

DENTONS

2024 US Autonomous Vehicles Guide

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Dentons' Global Autonomous Vehicles group

Dentons' Global Autonomous Vehicles group partners with clients around the globe to navigate the labyrinth of national, regional and local laws, regulations and guidance relating to the development and deployment of autonomous vehicles and systems. We offer a full array of tech, regulatory, transactional and litigation support to the autonomous mobility ecosystem, including to start-ups, emerging companies, multinational vehicle manufacturers, automotive OEMs, vehicle or parts retailers and driverless-technology firms, insurance organizations, and financial institutions.

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Executive Summary

The legal and regulatory landscape governing the testing and deployment of autonomous vehicles (AVs) within the United States (US) continues to evolve. With a blend of federal guidelines, emerging state consensus, and a patchwork of local regulation, the US approach to AVs on public roadways is increasingly becoming a complicated picture for stakeholders. This guide dives deep into this tapestry by summarizing the key AV related regulatory and legal developments from all 50 states and the federal government in 2023.

2023 saw the federal, state, and local governments continue to play distinct yet overlapping roles, crafting a multi-layered array of guardrails that reflect the nation's cautious optimism toward this groundbreaking technology.

The National Highway Traffic Safety Administration continued to take the lead at the federal level with limited activity by Congress. The states, meanwhile, continued to serve as testing grounds for AV development and deployment. From the sun-drenched streets of California and Arizona to the bustling avenues of Florida, AVs continued to expand in 2023, with some states rolling out the red carpet and others taking a more conservative approach. This patchwork of state "rules of the road" continue to present a complex framework for AV companies and those supporting their development and deployment.

Cities and municipalities also asserted their voices, tailoring their approach to the unique rhythms

and needs of urban life. Concerns such as traffic congestion, pedestrian safety, and infrastructure readiness continue to be front of mind.

Underpinning these technological and regulatory advancements are the twin pillars of safety and liability. Regulators in 2023 focused heavily on safety, while critical questions remain around issues of liability. Data privacy, cybersecurity, and the responsible deployment of artificial intelligence also emerged as critical concerns amongst regulators and lawmakers, reflecting the data-intensive nature of AV operations. These ongoing debates underscore the ongoing complexity between innovation and accountability in this space.

The narrative around AV law and regulation in 2023 was also interwoven with broader public policy ambitions, from alleviating urban congestion and cutting emissions to enhancing mobility for those who need it most. Regulations are starting to mirror these larger societal goals, nudging AVs to integrate more seamlessly with public transportation systems and urban planning efforts.

Amidst this whirlwind of technological advancement, a plotline of collaboration began to further unfold in 2023, featuring an ensemble cast of automotive manufacturers, tech giants, universities, and government entities. This evolving partnership trend, marked by public-private initiatives and cooperative regulatory efforts, continues to underscore the collective journey toward a future where innovation, safety, and the public good converge on the roads of America.

Federal Overview

Developments and roadblocks

As (AVs) increasingly join human drivers on public roads within the US, the federal government continues to develop a cohesive strategy governing their testing and deployment. It is estimated that more than 3.5 million AVs will be on public roadways by 2025.¹ With states like California, Texas, Arizona, and Nevada becoming home to hundreds of AVs, from robotaxis to delivery vehicles, federal lawmakers and regulators are continuing to wrestle with developing “rules of the road” for original equipment manufacturers (OEMs), secondary party manufacturers, AV developers, researchers, and testers.

From a legislative perspective, progress has slowed since 2017 when the US House of Representatives (US House) passed the SELF DRIVE Act and the US Senate Commerce Committee passed the AV START Act. Issues of preemption, technology, arbitration and trucks continue to hamper discussions. Since 2017 no AV bill has moved out of the US Congress, despite more than 20 congressional hearings² over the past 10 years, including one as recent³ as July 2023. At the beginning of 2023, the Autonomous Vehicle Industry Association (AVIA) released federal policy recommendations to Congress, outlining recommendations for the development of a federal framework governing AVs.⁴ Whether and to what extent those recommendations will be adopted in 2024 remains to be seen.

Although inaction on federal legislation from Congress has limited the rollout of AVs within the US, lawmakers on Capitol Hill are indicating a desire to address the technology with comprehensive legislation. However, lawmakers on Capitol Hill

are seemingly gearing up for a comprehensive legislative package surrounding autonomous vehicles in the coming years. Momentum is building amongst members of the bipartisan Congressional Autonomous Vehicle Caucus, which added 15 additional members in 2022. In 2023, the House Energy and Commerce Subcommittee on Innovation, Data, and Commerce hosted a legislative hearing entitled “Self-Driving Vehicle Legislative Framework: Enhancing Safety, Improving Lives and Mobility, and Beating China,” as the initial step toward reviving the legislation regulating AVs introduced in 2017.

Leaders on the Energy & Commerce Committee agreed that in order to ensure Americans can reap the benefits of self-driving vehicles, the Congress must enact a comprehensive national law that establishes a pathway to safe deployment. Leaders on committees of jurisdiction and those representing Congressional districts that include major auto manufacturers are setting their sights toward progress in the second half of the 118th Congress and the ensuing sessions. It is anticipated that any federal legislation would address issues such as Chinese AV testing on US roads, which is collectively seen as a security concern, clarify the levels of automation, develop strategies for consumer education, and better define policies such as right to repair and data privacy.

The epicenter of these discussions on Capitol Hill are within the Michigan delegation.

Representative Debbie Dingell, who co-chairs the Autonomous Vehicle Caucus and leads many ongoing House of Representatives efforts on AVs,

is actively reviewing proposals and developing a framework for a larger piece of legislation. In February 2023, Representative Dingell, along with Senators Debbie Stabenow and Gary Peters, helped bring \$3 million in federal funding for the University of Michigan Center for Connected and Automated Transportation (CCAT) to help advance research in connected infrastructure and autonomous vehicles.

The executive branch continues to fill the void as it relates to federal AV guidance. The US Department of Transportation (DOT) under both Presidents Obama and Trump issued plans and strategies for AV development and deployment. These plans and strategies served as guideposts for manufacturers, stakeholders, and states to help think through future AV regulation and guidance. The Trump Administration also published three advanced notices of proposed rulemaking (ANPRMs) relating to AVs, but moved only one to rulemaking - the National Highway Traffic Safety Administration (NHTSA) Notice of Proposed Rulemaking (NPRM) on Occupant Protection for Automated Driving Systems. The Biden Administration moved this proceeding to a final rule, which was published on March 30, 2022 – the first DOT final rule on AVs.

The Biden Administration has also taken steps toward crafting AV regulations, issuing a Standing General Order for AV companies to follow. While neither Secretary Buttigieg, DOT nor NHTSA has openly addressed changing the nation’s entire regulatory approach, these agencies are at least moving the proverbial regulatory ball forward in some respects. NHTSA, for example, amended its reporting requirement⁴ for crashes involving autonomous vehicles in April 2023.

One of the most significant developments in the AV space happened in November 2023 when NHTSA withdrew its vehicle-back to-vehicle (V2V) communications rule.⁵ This rule dates to 2017 and, if not withdrawn, would have required V2V communications technology in all new light vehicles.

While the rule is officially dead, many automakers are still rolling out this technology. The reason behind the change is that the old rule relied on dedicated short-range communication, a now obsolete technology. This has been replaced by cellular vehicle-to-everything technology (C-V2X). DOT has affirmed its commitment to this new technology and unveiled a plan to accelerate its deployment along with \$40 million in grants to help its deploy.

Recently, the DOT announced \$94 million⁶ in funding related to AV technology development for states and local governments to improve transportation technology and systems through its Strengthening Mobility and Revolutionizing Transportation (SMART) Grant Program and a \$25 million funding opportunity for its new Rural Autonomous Vehicle Research Program.⁷ The hope for the Rural Autonomous Vehicle Research Program is that it will lay a foundation for bringing the potential benefits of AVs to rural communities across the US. Accredited universities are eligible to apply for this award. One \$15 million award will focus on passenger transportation and a separate \$10 million award will focus on movement of freight.

