

Uniform Automated Vehicle Act: Implications for Alabama



Overview

In 2019, the Uniform Law Commission (the “ULC”) finished drafting the Uniform Automated Operation of Vehicles Act (the “Act”), which proposes uniform state legislation that would regulate the operation of automated motor vehicles.¹ This report summarizes the key sections of the Act, identifies areas of legislation not addressed, and reviews the current automated vehicle regulation under Alabama law.

Background

Automobiles in the United States are regulated by the federal government through the National Highway Traffic Safety Administration (“NHTSA”), which sets safety and manufacturing standards applicable to all motor vehicles.² Private manufacturers who sell motor vehicles must ensure their vehicles comply with all Federal Motor Vehicle Safety Standards (“FMVSS”) issued by NHTSA.³ Under current law, NHTSA is not responsible for testing new automobiles before they enter the market. Instead, manufacturers are individually liable for their products, and for ensuring compliance with FMVSS requirements.⁴

But aside from NHTSA’s mandatory rules (and its corporate grant programs), states hold what remains of legislative authority to govern motor vehicle use.⁵ As autonomous vehicles are developed and produced, there is a high likelihood that a host of disruptions will be created for the transportation sector nationally, and at the state and local levels. Since most laws are currently designed for vehicles with human drivers, the legal landscape around driving laws will likely require a close review to ensure continuity of law and avoidance of unintended consequences. Since we do not know when fully autonomous vehicles will be seen on Alabama roads, it is important for policymakers and oversight agencies to anticipate potential technological and legal disruptions before they occur.⁶

The ULC has taken steps to lessen any legal disruptions to existing state codes by drafting its recommendations for state oversight of automated vehicles.⁷ The ULC is a non-governmental body consisting of lawyers and judges who draft uniform laws to be proposed for adoption by the states.⁸ The ULC seeks to draft laws where uniformity of state law would improve clarity and stability.⁹ The laws drafted by the ULC do not become law unless they are adopted by a state. The most well-known law drafted by the ULC is the Uniform Commercial Code (UCC), which has been adopted in some form by every state.¹⁰

Analysis of The Act

Sec. 1 Short Title

This act may be cited as the Uniform Automated Operation of Vehicles Act.¹¹

Sec. 2 Definitions

The key terms of the Act are defined in Section 2.¹² Some of the more important terms include:

Term	Definition
Automated-driving provider	A person that makes a declaration recognized by the relevant state agency ¹³ under Section 6
Automated-driving system	The hardware and software collectively capable of performing the entire dynamic driving task on a sustained basis
Automated operation	The performance of the entire dynamic driving task by an automated-driving system. Automated operation begins on the performance of the entire dynamic driving task by the automated-driving system and continues until a human driver or human operator other than the automated-driving provider terminated the automated operation
Automated vehicle	A motor vehicle with an automated-driving system
Completely automated trip	Travel in an automated vehicle that, from the point of departure until the point of arrival, is under automated operation by means of an automated-driving system designed to achieve a minimal-risk condition
Driver	The meaning in the state's vehicle code, except that an automated-driving provider that designates an associated automated vehicle under Section 7 is the exclusive driver of the vehicle under automated operation

Importantly, a vehicle is defined as an automated vehicle when it is not currently under “automated operation,” even if a human driver and not the vehicle is currently steering, braking, or accelerating. The purpose defining an automated vehicle this way is to avoid any ambiguity in determining whether a vehicle is still an automated vehicle when it is being physically steered or controlled by a human operator.¹⁴

Some terms may already be used in state motor vehicle law and can be used inconsistently across or within states. For example, “driver” and other similar terms are defined in various ways across states. Interpretation of these terms can have stark consequences, so it is important to define them in the context of automated vehicles.¹⁵

The automated operation can only be terminated by a human driver or operator, which means a vehicle that has stopped operating for any other reason, including hardware or software failure, is still under automated operation.¹⁶ While remote driving is beyond the scope of the Act, the automated operation definition does contemplate a scenario where a remote human driver might termination automated operation.¹⁷

