversight for commercial vehicles), issued advanced notices for proposed rulemaking (ANPRM), for proposed rules to provide additional oversight under existing law. In 2022, NHTSA issued a final rule regarding the crashworthiness of vehicles equipped with automated driving systems (ADS). Both agency administrations laid out their current authority. For NHTSA it is the FMVSS coming from the National Traffic and Motor Vehicle Safety Act (1966). For FMCSA it is the Motor Carrier Act (1935), the Motor Carrier Safety Act (1984), and the Commercial Motor Vehicle

Safety Act (1986). It is NHTSA's view that AVs come under their oversight from a safety perspective even if for the moment, no specific regulations pertain to AVs. While there is nothing in the FMVSS specifically preventing the dissemination of AVs, dissemination must be in compliance with the current standards. Similarly, FMCSA states that the current statutes provide sufficient oversight to regulate commercial vehicles equipped with ADS based upon FMCSA's current safety oversight.

The most recent development occurred last year (2023) when Secretary of Transportation Pete Buttigieg announced proposed rules that would require vision-based emergency braking systems including pedestrian identification. Automatic emergency braking is now quite common, practically standard, across new vehicles, primarily because the industry has effectively self-mandated its introduction. The ability to identify and brake for pedestrians would be an innovation. The proposed standard applies only to vehicles up to 10,000 lbs. The government released its notice of proposed rulemaking on 6/13/23. Buttigieg said that any finalized rule would not go into effect (be enforced) for three years from the time of implementation, or around 2027. Also, in July 2023, FMCSA released a proposed rulemaking for heavy vehicles (above 10,000 lbs.). The proposed rules also include automatic emergency braking but without the NHTSA's pedestrian identification requirement.

The DOT recently announced a new research group known as the Highly Automated Systems Safety Center of Excellence, formed to assess AI's impact on self-driving cars, and other vehicles and systems (e.g., traffic lights). They have no direct regulatory impact but could be looked to for the setting of common metrics and standards.

NHTSA's federal motor vehicle safety standards (FMVSS) do carry the weight of forbidding the sale of a vehicle if its standards are not being met or are deficient.

All of these proposed rules tend to increase the automated driving system capabilities of all vehicles without specifying particular rules needed for AVs.

Safety

Specific publicized accidents involving AV-equipped vehicles have put a question mark on their safety. Newly released data may indicate that these are only isolated incidents and that overall AV safety surpasses what can be expected when driving in a traditional vehicle. Last year (2023), Waymo (a robotaxi service) published a report comparing its accident and safety data, against the comprehensive data from NHTSA related to driver-operated vehicles accidents. The results showed that in the two cities where Waymo operates, San Francisco and Phoenix, accidents per million (the standard metric) were 0.41 compared to 2.78, or an 85 percent reduction. The analysis specifically compared Waymo accident statistics against the NHTSA's accident data specific to those same cities. Their findings received encouraging comments and feedback from both the University of Michigan as well as the Insurance Institute for Highway Safety.

While this is encouraging, some analysts and engineers fear that the AI used by AVs lacks the ability to make cause-effect connections. In effect, AI lacks the intuitive capabilities of humans that are required to process novel situations. The jury is out on how AI can help AVs fill this gap.

Commercial Applications

Certain companies are promoting a shift towards commercial (e.g., trucking) applications. One manufacturer in particular is focusing on three areas: mining, ports/logistics centers, and hub-to-hub tractor-trailer transport. Another AV startup is focusing on commercial trucking, similar to the hub-to-hub model. All of these focus areas are within relatively contained environments, making them easier to design, manage, and control.