Finally, a conversation about the federal approach to AVs would not be complete without mentioning the ongoing federal struggle to comprehensively regulate the development and deployment of artificial intelligence (AI) - the technological backbone to many AVs and their systems. Congress is actively working on many AI bills that may impact the AV industry in 2024. The White House continues to push federal agencies forward in thinking about responsible deployment of AI, with an Executive Order on AI being issued in October 2023. And federal agencies are zeroing in on how private organizations are developing and deploying the technology. The AV ecosystem will be impacted by any federal AI regulatory effort now and into the future.

¹ Autonomous Vehicle Legislation: Integration Of Self-Driving Cars For States

² Congress has stalled on autonomous vehicles, and that's hurting the US

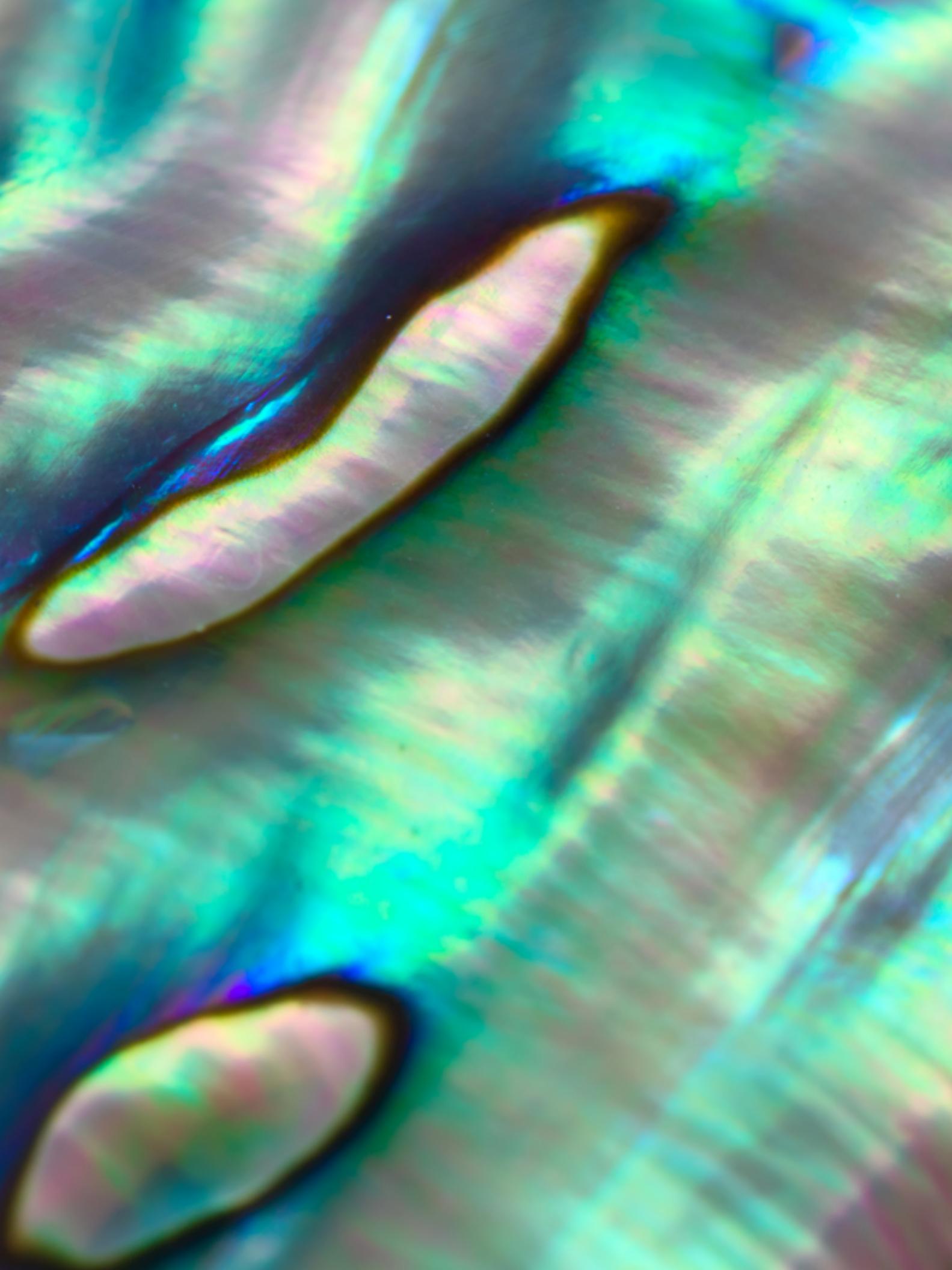
³ Hearing on “self-driving vehicle legislative framework: enhancing safety, improving lives and mobility, and beating china”

⁴ 2023 Legislative and Regulatory Developments Affecting Autonomous Vehicles

⁵ Federal Motor Vehicle Safety Standards; V2V Communications

⁶ 2023 Legislative and Regulatory Developments Affecting Autonomous Vehicles

⁷ U.S. Department of Transportation Announces New Rural Autonomous Vehicle Research Program



State Overview

Alabama

Alabama has been active in the regulation of AVs since it first formed a committee on the subject in 2016. The Alabama Department of Transportation has sole and exclusive jurisdiction over automated driving systems, AVs and teleoperation systems. At present, commercial vehicles are authorized to operate autonomously either with or without a physical driver, as long as a remote driver is capable of operating the vehicle.

Since 2017, there have been numerous bills considered in the Alabama legislature to regulate AVs. In 2019, Senate Bill 47 was passed and signed into law, which created a framework and codified the rules for commercial AVs. State Senator Gerald Allen has been a strong supporter of AVs and earlier this year introduced SB 311, which calls for motor vehicles equipped with automatic driving systems (ADS) to be allowed to operate on public roads. While SB 311 has a long way to go, it is further proof that Alabama is ripe for investment from the AV industry.⁸

Universities in the state have also taken great interest in autonomous technology, with the two largest institutions, Auburn University and the University of Alabama, competing in the Indy Autonomous Challenge. The University of Alabama won in 2021 and 2022.

Auto manufacturing in Alabama has also ramped up operations in recent years due to the rise in popularity of electric vehicles. This investment in the state will affect the AV industry in the coming years.

In 2022, Mercedes-Benz began production of its all-electric EQE SUV in Alabama. In 2023, Hyundai began manufacturing its new EV, Genesis Electrified GV70. This SUV is the first Genesis model to be assembled in the US. To help with building this new vehicle, \$300 million was invested in the facility, creating about 200 new jobs. Since AVs and EVs are fundamentally connected, these developments may be a precursor of things to come in the industry.⁹

Bills Introduced in 2021: Senate Bill 154

Bills Passed in 2021: N/A

Bills Introduced in 2022: N/A

Bills Passed in 2022: N/A

Bills Introduced in 2023: Senate Bill 311

Bills Passed in 2023: N/A

⁸ Self-driving bill wouldn't require driver to be present

⁹ Hyundai's Alabama plant debuts first-of-its-kind electric vehicle

Alaska

Although Alaska has yet to pass significant legislation regarding AVs, the state continues to move forward with efforts to harness the emerging technology. In 2021, the Alaska Connected and Automated Vehicle Working Group released a strategic plan for connected and autonomous vehicles in Alaska. The working group, housed in the Alaska Department of Transportation and Public Facilities, laid out a near-term, mid-term and long-term focus for the state's adoption of AV technology.¹⁰

The state's focus on connected AV technology is logical considering Alaska's challenging geography and environment. While that environment may prove challenging for autonomous robotaxis and delivery vehicles in their current state, the communication between infrastructure, a vehicle and other systems would likely provide more efficient and safe transportation in Alaska. However, this challenging environment also generates opportunities in this space. In 2023, the world's first autonomous ocean mapping mission of Alaska was completed.¹¹ The Saildrone Surveyor SD 1200 mapped 4,739 nautical miles of unknown seafloor around Alaska's Aleutian Islands. This region is notorious for severe weather that prevents most crewed survey vessels from entering. The state also began trials in 2023 of an unmanned aircraft developed by Merlin.¹² The aim of this autonomous route is to deliver goods to underserved communities around the state. The company was awarded a \$1 million contract from the FAA to demonstrate this technology in the state.