*Sec. 3 Scope, Construction, and Governing Law*¹⁸

Since the Act is intended to clarify a state's existing vehicle code instead of replacing it, Section 3 seeks to clarify that a state's vehicle code will continue to apply with respect to automated vehicles.¹⁹ Areas that fall within the scope of the Act include ownership and registration of automated vehicles.²⁰ The Act also addresses provisions that are common in many state's vehicle codes to ensure that the state vehicle code is not inconsistent with the Act.²¹ For example, many states have laws prohibiting unattended vehicles that could be interpreted to conflict with automated driving and the Act ensures that such provisions will be compatible with automated driving.²²

Automated vehicles are an evolving technology so retaining the ability and flexibility to address unexpected issues is important.²³ This need for flexibility is why the Act empowers relevant state agencies to administer and enforce the Act.²⁴

Vehicles are inherently mobile and that allows them to travel across and through various states. Ambiguities can arise from the interstate travel of automated vehicles that must be considered.²⁵ Accordingly, a vehicle that is registered in one state and the state the vehicle is traveling through are different, and both states have adopted similar provisions to the Act, the driver of the vehicle while under automated operation is considered the automated driving provider.²⁶ However, if the state the vehicle is traveling through does not have provisions similar to the Act, the driver would not be the automated driving provider and would be defined under the general definition of operator or driver under that state's law.²⁷

Sec. 4 Driver Licensing

Under existing state laws, individuals who drive need to hold a valid driver's license and individuals who do not drive do not need a driver's license.²⁸ The Act doesn't change these laws but does remove automated driving from the existing framework because individuals who take a completely automated trip do not need a driver's license, even if they are sitting in the conventional driver's seat.²⁹

The Act does not define trip, but a trip is typically understood to be a journey from an origin to a destination. An origin may be a driveway of a house and a destination may be a curb outside of an office building. However, a freeway shoulder is generally not considered the origin or destination of a trip. Therefore, an automated vehicle that is only capable of automated operation on freeways would still need a licensed driver. But an automated vehicle would not need a licensed driver if the vehicle does not complete a trip because of a malfunction related to hardware failure, weather, or other unforeseeable conditions.³⁰

Finally, while the automated driving provider is considered the driver of the vehicle, it is not required to hold a conventional driver's license, but the state may choose to investigate and decline to recognize an automated driving provider. Also, states could develop a system similar to one for human drivers to track and sanction automated driving providers.³¹

Sec. 5 Vehicle Registration

The owner of an automated vehicle must register it with the state in the same manner as a conventional vehicle.³² However, there is a new condition of registration for automated vehicles. An automated vehicle may only be registered if an entity has declared that it is an automated driving provider and has designated the specific vehicle as an associated automated vehicle.³³ The vehicle owner and automated driving provider may or may not be the same person. For example, one company may manufacture and sell automated vehicles to individuals who must then register the vehicle while the company declares itself the automated driving provider. On the other hand, a company may buy conventional vehicles and convert them to automated vehicles to provide rides to the public. In the latter scenario, if the company declares itself the automated driving provider, it would be the owner and automated driving provider and would have to register the vehicles itself.³⁴

The Act provides some flexibility to the state motor vehicle agency to address situations where automated operation is imprudent or impossible. The agency can suspend registration of an automated vehicle but can still allow the non-automated operation of the same vehicle through a temporary license.³⁵ Also, if the owner ensures and represents that automated operation is no longer possible, then it can be registered as a conventional vehicle and is no longer considered an automated vehicle.³⁶ Furthermore, if a vehicle becomes an automated vehicle after moderations are made to its hardware or software, the owner must obtain new registration.³⁷ Finally, the registration of an automated vehicle does not create a presumption as to the safety of the vehicle or its equipment.³⁸