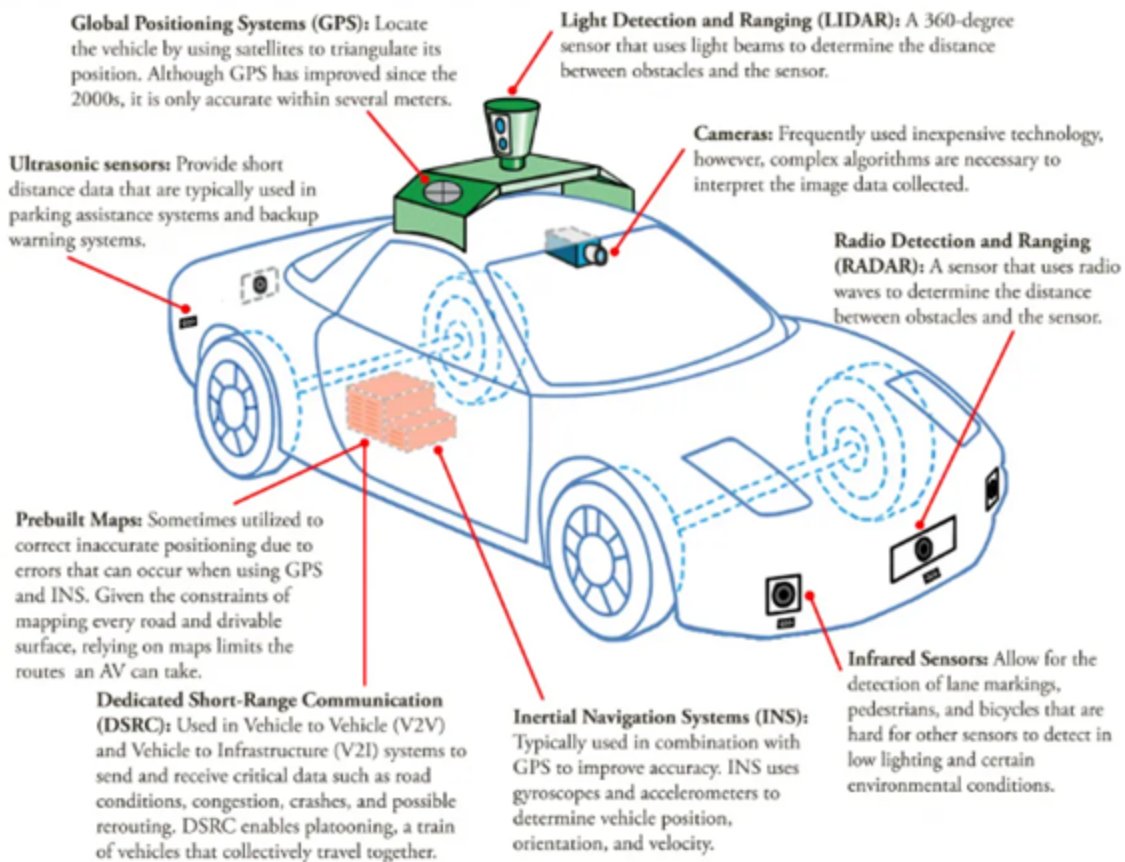
The hub-to-hub model can assist a less-than-truckload (LTL) or other long-haul freight company to connect and automate the longest segments of a shipment's trajectory. The segment or segments that connect between the carrier's own facilities make up the longest sections of a shipment's journey. These facilities, or "hubs," are fixed points, and therefore movements between them are somewhat predictable. Automating these segments leaves only the local pick-up and delivery to be handled manually, at least for now anyway.

As a related development, the DOT announced a new zero-emission infrastructure strategy for freight trucks. The first step in this strategy is to identify and develop "hubs" connecting key corridors, high-use ports, and intermodal freight facilities. Since much AV development is aligned with EV development, this strategy can open up new opportunities for companies looking to expand the commercial application of AVs.

Technology

There are multiple technologies at work when it comes to controlling the movements of an AV. As shown below, these include a number of different systems, including LIDAR (e.g., light detection and ranging), RADAR, infrared sensors, GPS, prebuilt maps, and dedicated short-range communication (vehicle-to-vehicle). The number of systems and how they interact can vary from AV to AV.

AUTONOMOUS VEHICLE TECHNOLOGIES^{1,7,8,9}



Source: Center for Sustainable Systems, University of Michigan. 2023. "Autonomous Vehicles Factsheet." Pub. No. CSS16-18. Used by permission.

To date, there is no regulation in place or industry standard established to coordinate across these systems, particularly as it becomes necessary to coordinate across multiple AVs sharing the same road.

Conclusion

The state statutes that currently support the operation of AVs have primarily been put together in anticipation of the eventual availability of fully functioning driverless AVs on the market, and the updating of the FMVSS. Current pilots and tests are helping to promote and advance the practical application of AV technology. About a third of states currently do not have any AV statutes in place, and for now, depend upon current vehicle safety regulations for AV oversight. New anticipated federal regulations focus more on increased ADS capabilities required of traditional vehicles rather than setting rules for AVs. While there have been some highly publicized accidents, recent reports point to the potential improved safety that AV can provide. Still, AVs continue to be challenged in addressing novel situations. Currently, there has been an emphasis on the commercial opportunities of AV because of simplified and contained operating scenarios, as well as the potential economic benefits.

If you have any questions or would like to discuss further, please contact [Greg Maddaleni](#) or your primary Baker Donelson attorney.

¹ At the time this research was most recently updated: September 19, 2024.