Finally, although electric vehicles have had some issues in Alaska due to the cold and harsh environment, that is not stopping municipalities from adding autonomous vehicles to their suite of vehicles. For example, the state's capital, Juneau, has bought seven new electric buses for the city.¹³

Arizona

Arizona has long been one of the nation's leaders in AV research, deployment and acceptance. The historically welcoming nature of Arizona's AV regulatory structure has now solidified the state's standing as a hotbed of AV innovation. In 2023, Waymo became fully operational and now provides autonomous commercial rides within a 180-square-mile radius of the Phoenix area, including Chandler and Scottsdale.¹⁴ In this same area, Waymo and Uber have partnered to offer self-driving vehicles as an option on the popular ride-hailing app.¹⁵ Autonomous trucking companies have also begun to leverage the state's friendly framework for testing and commercialization.

Arizona's rise to prominence in the AV space began with a series of executive orders signed by former Governor Doug Ducey. These efforts led to the state legislature codifying an AV framework in 2021, which formally outlines the requirements for AVs to operate in the state. The framework provides operators and owners with guideposts concerning accidents, taxes, operational requirements and permitting processes. Under this framework, fully autonomous vehicles may operate with the system engaged on public roads, without submitting supporting documents, as long as there is a licensed driver ready to take over the driving task, where necessary.

In 2022, the Arizona legislature passed two additional bills addressing AVs. The first was House Bill 2273, which allows transportation networks to use AVs, and the second was House Bill 1333, which defines "Neighborhood Occupantless Electric Vehicles," such as autonomous delivery devices. These bills will provide certainty to autonomous technology companies looking to join Arizona's AV industry.

Bills Introduced in 2021: House Bill 2007, House Bill 2476, House Bill 2083, House Bill 2813

Bills Passed in 2021: House Bill 2813

Bills Introduced in 2022: House Bill 2014, House Bill 2187, House Bill 2263, House Bill 2273, Senate Bill 1333

Bills Passed in 2022: House Bill 2273, Senate Bill 1333

Bills Introduced in 2023: N/A

Bills Passed in 2023: N/A

Arkansas

Arkansas first addressed the use of AVs in 2019 when it created an AV pilot program overseen by the State Highway Commission. Two years later, in 2021, the state legislature unanimously passed House Bill 1562, which transitioned the pilot program into a formal AV program. The law also introduced the concept of an On-Demand Driverless Vehicle Network, which would create the operation of a vehicle network that connects autonomous vehicles to consumers for goods delivery or transportation. The State Highway Commission remains responsible for overseeing the implementation of the law.

The state also allowed Driver Assistive Truck Platooning (DATP) under legislation that took effect in 2017. This legislation permits vehicle-to-vehicle communication to sync with the vehicle's acceleration and braking systems, while leaving the steering to each individual driver. This process allows for quicker response times to an emergency braking event. House Bill 1321 amended this law in 2023 and now requires a human operator in only the lead vehicle of an autonomous trucking platoon. Previously, each truck in the autonomous trucking platoon needed a human operator. Tyson Foods is testing the new law by teaming up with autonomous vehicle maker Gatik to test a driverless truck route in the state. These trucks will be used to make short deliveries from a production plant to multiple cold storage facilities.¹⁶

While Arkansas does not have as many large cities or the level of infrastructure as some other states, Governor Asa Hutchinson made autonomous vehicle industry recruitment a key part of his vision for Arkansas before he left office. In 2022, he announced a new partnership with Governor Kevin Stitt of Oklahoma to collaborate on AV and future mobility work. The states are encouraging their universities, economic development organizations and industry leaders to work together to advance the future of transportation.

Bills Introduced in 2021: House Bill 1562

Bills Passed in 2021: House Bill 1562

Bills Introduced in 2022: N/A

Bills Passed in 2022: N/A

Bills Introduced in 2023: House Bill 1321

Bills Passed in 2023: House Bill 1321

10 Connected & Automated Vehicle Working Group Strategic Plan

11 World's First Autonomous Ocean Mapping Mission of Alaska Completed

12 Merlin to deliver Alaska cargo with self-flying aircraft

13 Despite Buying a 'Lemon,' Juneau, Alaska, Is Not Done with Electric Buses

14 Waymo expands coverage area in Phoenix. Here's what to know to hail a robotaxi

15 Uber begins offering rides in self-driving Waymo cars

16 Tyson enlists self-driving trucks to deliver chicken wings and hot dogs

California

California continues to lead the nation in AV development, deployment and acceptance. With a comprehensive approach to regulating AVs and the participation of numerous AV operators, California stands at the forefront of the future of AVs.

Since 2017, California has enacted several laws that lay out procedures for the testing and deployment of AVs in the state. The state expanded its program from requiring backup drivers in all test vehicles to also allowing self-driving car tests without backup drivers. To qualify for a driverless testing permit, companies must show proof of insurance or a bond equal to \$5 million, verify that the vehicles are capable of driverless operation and confirm that the vehicles meet Federal Motor Vehicle Safety Standards. As of 2021, 54 companies hold permits to test while completely driverless. In 2021, the state legislature also passed SB 500, which ensured that new light-duty AVs starting in model year 2031 are zero-emission vehicles. The state legislature also passed SB 570, which exempts AVs from regulations that are irrelevant to their operation (i.e., windshield wipers and speedometers) and provides alternative standards.

In 2022, the state legislature passed a law requiring any dealer or manufacturer that sells a vehicle equipped with or a vehicle able to be equipped with a Level 2 driver assistance program to provide the buyer or owner with a notice describing its abilities and limitations. In early 2023, A.B. 316 was introduced, which would have required all vehicles weighing more than 10,000 pounds to have a human driver behind the wheel. The measure made it to Governor Gavin Newsom's desk, where he vetoed it.¹⁷ While seen as a big win for the future of transportation, autonomous vehicles are now under a microscope in the state. There are many opponents in the state legislature.



This past year was another year of growth in the AV space in California. In August, state officials on the California Public Utilities Commission voted to allow certain driverless cars to operate like taxis in San Francisco 24 hours a day, all week.¹⁸ Several cities in and out of the state have followed suit and have started to offer robotaxis, including Los Angeles. While this was a huge step in the right direction, it has come with some added challenges. Safety has increasingly become a concern of regulators in the state, with the California Department of Motor Vehicles and Public Utilities Commission a leading role in investigating accidents.

Bills Introduced in 2021: Senate Bill 66, Senate Bill 570, Senate Bill 500

Bills Passed in 2021: Senate Bill 500, Senate Bill 570

Bills Introduced in 2022: Senate Bill 1398, Assembly Bill 2441

Bills Passed in 2022: Senate Bill 1398, Assembly Bill 2441

Bills Introduced in 2023: Assembly Bill 96, Assembly Bill 316, Assembly Bill 1201

Bills Passed in 2023: Assembly Bill 96

Colorado

Colorado has welcomed AVs in the state since at least 2017, when legislation was passed that allows driverless vehicles to operate in the state so long as they can comply with existing state and federal law. Legislation passed in 2019 further authorized the Colorado Department of Transportation (CDOT) to convene a working group to examine the impact of technology, including autonomy, on transportation business models. The group made its recommendation to the legislature in November 2019. The CDOT is supporting connected technology and has equipped miles of Colorado highways with roadside units that utilize both vehicle-to-vehicle and vehicle-to-infrastructure communication. In July 2022, the CDOT partnered with a private firm to provide 150 roadside units and expand its connected vehicle program. There was no legislation brought forth by the Colorado legislature in 2023 regarding AVs; however, the US Department of Transportation increased funding for AV technology development through the Strengthening Mobility and Revolutionizing Transportation (SMART) grant program, and the CDOT was awarded part of \$94 million in funding, along with several other states.¹⁹

Bills Introduced in 2021: N/A

Bills Passed in 2021: N/A

Bills Introduced in 2022: N/A

Bills Passed in 2022: N/A

Bills Introduced in 2023: N/A

Bills Passed in 2023: N/A

Connecticut

Connecticut currently has a framework in place that permits the testing of AVs. To comply with Connecticut's regulatory framework, operators must undergo a multistage approval process, and testing is only allowed in select municipalities. Connecticut loosened its restrictive framework by allowing operators to not be in the driver's seat as long as they are physically inside the AV to engage the system. The state has also established a task force to study fully autonomous vehicles. In 2022, the state legislature passed a bill permitting and creating regulations for platooning. In 2021, the Connecticut Department of Transportation (CTDOT) released a "Strategic Plan" for the adoption of Connected Autonomous Vehicle Technology. CTDOT has made a strategic decision to focus its efforts on connected AV technology instead of pushing autonomous-only projects.