Sec. 6 Automated-Driving Provider

The automated-driving provider concept recognizes that automated vehicles will be driven not by individuals or even computers but by companies involved in the development and deployment of these vehicles. The potential diversity of automated drivers makes a flexible definition of an automated-driving provider necessary.³⁹ In order to qualify as an automated-driving provider, a person (or entity) must have participated in a substantial manner in the development of an automated-driving system. Furthermore, the driver must submit a safety self-assessment report for the automated-driving system to NHTSA or be a registered manufacturer of motor vehicles or motor vehicle equipment under NHTSA guidelines.⁴⁰

Automated-driving providers must make a declaration recognized by the appropriate state agency that the person is an automated-driving provider and pay any specified fees for processing the declaration. The purpose of requiring such a declaration prevents an entity from becoming an automated-driving provider against its will.⁴¹ The declaration must be made under penalty of perjury and must represent that the person qualifies as an automated-driving provider and is capable of undertaking the incumbent responsibilities. The declaration must further certify that the automated-driving system of each associated automated vehicle is capable of complying with all state rules of the road, and irrevocably appoint the appropriate state agency as a lawful agent for service of process in actions rising from the automated operation of its vehicles.⁴²

Automated-driving providers making such a declaration bear the burden of proof for the representations made within. Additionally, providers must submit to investigations by the governing state agency as to their qualifications. The governing state agency may at any time decline, delay, or rescind recognition of a declaration, or investigate the qualifications of the person making a declaration. Persons making declarations must supply requested information and pay actual costs incurred by the state agency in the investigation. Automated-driving providers have no vested rights in the recognition of their declarations.⁴³

Sec. 7 Associated Automated Vehicle

Only vehicles designated by an automated-driving provider will be considered an associated automated vehicle under the Act. Automated-driving providers make designations by supplying notice to the governing state agency. Once a vehicle has been designated it remains an associated automated vehicle unless the state agency declines, delays, or rescinds recognition of the declaration, or the automated-driving provider dissolves its business or disassociates the automated vehicle. Vehicles may be disassociated by providing notice to the governing state agency.⁴⁴

This section of the Act was written to allow for the greatest possible discretion to reside with governing state agencies in setting notice requirements for registration. In addition, the process is intended to conform closely with existing processes for individuals who operate conventional vehicles.⁴⁵

Conventional Vehicle	A person obtains a driving license	A person drives a vehicle	The owner of a vehicle registers the vehicle
Automated Vehicle	<i>Declaration by an automated driving provider (Section 6):</i> A company or other entity declares that it is an automated driving provider	<i>Designation by the automated driving provider (Section 7):</i> An automated driving provider designates its associated automated vehicles	<i>Registration by the vehicle owner (Section 5):</i> The owner of an associated automated vehicles registers the vehicle

Sec. 8 Equipment

State vehicle equipment requirements must be interpreted to accommodate the development and deployment of automated vehicles in a way that maintains or improves traffic safety.⁴⁶ Automated vehicles must be properly maintained and violations are treated as violations of the state vehicle code.⁴⁷ However, conventional vehicle equipment requirements that are necessary only for the performance of dynamic driving tasks by a human driver do not apply to a dedicated automated vehicle. Similarly, prohibitions of electronic devices in vehicles (other than those used to evade law enforcement) do not apply with respect to dedicated automated vehicles and may not be enforced with respect to an automated vehicle under automated operation.⁴⁸

Sec. 9 Rules of the Road

The prospective principle of this section requires an automated driving provider to act reasonably rather than to ensure absolute compliance with the rules of the road. For example, an automated-driving provider does not necessarily violate the state's vehicle code merely by deploying an automated vehicle that is capable of crossing a double-yellow centerline or momentarily exceeding a speed limit in the interest of safety. Automated-driving providers do not intend to violate these rules merely by declining to unequivocally foreclose the possibility of violation.⁴⁹

At the same time, an automated-driving provider is responsible for a violation of the rules of the road by an associated automated vehicle under automated operation. Automated-driving providers should receive the speeding ticket when an associated automated vehicle under automated operation is caught speeding or violating other traffic laws. This section does not address the appropriate level of enforcement, and the Act anticipates that federal, state, and local authorities will continue to evaluate the role of various forms of automated enforcement in improving road traffic safety.⁵⁰

Accordingly, state rules of the road must be interpreted to accommodate the development and deployment of automated vehicles in a way that maintains or improves traffic safety.⁵¹ Automated-driving providers must take reasonable steps to comply with the state's rules of the road during automated operation of an associated automated vehicle.⁵² Automated-driving providers are responsible for violations during operation.⁵³ Violations of this subsection are treated as violations of the state's vehicle code. A person may not operate an automated vehicle on a road open to the public if the vehicle is not properly maintained, lawfully insured, compliant with a registration requirement, or fit to be operated.⁵⁴

Provisions of the state's vehicle code prohibiting unattended or abandoned vehicles do not apply to automated vehicles under automated operation only because an individual is not in or near the vehicle. Such provisions only apply if the vehicle is not lawfully registered, poses a risk to public safety, or unreasonably obstructs other road users.⁵⁵

This section of the Act recommends including language that a child, individual who is incapacitated, or animal in an automated vehicle is not considered attended solely because the automated vehicle is under automated operation.⁵⁶ This subsection should be conformed to the state's terms on duties and prohibitions related to leaving such being unattended in a vehicle.⁵⁷

Provisions of the state's vehicle code restricting the use of an electronic device in a vehicle, other than a device used to evade law enforcement, do not apply to automated vehicles under automated operations.⁵⁸ Furthermore, provisions of the state's vehicle code imposing a minimum following distance other than a reasonable and prudent distance do not apply to the automated operation of an automated vehicle.⁵⁹

Sec. 10 Uniformity of Application and Construction

This section encourages states to preserve a desired level of uniformity in construing the principle of the Act.

So, in applying and construing the Act, consideration must be given to the need to promote unity of the law among states that enact it.⁶⁰

Sec. 11 Severability

This section would preserve the integrity of the Act's subsections in the event one or more was found to be invalid. Accordingly, if any provision of the Act or its application to any person or circumstance is held invalid, the invalidity does not affect other provisions or applications of the Act which can be given effect without the invalid provision or application, and to this end the provisions of the Act are severable.⁶¹

Sec. 12 Effective Date

The date the Act takes effect should be listed.

Other Legislative Issues

Today, 38 states and the District of Columbia have enacted legislation or issued executive orders that pertain to autonomous vehicles.⁶² The differences in how state governments have chosen to regulate automated vehicles are profound and have led to calls for preemptive, sweeping federal regulation.⁶³ So far, however, NHTSA has issued only policy recommendations for states to adopt in lieu of mandatory administrative rules.⁶⁴ As a result, a patchwork of regulations exists across the nation at various state and local levels, many of which fall outside the scope of the Act's recommended legal framework.

At least four states have limited local governments' abilities to take certain actions pertaining to autonomous vehicles (AVs).⁶⁵ But even these preemptions are not consistent. North Carolina law states that "no local government shall enact any local law or ordinance related to the regulation or operation of fully autonomous vehicles."⁶⁶ Illinois, on the other hand, restricts local governments from prohibiting the use of AVs, but allows for local regulation for traffic control purposes.⁶⁷ Variations on what constitutes an AV can further complicate restrictions. Several states have adopted definitions of AV driving systems similar to the Act's - "hardware and software collectively capable of performing the entire dynamic driving task on a sustained basis."⁶⁸ But in Florida, an AV is any vehicle capable of driving without human control.⁶⁹ In Nevada, AVs are vehicles equipped with an automated driving system that are also on Levels 3-5 Automation.⁷⁰ Colorado and Connecticut consider AVs only in reference to vehicles with Levels 4 & 5 Automation.⁷¹ And Texas considers "any motor vehicle on which an automated driving system is installed" to be an AV.⁷²