While 2023 did not bring any new legislation regarding AVs, Connecticut passed SB 1103, a bill concerning artificial intelligence. The bill prohibits the state from implementing any system that uses AI unless an impact assessment has been conducted to make sure the system will not result in any unlawful discrimination and establishes a 21-member working group to make recommendations to the General Law Committee.²⁰

Bills Introduced in 2021: House Bill 6486

Bills Passed in 2021: N/A

Bills Introduced in 2022: House Bill 5255

Bills Passed in 2022: House Bill 5255

Bills Introduced in 2023: N/A

Bills Passed in 2023: N/A

¹⁷ Newsom blocks California bill that would have banned driverless trucks

¹⁸ Cruise, Waymo get green light to give paid rides 24/7 across San Francisco

¹⁹ Strengthening Mobility and Revolutionizing Transportation (SMART) Grants Program

²⁰ An Overview of Connecticut SB 1103

Delaware

Delaware has yet to pass any major AV legislation or see any significant public investment from the AV industry. In 2017, Governor John Carney signed an executive order to establish an Advisory Council on Connected and Autonomous Vehicles. The Advisory Council was tasked with developing recommendations for innovative tools and strategies that can be used to prepare Delaware's transportation network for connected and autonomous vehicles. The Advisory Council's final report was submitted a year later in 2018. The report did not spur any successful legislation.

This does not mean officials are not preparing for the future of transportation. Delaware is in the process of adding artificial intelligence to the operation of all traffic signals in the state. The system involves traffic lights, cameras and sensors, along with data obtained from weather stations and emergency responder channels. Artificial intelligence will ultimately make traffic management decisions based on the data collected and processed.²¹ Delaware's efforts today may pave the road for Delaware to take advantage of legislative changes and further AV enhancement in the future.

Bills Introduced in 2021: N/A

Bills Passed in 2021: N/A

Bills Introduced in 2022: N/A

Bills Passed in 2022: N/A

Bills Introduced in 2023: N/A

Bills Passed in 2023: N/A

Florida

In 2019, Florida began allowing AV testing on public roads without a human operator in the vehicle. Soon after, autonomous trucking took off in the state, with several companies expanding their service. In 2022, Kodiak Robotics, a leader in autonomous trucking, expanded service along the I-10 corridor to Jacksonville, Florida. After beginning service, Kodiak carried freight nearly 5,600 miles from San Antonio, Texas, to the San Francisco Bay Area, to Jacksonville, Florida, and then back to San Antonio.

In 2021, The Florida legislature passed House Bill 1289, which legalized and developed a framework for autonomous delivery vehicles. At the University of Florida, two driverless shuttles are operating with Yunex on-board units that communicate with roadside units to create a connected AV network.

Orlando, Florida debuted a self-driving shuttle in 2023 that will take passengers around a one-mile loop in the downtown area.²² This autonomous shuttle service is operated by Beep Inc. The company operates self-driving routes in several cities across the US, but is based in Orlando. Also in 2023, the Suntrax test facility opened in Florida. It sits on 475 acres and has a 2.25-mile-long track. This multi-lane track is the only high-speed autonomous vehicle testing facility in the Southeast United States.²³ Finally, in September, Waymo, an autonomous robotaxi company, began testing its vehicles on Miami streets.²⁴ These rides will be in autonomous mode, but have an operator inside at all times. The tests are intended to improve autonomous driving in wet conditions.

Bills Passed in 2020: House Bill 1303

Bills Passed in 2021: House Bill 1289

Bills Introduced in 2022:
Senate Bill 150, House Bill 1525

Bills Passed in 2022: N/A

Bills Introduced in 2023: House Bill 425,
Senate Bill 586

Bills Passed in 2023: House Bill 425

Georgia

Georgia allows the operation of both AVs and trucks under legislation passed in 2017. Driverless vehicles are free to operate in the state, so long as they are fully insured and lawfully registered. In Northwest Atlanta, the Cumberland Community Improvement District (CID) began an autonomous shuttle service, transporting riders to popular locations in the area, including Truist Park, where the Atlanta Braves play.²⁵ There are several other autonomous shuttle routes in the surrounding Atlanta area, including a shuttle that traverses a 1.5-mile track in Peachtree Corners and another airport project that will begin testing in the near future.²⁶

During the 2022 legislative session, Georgia lawmakers passed House Bill 1009, which permits the introduction of autonomous delivery vehicles in the state. 2023 brought autonomous robotaxi testing to the state, as well as a new autonomous shuttle in an Atlanta suburb. It also attracted several EV auto manufacturers to the area. Governor Brian Kemp has made this a focal point during his second term as governor. Companies including Hyundai, Rivian and SK Innovation, along with many suppliers, have all broken ground on new facilities with Hyundai's Metaplant projected to be one of the largest EV plants in the country.²⁷

While no new legislation was passed in 2023, a House Subcommittee on Artificial Intelligence was formed and had its first hearing in November. Two similar subcommittees were formed in the Georgia Senate. These subcommittees will look at potential guardrails on artificial intelligence systems throughout the state.

Bills Introduced in 2021: House Bill 249

Bills Passed in 2021: Senate Bill 165

Bills Introduced in 2022: House Bill 249,
House Bill 1009

Bills Passed in 2022: House Bill 1009

Bills Introduced in 2023: N/A

Bills Passed in 2023: N/A

21 AI playing increasing role in managing traffic on nation's roads

22 SWAN Shuttle: Shuttling with Autonomous Navigation

23 Self-driving vehicle facility for testing and research opens in Auburndale

24 Waymo's self driving cars on Miami streets as company tests its technology

25 Cumberland CID to Launch "The Hopper" Autonomous Vehicle Shuttle Pilot Program

26 MARTA to test automated vehicles at Atlanta airport

27 Hyundai Motor Group Breaks Ground on Metaplant America Dedicated EV and Battery Plant

Hawai'i

In 2020, Governor David Ige signed House Bill 2590 into law, creating a pilot program within the Hawai'i Department of Transportation (HDOT) to allow for AV testing on Hawai'i public roads. The law requires that a conventional human driver be physically present in the vehicle at all times to supervise the vehicle and prevent collisions, if possible. The passage of the law was due to the efforts of the Hawai'i Autonomous Vehicle Task Force, which included Dentons Partner Bill Kaneko. Hawai'i represents a unique environment for AV testing and deployment. The combination of an insulated traffic environment, relatively short commuting routes, a smaller population and a limited number of weather and road variables should make Hawai'i an attractive AV testing environment. In 2023, the Hawai'i Department of Transportation, in collaboration with the University of Hawai'i, launched its first autonomous shuttle. The shuttle will run every 30 minutes and make 11 stops throughout the University of Hawai'i campus.²⁸

Bills Passed in 2020: House Bill 2590

Bills Passed in 2021: N/A

Bills Introduced in 2022: N/A

Bills Passed in 2022: N/A

Bills Introduced in 2023: N/A

Bills Passed in 2023: N/A

Idaho

In 2018, Idaho Governor C.L. "Butch" Otter signed Executive Order 2018-01, creating the Autonomous and Connected Vehicle Testing and Deployment Committee. The Committee's charge is to identify relevant state agencies to support the testing and deployment of autonomous and connected vehicles within the state. The Committee submitted its report in November 2018. The report has yet to spur any successful legislation or additional executive action relating to autonomous or connected vehicles.