Two states have addressed issues related to maintenance and liability. In Florida, original manufacturers are not liable for harm caused by modifications made by third parties to convert vehicles into AVs.⁷³ The statute, when read in conjunction with how Florida defines an AV,⁷⁴ would apply to both the hardware and software that the AV uses to operate, meaning that mechanics operating on hardware pieces which affect software functions might be at risk.⁷⁵ Michigan makes mechanics liable if they modify an AV without the manufacturer's consent, unless the repair is made according to the specifications from the manufacturer.⁷⁶ Inconsistencies like these present daunting decisions for AV consumers who travel out-of-state and need automotive repairs.

Alabama Motor Vehicles and Traffic Code Provisions

The Code of Alabama does not currently contain provisions relating to automated operation of vehicles outside of a commercial capacity. The provisions which govern automated commercial motor vehicles may be repealed this legislative session by Senate Bill 154 (pending in the Alabama Senate as of this writing). The law, as it currently stands, however, presents requirements for automated commercial vehicles to operate in the State.

The Alabama Department of Transportation (ALDOT) is the sole state agency with jurisdiction over automated commercial motor vehicles and teleoperation systems.⁷⁷ An automated commercial motor vehicle is one with an automated driving system. An automated driving system is the hardware and software that collectively performs the entire task of driving on a sustained basis, regardless of operation design domain limits.⁷⁸

For an automated vehicle to operate without a conventional driver, it must be:

- 1) Capable of operating in compliance with federal law and the traffic and motor vehicle laws of the state (including those which pertain to railroad crossing navigation);
- 2) Registered and titles in accordance with state laws;
- 3) Certified as being in compliance with federal motor vehicle safety standards (with proper documentation supporting certification or exemption);
- 4) Able to achieve a minimal risk condition if the vehicle becomes unable to perform its driving task;
- 5) Covered by liability coverage not less than two million dollars.⁷⁹

Owners (or lessees) of the vehicles are considered the operators for the purposes of assessing compliance with applicable laws.⁸⁰ If an accident occurs involving an automated commercial motor vehicle, the vehicle must remain on the scene of the accident and the owner or operator must contact appropriate law enforcement entities.⁸¹ A person who remotely operates a commercial motor vehicle with a teleoperation system is subject to the State's jurisdiction for laws governing the testing of the remote driver's blood, breath, or urine for alcohol concentration or the presence of drugs, regardless of where the remote operator is present.⁸²

Automated commercial vehicles are also exempted from traffic laws regulating how closely "truck platoons" may follow each other. The Code of Alabama defines "truck platoon" as a "a group of individual commercial trucks traveling in a unified manner at electronically coordinated speeds at following distances that are closer than would be reasonable and prudent without the electronic coordination."⁸³ The Code elsewhere states that trailing "trucks in a truck platoon are exempt from the provisions of [the rules on following too closely] if the truck platoon is engaged in electronic brake coordination."⁸⁴

Acknowledgement

This report was prepared by Trayce Hockstad J.D. and Justin Fisher J.D., Legal Research Associates, Transportation Policy Research Center, Alabama Transportation Institute, University of Alabama.

¹ <https://www.uniformlaws.org/committees/community-home?CommunityKey=4e70cf8e-a3f4-4c55-9d27-fb3e2ab241d6>.

² 49 C.F.R. § 1.94(b) (stating that the NHTSA has the responsibility of "establishing and enforcing safety standards and regulations for the manufacture ... of motor vehicles").

³ Nat'l Highway Traffic Safety Admin., Quick Reference Guide (2010 Version) to Federal Motor Vehicle Safety Standards and Regulations ii (2011), <https://www.nhtsa.gov/sites/nhtsa.dot.gov/files/fmvss-quickrefguide-hs811439.pdf>.

⁴ Nat'l Highway Traffic Safety Admin., U.S. Dep't of Transp., *Federal Automated Vehicles Policy: Accelerating the Next Revolution in Roadway Safety* at 11 (2016).

⁵ This excludes areas of law which are or may become preempted by federal regulation. *See* 15 U.S.C. § 1392(d):

“Whenever a Federal motor vehicle safety standard established under this subchapter is in effect, no State or political subdivision of a State shall have any authority either to establish, or to continue in effect, with respect to any motor vehicle or item of motor vehicle equipment any safety standard applicable to the same aspect of performance of such vehicle or item of equipment which is not identical to the Federal standard.”

⁶ <https://www.mckinsey.com/industries/automotive-and-assembly/our-insights/self-driving-car-technology-when-will-the-robots-hit-the-road/de-de>.

⁷ Uniform Automated Operation of Vehicles Act.

⁸ <https://futurist.law.umich.edu/you-have-heard-of-the-uniform-commercial-code-here-comes-the-uniform-automated-operation-of-vehicles-act/>.

⁹ Uniform Automated Operation of Vehicle Act, About ULC.

¹⁰ <https://www.uniformlaws.org/acts/ucc>.

¹¹ Uniform Automated Operation of Vehicles Act, § 1.

¹² § 2 (2)-(9).

¹³ § 2 (2). The legislative note to Section 2 explains that the “relevant state agency” mentioned in paragraph (2) could be a department or division of motor vehicles or another state agency that is responsible for the registering or licensing of vehicles.

¹⁴ § 1 comment.

¹⁵ § 2 comment.

¹⁶ § 2 (4).

¹⁷ § 2 comment.

¹⁸ § 3 (a)-(f). The legislative note points out that many states have already adopted automated vehicle legislation to some extent, so a state should consider modifying or repealing existing legislation before implanting this act.

¹⁹ § 3 comment.

²⁰ § 3 (a).

²¹ § 3 (c).

²² § 3 comment. *See* § 9 (e).

²³ § 3 comment.

²⁴ § 3 (d).

²⁵ § 3 comment.

²⁶ § 3 (e).

²⁷ § 3 comment.

²⁸ § 4 comment.

²⁹ § 4 (a)-(b).

³⁰ § 4 legislative note.

³¹ § 4 comment.

³² § 5 (a)-(d).

³³ § 5 (b).

³⁴ § 5 comment.

³⁵ § 5 (e).

³⁶ § 5 (f).

³⁷ § 5 (b).

³⁸ § 5 (h).

³⁹ § 6 comment.

⁴⁰ Uniform Automated Operation of Vehicles Act, § 6 (a)(1)–(3).

⁴¹ § 6 comment.

⁴² § 6 (b)–(c).

⁴³ § 6 (d)–(e).

⁴⁴ § 7 (a)–(d).

⁴⁵ § 7 comment.

⁴⁶ § 8 (a). The legislative note to Section 8 recommends including this language only if the state’s vehicle equipment requirements are not codified in the state’s vehicle code. If the state merges the Act with the state’s vehicle code, this section should be merged into the provisions pertaining to the condition of and equipment on vehicles.

⁴⁷ § 8 (b). This provision may be used to deny or revoke a vehicle’s registration, to remove a vehicle from the road, to impound a vehicle, or to cite a driver or operator. The violation language can be adapted for the enacting state, which might identify an appropriate violation provision in its existing law, reference a residual violation provision, or create a new violation provision applicable to automated vehicles. *See* § 8 comment.

⁴⁸ § 8 (c)–(e).

⁴⁹ § 9 comment.

⁵⁰ *See id.*

⁵¹ § 9 (a). The legislative note to Section 9 recommends including this language only if the state’s vehicle equipment requirements are not codified in the state’s vehicle code. If the state merges the Act with the state’s vehicle code, this section should be merged into the provisions containing the rules of the road. The phrase “rules of the road” refers to state laws on the operation of motor vehicles.

⁵² § 9 (b).