Bills Passed in 2021: N/A

Bills Introduced in 2022: N/A

Bills Passed in 2022: N/A

Bills Introduced in 2023: N/A

Bills Passed in 2023: N/A

Illinois

The state's autonomous vehicle history began with an executive order signed October 25, 2018 by former Governor Bruce Rauner, which allowed AVs to operate in the state. The order established the Autonomous Illinois Testing Program, overseen by the Illinois Department of Transportation. This order permits AVs to operate within Illinois with an employee of the manufacturer behind the wheel. In 2023, four bills were proposed to define AVs and set safety standards. The first, SB306, would allow AVs to operate if a human is physically present and has the ability to monitor the vehicle's performance and intervene if necessary. The second bill, SB1471, would create an Automated Driving Systems Review Committee and allow Level 2 AVs to be sold, but prohibit the sale or operation of AVs classified as Levels 3, 4 or 5. The third proposed bill, HB2913, would make the manufacturer liable for incidents where the AV is at fault for that incident. The last proposed bill, HB3245, would provide that a dealer or manufacturer shall not sell any new passenger vehicle that is equipped with any partial driving automation feature without giving notice of the functions and limitations of the features.

There continues to be stakeholder movement in the AV space as well. The Illinois Autonomous Vehicle Association (IAVA), a group of stakeholders and interested parties, has partnered with the Smart Transportation Infrastructure Initiative at the University of Illinois Urbana-Champaign in announcing plans to build the Illinois Autonomous and Connected Track (I-ACT). The I-ACT will cover 430 acres of the former Chanute Air Force Base in Rantoul, Illinois.²⁹ The project has already received support from the city, the university community and the Illinois Department of Transportation.

Bills Passed in 2021: N/A

Bills Introduced in 2022: N/A

Bills Passed in 2022: N/A

Bills Introduced in 2023: Senate Bill 306, House Bill 1403, Senate Bill 1471, House Bill 2053, House Bill 2913, House Bill 3245

Bills Passed in 2023: N/A

28 Hdot, uh mānoa launch first autonomous electric shuttle

29 U of I autonomous vehicle track is building the future of mobility

Indiana

While Indiana does not have any current laws or regulations regarding autonomous passenger vehicles, truck platooning has been regulated in the state since 2017. There have been efforts in the past to create an autonomous task force with the power to approve the operation of fully driverless vehicles in the state, but all have failed to garner enough support to pass into law.

The Indianapolis Motor Speedway, the Energy Systems Network and multiple other stakeholders have worked together to introduce the Indy Autonomous Challenge (IAC). This challenge features college and university teams from around the world in an autonomous race around the Indianapolis Motor Speedway. All teams utilize the same Dallara-produced AV-21 retrofitted for autonomy. The teams are responsible for loading software able to put their cars across the finish line first over 20 miles, averaging at least 120 miles per hour. After the inaugural challenge, the IAC announced events in Las Vegas and at the Texas Motor Speedway.³⁰

In 2023, the state announced a partnership with the State of Ohio to test partially automated trucks on a 166-mile stretch of Interstate 70.³¹ A professional driver will always be at the wheel, but the project aims to advance truck automation.

Bills Passed in 2021: N/A

Bills Introduced in 2022: N/A

Bills Passed in 2022: N/A

Bills Introduced in 2023: Senate Bill 141

Bills Passed in 2023: N/A

Iowa

Iowa allows driverless vehicles to operate on public highways without a conventional human driver physically in the vehicle if they meet a set of conditions, including that the vehicle is capable of achieving a minimal risk condition in the event of a malfunction and that the vehicle is capable of operating in compliance with the applicable traffic and motor vehicle safety laws and regulations. In 2019, Iowa passed Senate File 302, establishing more regulation for autonomous vehicles, including terms for insurance, liability, and penalties. Iowa also authorizes on-demand driverless-capable vehicle networks to facilitate the transportation of persons or goods, including transportation for hire. In 2021, the Iowa Transportation Department issued rules that guided the implementation of Senate File 302.

The John Deere factory assembly line in Waterloo, Iowa, has been producing autonomous tractors for several years.³² Autonomous tractors serve as an interesting test case for autonomous technology, as they bring the technology to corners of the country where consumers may not expect to find it.

A team at the University of Iowa is one of the few research institutions to study automated vehicles on gravel. The project is called Automated Driving Systems (ADS) for Rural America.³³ The team is testing the use of automated driving technologies on rural roadways to examine and understand the unique needs of rural environments. UI is one of the only places testing self-driving vehicles on rural roads.

Bills Passed in 2021: N/A

Bills Introduced in 2022: N/A

Bills Passed in 2022: N/A

Bills Introduced in 2023: Senate Bill 141

Bills Passed in 2023: N/A

Kansas

In 2018, the Kansas Department of Transportation created the Statewide Connected and Autonomous Vehicle Task Force to increase awareness and educate state agencies about the process of deploying connected AV systems in Kansas. In 2019, the task force released a strategic plan to introduce connected AV technology in Kansas.

In 2022, Kansas adopted a full legal framework surrounding the operation of AVs within the state with the passage of SB 313. "Driverless-capable vehicles" are now allowed to operate on public roads if they can reach a minimal safety condition, comply with state and federal laws and regulations, do not exceed a weight limit of 34,000 lbs. on tandem axles and have a human driver in the vehicle for the first 12 consecutive months the vehicles operate in the state. Vehicles are exempt from the human-driver requirement if they lack controls or are not designed for human occupancy. Driverless-capable vehicle owners must submit an interaction plan to the Kansas Highway Patrol before the vehicles operate on public roads in Kansas.

Kansas is already seeing an investment in the industry. Autonomous truck provider Gatik is deploying AVs alongside Walmart and other key stakeholders in the state, including the Kansas Department of Transportation, the House and Senate and the Kansas Sheriffs Association.³⁴ Additionally, Panasonic announced it will start building a new battery plant in Kansas and aims to begin mass production by March 2025.

Bills Passed in 2021: N/A

Bills Introduced in 2022: Senate Bill 313, Senate Bill 379, Senate Bill 546

Bills Passed in 2022: Senate Bill 313

Bills Introduced in 2023: N/A

Bills Passed in 2023: N/A

Kentucky

Kentucky passed legislation in 2018 permitting commercial vehicles to operate in a platoon so long as there is a licensed driver behind the wheel and a marker designating that the vehicle is part of a platoon.

In 2023, the state voted on HB 135, which would have established a regulatory framework for the operation of fully autonomous vehicles on public highways. The bill also established requirements for AVs. The bill passed the Kentucky House and Senate but was vetoed by Governor Andy Beshear.³⁵ The governor thought the bill did not address safety concerns and explained that the state needed more time to carefully study the technology.

Despite the bill getting so far, it is only a matter of time before Kentucky allows autonomous vehicles on its roads.

Bills Passed in 2021: N/A

Bills Introduced in 2022: N/A

Bills Passed in 2022: N/A

Bills Introduced in 2023: House Bill 135

Bills Passed in 2023: N/A

30 [Indy Autonomous Challenge](#)

31 [Semi-Automated Trucks to Be Tested on Ohio-Indiana Route](#)

32 [Self-driving Deere tractors to be made in Waterloo](#)

33 [Automated Driving Systems \(ADS\) for Rural America](#)

34 [Gatik and Walmart Partner to Advance Autonomous Vehicle Legislation](#)

35 [Kentucky autonomous vehicle bill vetoed by Beshear](#)

Louisiana

Louisiana passed legislation in 2019 governing the operation of autonomous freight carriers and other autonomous commercial vehicles. This law permits the operation of autonomous truck platoons and specifically authorizes autonomous commercial motor vehicles to operate without a conventional driver physically present in the vehicle if the autonomous commercial motor vehicle meets a set of criteria, including that the vehicle is capable of operating in compliance with applicable law and is capable of achieving a minimal risk condition in the event of an emergency.

Louisiana passed further legislation in 2021 permitting the operation of autonomous personal delivery devices within the state, limiting such devices to 20 miles per hour at most, requiring that an employee be able to monitor and control the device, and requiring that any business operating such a device maintain an insurance policy with coverage not less than \$100,000. The law also allows local governments to further restrict delivery devices in their jurisdictions.

Louisiana passed additional legislation in 2022 exempting vehicles intended to be operated exclusively by an autonomous driving system from requirements that are not applicable to those vehicles.

Bills Passed in 2021: Senate Bill 147

Bills Introduced in 2022: Senate Bill 453

Bills Passed in 2022: Senate Bill 453

Bills Introduced in 2023: N/A

Bills Passed in 2023: N/A

Maine

Maine does not have any laws or regulations pertaining to AVs. Legislation authorized in 2018 created a Commission on Autonomous Vehicles to coordinate efforts among state agencies and knowledgeable stakeholders to develop a process for testing automated driving systems on public roads. The law requires that the Commission issue a final report containing findings and recommendations, including suggested legislation. Additionally, Governor Paul LePage signed an executive order creating the Maine Highly Automated Vehicles Advisory Committee to oversee the introduction of highly automated vehicles.

While there have been pushes for AV legislation in recent years, none have succeeded. Maine still has no standards for the registration of AVs, nor for the licensure of AV operators. In 2022, the University of Southern Maine deployed autonomous delivery bots on campus to assist students and faculty. These robots, supplied by Sodexo, will make the campus more efficient and accessible.

Bills Passed in 2021: N/A

Bills Introduced in 2022: N/A

Bills Passed in 2022: N/A

Bills Introduced in 2023: N/A

Bills Passed in 2023: N/A

Maryland

The Maryland Connected Autonomous Vehicles Working Group was formed in 2015 as the central point for coordination of statewide connective and autonomous vehicle efforts. In 2017, the Maryland Department of Transportation adopted regulations for AV testing, including an approval process for all testing on public roads.

The state released its Connected and Autonomous Vehicles Strategic Framework in 2020. This report establishes the state's thinking about connected and autonomous vehicles and the ways in which partners can support the state's goals and overarching focus areas for resources. This framework invited public and private partners to consider connected and autonomous vehicle systems and evaluate how emerging technology can be integrated into and change their future objectives and plans.

The state passed AV-adjacent legislation in 2021 that allowed for truck platooning and empowered the state to create regulations to carry out the law. In the private space, the Maryland Autonomous Technologies Research Innovations and eXploration lab (MATRIX) is sponsored by the University of Maryland and gives students a personal look at the future of autonomy. These students work alongside several AV companies who utilize the space.³⁶

In 2023, the Maryland Legislature passed SB 806 and the House bill equivalent HB 806, which made it legal to sell or resell a vehicle that has been converted to an autonomous vehicle.

Bills Passed in 2021: Senate Bill 291

Bills Introduced in 2022: N/A

Bills Passed in 2022: N/A

Bills Introduced in 2023: Senate Bill 685, House Bill 806

Bills Passed in 2023: Senate Bill 685, House Bill 806

Massachusetts

While the state of Massachusetts has yet to pass a comprehensive framework concerning AVs, prior executive orders issued by Governor Charlie Baker established a process for testing AVs within the state. An additional executive order established an Autonomous Vehicles Working Group. In the past two years, multiple bills have been introduced in the legislature to regulate AVs on a more comprehensive basis, but none have passed.

Despite a lack of public movement on AV regulation, within the private space, Massachusetts could become a hotbed for AV research and testing, as researchers and students at the Massachusetts Institute of Technology, among other educational institutions, are closely studying AVs and their related technologies.

The Massachusetts state legislature introduced a series of bills that would regulate autonomous vehicles and collectively provide a regulatory framework. The bills would allow autonomous vehicles to operate on Massachusetts roads, but only if they are electric and produce net-zero carbon emissions. These bills are currently pending in the Joint Committee on Transportation.

Bills Passed in 2021: N/A

Bills Introduced in 2022: House Bill 3595, House Bill 4618

Bills Passed in 2022: N/A

Bills Introduced in 2023: Senate Bill 2257, House Bill 3298, House Bill 3324, House Bill 3430

Bills Passed in 2023: N/A



Michigan

Michigan approved legislation in 2016 allowing for pilot testing of AVs. The state is also home to several large testing facilities, including the University of Michigan-owned Mcity. These projects were funded in part by the \$60 million federal grant allocation for automated driving systems research for its Michigan Mobility Collaborative.

By investing in an autonomous future, Michigan is preparing itself for the coming transformation to AV manufacturing. Several major brands have announced plans to manufacture their vehicles in Michigan, including GM, Google and Ford.

Michigan passed legislation in 2022 clearing the way for the state's department of transportation and key collaborators to construct a Connected and Autonomous Vehicle Corridor.³⁷ This corridor is currently slated to be a dedicated roadway alongside I-94, from Detroit to Ann Arbor, fitted with new technology and key safety measures. The state claims this stretch of I-94 will be "the world's most sophisticated roadway."

Bills Passed in 2021: N/A

Bills Introduced in 2022: House Bill 5601, House Bill 6369, Senate Bill 706, Senate Bill 1168

Bills Passed in 2022: Senate Bill 706

Bills Introduced in 2023: N/A

Bills Passed in 2023: N/A

Minnesota

Although Minnesota has no laws or regulations specifically addressing the testing or operation of AVs, the state's Department of Transportation (MNDOT) is actively promoting and preparing for widespread autonomous technology deployment within the state following an executive order signed in 2018 by Governor Mark Dayton creating a Governor's Advisory Council on Connected and Automated Vehicles to recommend a path forward within the state. Its resulting 66-page report delivered a rosy outlook on automated cars and included draft legislation setting up a permit system and giving MNDOT wide latitude to decide whether to allow a business to test, based on its history with self-driving technology. The Minnesota legislature has yet to pass legislation addressing AVs.

There were two bills in 2021 that concerned autonomous vehicles, but both stalled in the legislature. Senate Bill 214 sought to prohibit Level 4 or 5 automated driving systems from operating in the state. House Bill 230 encouraged the state to investigate using autonomous vehicles for mass transit through a micro transit rideshare pilot program. Despite the legislature's unwillingness to pass legislation, the state has helped launch several driverless shuttle projects over the past several years. This includes one in Grand Rapids through goMARTI, Minnesota's Autonomous Rural Transit Initiative.³⁸ The goMARTI shuttle project utilizes several partners, with the majority of funding coming from MNDOT, to launch five driverless shuttles provided by May Mobility, three that are ADA-compliant and able to be requested for pickup from a mobile phone app. Over the next 18 months, the partners hope to gain key experience and data, further educate the public and provide safe and accessible mobility to those who face transportation challenges.

Important projects such as goMARTI are encouraged and supported by MNDOT's focus on connected and autonomous vehicles. In particular, the state sponsors a CAV Challenge, which encourages people to submit ideas for possible funding from MNDOT.

Bills Passed in 2021: N/A

Bills Introduced in 2022: N/A

Bills Passed in 2022: N/A

Bills Introduced in 2023: N/A

Bills Passed in 2023: N/A

³⁷ I-94 Connected & Automated Vehicle (CAV) Corridor Proposed Project

³⁸ goMARTI: Grand Rapids, Minnesota

Mississippi

Mississippi has yet to pass legislation concerning autonomous passenger vehicles. However, the state does permit platooning, as long as the operator receives approval from the Department of Transportation and the Department of Public Safety.

Although there is no widespread adoption or deployment of autonomous vehicles in the state, one of its educational institutions is supporting the technology's development through the Mississippi State University Center for Advanced Vehicular Systems (CAVS).³⁹ MSU CAVS has spent time focusing on how autonomous technology might operate in an off-road setting. In addition to its physical "proving grounds," it is developing an open-source simulator that will allow autonomous software to be tested in a virtual environment before it hits the open road (or off-road). In 2022, MSU CAVS announced a partnership with the Quantum Corporation to help store and process the large amounts of data needed to develop autonomous technology.