⁵³ § 9 (c).

⁵⁴ § 9 (d). The legislative note for the section recommends reconciliation of this language with existing similar provisions in state’s vehicle code.

⁵⁵ § 9 (e).

⁵⁶ § 9 (f).

⁵⁷ *See* § 9 legislative note.

⁵⁸ § 9 (g).

⁵⁹ § 9 (h). If the state’s vehicle code does not specify numerical minimums for following distance or following time, this subsection may be omitted. *See* § 9 legislative note.

⁶⁰ § 10.

⁶¹ § 11. This section should be included only if the state lacks a general severability statute or a decision by the highest court of the state laying out a general rule of severability. If the state merges this Act with its vehicle code, this section should be inserted into a new provision on automated driving generally. *See* § 11 legislative note.

⁶² <https://www.ghsa.org/state-laws/issues/autonomous%20vehicles> (last visited Apr. 7, 2021).

⁶³ *See* Matthew Roth, *NOTE: Regulating the Future: Autonomous Vehicles and the Role of Government*, 105 Iowa L. Rev. 1411 (March 2020).

⁶⁴ U.S. Dep’t of Transp., *Preparing for the Future of Transportation: Automated Vehicles 3.0*, at ii (acknowledging that NHTSA offers a non-regulatory approach to autonomous vehicle technology) (2018).

⁶⁵ *See* 625 Ill. Comp. Stat. Ann. 5/11-208(e-10); Tex. Transp. Code Ann. § 545.452(b); Tenn. Code Ann. § 55-30-105; N.C. Gen. Stat. Ann. § 20-401(i).

⁶⁶ *See* N.C. Gen. Stat. Ann. § 20-401(i).

⁶⁷ *See* 625 Ill. Comp. Stat. Ann. 5/11-208(e-10).

⁶⁸ *See* 625 Ill. Comp. Stat. Ann. 5/11-208(e-10); Conn. Gen. Stat. Ann. § 13a-260(a)(2); Ga. Code Ann. § 40-1-1(5.1); Colo. Rev. Stat. § 42-1-102(7.7) (specifying this definition only applies to SAE’s 2016 categories of Level 4s and 5s only, not Level 3s).

⁶⁹ *See* Fla. Stat. Ann. § 316.003(3).

⁷⁰ *See* Nev. Admin. Code § 482A.015. For a comprehensive breakdown of the six Levels of Automation, *see*

<https://www.sae.org/news/press-room/2018/12/sae-international-releases-updated-visual-chart-for-its-%E2%80%9Clevels-of-driving-automation%E2%80%9D-standard-for-self-driving-vehicles>.

⁷¹ *See* Colo. Rev. Stat. § 42-1-102(7.7); Conn. Gen. Stat. Ann. § 13a-260(a)(2).

⁷² *See* Tex. Transp. Code Ann. § 545.451(2).

⁷³ *See* Fla. Stat. Ann. § 316.86.

⁷⁴ *See id.* at § 316.003.

⁷⁵ *See* Roth, *supra* note 63, at 1428:

Say a situation arises where the hardware required to run the software of the AV driving system needs to be replaced. A mechanic in Florida determines that the hardware piece needs to be replaced and installs a new hardware part that is of a different brand than what the manufacturer originally built into the car. Has this mechanic “converted” the Level 3 or 4 AV under Florida law?

⁷⁶ *See* Mich. Comp. Laws Ann. §§ 257.665a; 600.2949b(3).

⁷⁷ Code of Ala. § 32-9B-2(b).

⁷⁸ Code of Ala. § 32-9B-1.

⁷⁹ Code of Ala. § 32-9B-3.

⁸⁰ Code of Ala. § 32-9B-4.

⁸¹ Code of Ala. § 32-9B-5.

⁸² Code of Ala. § 32-9B-6.

⁸³ Code of Ala. § 32-1-1.1(84).

⁸⁴ Code of Ala. § 32-5A-89(d).