In 2023, the Mississippi legislature passed HB 1003, the Fully Autonomous Vehicle Enabling Act of 2023. The bill authorized the operation of fully autonomous vehicles on public roads within the state without a human driver, provided that certain conditions are met.

Bills Passed in 2021: N/A

Bills Introduced in 2022: N/A

Bills Passed in 2022: N/A

Bills Introduced in 2023: House Bill 1003, Senate Bill 2569

Bills Passed in 2023: House Bill 1003

Missouri

Missouri does not have any laws regarding the registration, testing or deployment of autonomous vehicles. In past legislative sessions, lawmakers have proposed legalization to prohibit the use of autonomous vehicles. In 2021, legislators introduced Senate Bill 452, which would have codified autonomous vehicles and laid ground rules for their operation. This bill did not generate momentum and failed. Senate Bill 176, which sets regulations for delivery robots, passed in 2021 and became law.

In 2022, lawmakers failed to pass Senate Bill 1038, a bill that would have legalized platooning in Missouri. In 2023, a set of bills (Senate Bill 188, House Bill 624) relating to platooning was introduced. While neither bill appears to have been passed by the legislature, the Missouri Senate Transportation, Infrastructure and Public Safety Committee did pass Senate Bill 188. While the state has been reticent thus far to engage with autonomous vehicle legislation, perhaps the new developments in its neighbor states, Arkansas, Oklahoma and Kansas, will help Missouri feel more comfortable opening up the state to the autonomous vehicle industry.

Bills Introduced in 2021: Senate Bill 176, Senate Bill 452

Bills Passed in 2021: Senate Bill 176

Bills Introduced in 2022: Senate Bill 1038

Bills Passed in 2022: N/A

Bills Introduced in 2023: Senate Bill 188, House Bill 624

Bills Passed in 2023: N/A

Montana

Montana currently has no laws or executive orders governing AVs; however, the legislature did introduce, albeit fail to pass, a 2023 bill (House Bill 339) relating to the use of AVs in connection with platooning and passed House Joint Resolution 10 establishing a study committee on autonomous vehicles in 2021. The committee will include people from the state's department of transportation, department of justice, highway patrol and automobile and insurance community, among others.

The lack of explicit regulation, however, has not deterred the state from working with AV companies. In 2022, Aurora announced its plans to build a 78,000-square-foot facility at the Montana State University Innovation Campus. Aurora purchased Blackmore, a Montana-based company that specializes in Lidar, in 2019 and will now return to Bozeman for further investment. Montana State faculty are particularly excited for students and professors to work alongside a company in this innovative space.

Embark Trucks announced that it completed a groundbreaking test on snowy conditions in the spring of 2022 in Montana. The truck completed a 60-mile round trip on public roads during a period of snowfall, with rates up to one-sixth inch per hour – eventually an inch of snow accumulated over three hours.

Due to these recent developments and the completion of the state's study committee, stakeholders may look for potential action in Montana during the upcoming legislative session.

Bills Adopted in 2021: House Joint Resolution 10

Bills Introduced in 2022: N/A

Bills Passed in 2022: N/A

Bills Introduced in 2023: House Bill 339

Bills Passed in 2023: N/A

Nebraska

In April 2018, Nebraska lawmakers cleared the way for companies to test self-driving vehicles, as long as the vehicle is capable of operating in compliance with traffic and motor vehicle safety laws. The AV may or may not contain a human driver, but if a human driver is present, he or she must be a licensed driver and covered by insurance. The law also authorizes the operation of an on-demand AV network for the transport of persons or goods, including for-hire transportation or public transportation.

While there has been limited deployment and testing across Nebraska, the state has not yet seen widespread deployment. Except for a bill (LB625) introduced in January 2023 to establish a comprehensive regulatory framework for AVs in Nebraska, which appears to have stalled in committee, there has been no momentum for further legislation. In recent years, a proposal to study autonomous vehicles as they relate to a variety of unconsidered issues did not pass.

Bills Introduced in 2021: LR155

Bills Passed in 2021: N/A

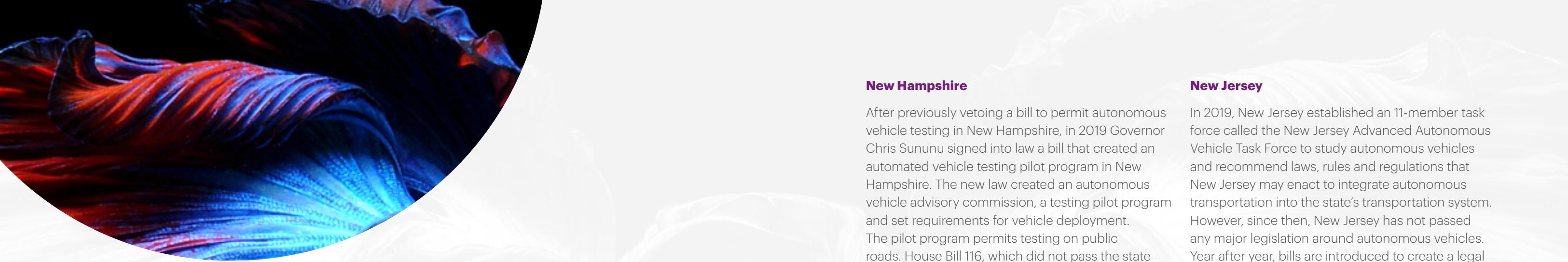
Bills Introduced in 2022: LR 155

Bills Passed in 2022: N/A

Bills Introduced in 2023: LB625

Bills Passed in 2023: N/A

39 Center for Advanced Vehicular Systems



Nevada

Since Nevada passed AV legislation in 2012, the state has been at the forefront of driverless vehicle innovation. In 2017, with the passage of Assembly Bill 69, Nevada permitted the testing and commercial public deployment of AVs—later that year, Las Vegas had its first completely autonomous electric shuttle deployed for public use. In 2019, the AV startup Zoox received permission from the Nevada Department of Motor Vehicles to deploy AVs on state roads.

In 2021, the Nevada State Legislature passed two new bills that updated the state's code and kept it at the forefront of autonomous technology. Assembly Bill 412 codified requirements and exceptions for “neighborhood occupantless vehicle[s]” such as the autonomous delivery vehicles beginning to roll out across the country. These vehicles, such as Nuro, are introducing consumers to autonomous vehicles and commercializing the technology.

Senate Bill 288 permits an autonomous technology company to enter into an agreement with a transportation network in the state. This bill will clearly benefit rideshare companies looking to partner with autonomous vehicle companies.

From 2021 to 2022, Motional has launched rides in autonomous vehicles on the Las Vegas strip on three separate transportation networks: Via, Lyft and Uber. Motional has partnered with the State of Nevada to bring high-paying jobs to the state and cutting-edge technology to Las Vegas. Instead

of trying to build its own operation entirely from the ground up, Motional has partnered with three established players in the space who can focus on deployment. Motional, therefore, has the luxury of giving the technology its complete attention. For now, these rides are non-commercial and include safety drivers in the front seat.⁴⁰

In 2023, a bill (Senate Bill 182) to impose heightened proof of ownership requirements on autonomous vehicle owners was introduced and passed. The law appears to exempt manufacturers of fully autonomous vehicles in Nevada from some franchise and repair regulations. Also, the Nevada Department of Motor Vehicles posted forms on its website enabling AV manufacturers and developers interested in testing their vehicles in Nevada to self-certify that their vehicles meet Nevada vehicle safety standards.

Bills Enrolled in 2021: Assembly Bill 412, Senate Bill 288

Bills Passed in 2021: Assembly Bill 412, Senate Bill 288

Bills Introduced in 2022: N/A

Bills Passed in 2022: N/A

Bills Introduced in 2023: Senate Bill 182

Bills Passed in 2023: Senate Bill 182

New Hampshire

After previously vetoing a bill to permit autonomous vehicle testing in New Hampshire, in 2019 Governor Chris Sununu signed into law a bill that created an automated vehicle testing pilot program in New Hampshire. The new law created an autonomous vehicle advisory commission, a testing pilot program and set requirements for vehicle deployment. The pilot program permits testing on public roads. House Bill 116, which did not pass the state legislature, would have codified delivery robots. Other efforts in the state are underway with respect to the use of autonomous technology, including in connection with maritime-related activities. In 2023, the University of New Hampshire entered into a partnership with Exail to launch an innovation hub to engage in all aspects of marine autonomous operations, including surface vehicles for exploration and ocean mapping, to “help meet the challenges of the growing blue economy.”⁴¹

Bills Introduced in 2021: House Bill 116

Bills Passed in 2021: N/A

Bills Introduced in 2022: N/A

Bills Passed in 2022: N/A

Bills Introduced in 2023: N/A

Bills Passed in 2023: N/A

New Jersey

In 2019, New Jersey established an 11-member task force called the New Jersey Advanced Autonomous Vehicle Task Force to study autonomous vehicles and recommend laws, rules and regulations that New Jersey may enact to integrate autonomous transportation into the state’s transportation system. However, since then, New Jersey has not passed any major legislation around autonomous vehicles. Year after year, bills are introduced to create a legal framework for AVs, but they never come to fruition.

However, after years of inactivity, things are beginning to change. In December 2021, Governor Phil Murphy announced that his office would partner with the New Jersey Department of Transportation, the City of Trenton and Princeton University to launch Trenton MOVES. Trenton MOVES will be the first autonomous vehicle-based urban transit system in the US. Companies are invited to share their interest in building an on-demand transit system that features 100 autonomous vehicles and serves the 90,000 residents of New Jersey’s capital city. In February 2022, Trenton MOVES received a \$5 million grant from the state’s Department of Transportation to help support the project. Trenton MOVES says it has received interest from 20 different autonomous vehicle companies who want to participate in the project and has held a demo with May Mobility. The project won a state transportation award for its planning as it continues to move toward actuality.

Elsewhere in New Jersey, the Port Authority of New York and New Jersey (PANYNJ) ran a test period for two platooning autonomous shuttles from Navya that could be used to assist with first/last mile transport in crowded places of interest. The shuttles received rave reviews and were featured in a daily *New York Times* newsletter, where reporter James Barron described his experience stepping out in front of the shuttle to test its capabilities.⁴² In Monmouth County, New Jersey, NJ Transit, in partnership with Rutgers University and Infratek Solutions, launched the AVATAR Pilot (Autonomous

40 Motional opens Las Vegas robotaxis service to nighttime hours

41 UNH and Exail Open New Maritime Autonomy Innovation Hub

42 The Day I Stood in the Path of a Driverless Bus

Vehicle Assessment, Testing and Research, Pilot). The pilot tested two 15-passenger AV shuttle vehicles on a closed course separate from public roads at the former Marlboro Airport.⁴³

Bills Introduced in 2021: SJR 17, AJR 138, A 1187, A 1189, A 1607, Senate 2129, A 2807

Bills Passed in 2021: N/A

Bills Introduced in 2022: Assembly Bill 1810, Assembly Bill 1812, Assembly Bill 2030, Assembly Bill 2031, Assembly Bill 2038, Assembly Bill 2495, Assembly Joint Resolution 43, Senate Joint Resolution 20

Bills Passed in 2022: N/A

Bills Introduced in 2023: N/A

Bills Passed in 2023: N/A

New Mexico

New Mexico has historically seen a fair amount of autonomous vehicle investment, especially concerning autonomous trucks. However, until 2022, the state had no formalized framework for autonomous vehicles or autonomous vehicle testing. House Bill 270 defines autonomous vehicles as those with Level 3, 4 or 5 systems, regulates autonomous vehicles and autonomous vehicle testing, and allows for platooning. A bill was introduced in 2023 (House Bill 378) to prohibit an autonomous vehicle from transporting goods or passengers without a human operator physically present, but the bill appears to have been effectively rejected by the New Mexico legislature.

Already, New Mexico has seen this new legal framework pay dividends. Torc Robotics operates a testing center in Albuquerque.⁴⁴ Through its recent legislation, New Mexico has joined other Southwestern states such as Nevada, Arizona and Texas to create a sizable surface area of autonomous vehicle-supporting jurisdictions. This collaboration provides a solid testing area for autonomous trucks in particular, as they travel longer routes.

Moving forward, autonomous vehicle supporters are already expressing the need to invest in broadband access to fully realize the potential of CAV technology.

Bill Introduced in 2021: House Bill 270

Bills Passed in 2021: House Bill 270

Bills Introduced in 2022: N/A

Bills Passed in 2022: N/A

Bills Introduced in 2023: House Bill 378

Bills Passed in 2023: N/A

New York

New York has highly restrictive regulations on AV testing. Under legislation approved in 2017, any testing must be approved by the commissioner of the Department of Motor Vehicles, supervised by the New York State Police and levied with significant hourly and per mile rates. Some autonomous companies have tested their technology in private areas away from New York's regulations, but there have not been any sustained large-scale testing efforts.

From 2021 through 2022, there were reports that Mobileye, the Intel-backed autonomous vehicle company, tested at least two vehicles in New York City for a period of time. The rollout was not highly publicized, but was conducted in alignment with New York regulations.

In 2023, one Assembly bill (A00539A), and its Senate companion (S1012), were introduced to allow fully autonomous vehicles to operate on New York roads without a driver. However, neither bill appears to have gained any traction and may have been effectively discarded. The same fate appears to have befallen two other bills introduced in 2023: A00525, a bill to establish a task force on automated vehicle technology to study and assess the future of automated vehicle technology, and A2598, a bill to establish a task force to study autonomous vehicle usage on the roads located within the State of New York. Lastly, the Port Authority of New York and New Jersey partnered with Navya to launch two platooning autonomous shuttles as a limited project at John F. Kennedy International Airport.⁴⁵

Bills Introduced in 2021: A639, A3743, A4280, A7744, S3909, S6993

Bills Passed in 2021: N/A

Bills Introduced in 2022: A9485, A9705, S8468

Bills Passed in 2022: N/A

Bills Introduced in 2023: A00539A, A00525, S1012, A2598

Bills Passed in 2023: N/A

43 Can Autonomous Vehicles address the First-mile, Last-mile Problem?

44 Autonomous trucks prove their mettle on historic Route 66

45 PANYNJ to Host Second Platooning Demonstration of Autonomous Vehicles at JFK Airport

North Carolina

In 2020, Governor Cooper signed Senate Bill 739 into law, allowing autonomous delivery devices in pedestrian areas and on highways. In 2022, the state legislature followed by passing Senate Bill 814, which codified and regulated “neighborhood occupantless vehicles.” In contrast to SB 739, neighborhood occupantless vehicles are fully autonomous and do not require an operator.

The State of North Carolina has done more than pass legislation supporting autonomous vehicle technology and the autonomous vehicle industry. In 2023, the North Carolina Department of Transportation and the City of Cary, North Carolina, launched an experiment relating to autonomous vehicles involving the use of an all-electric, driverless shuttle pilot known as CASSI (Connected Autonomous Shuttle Supporting Innovation).⁴⁶ The experiment included a four-stop route from the Cary Senior Center to Bond Park Community Center.

North Carolina’s esteemed universities have created a culture of excitement throughout the state at the thought of future technologies and mobility options. Researchers at NC State University have developed

a technique that allows AVs to make important calculations more quickly through a cooperative distributed algorithm that breaks problems down into sub-parts that are solved in parallel.⁴⁷

At North Carolina AT&T, university leaders are investing in autonomous vehicles and growing the school’s fleet. Now, they have unveiled a two-mile test track that allows researchers to test vehicles in real-world conditions.⁴⁸ Faculty believe these autonomous shuttles could create more equitable transportation solutions in low-demand rural areas that need flexible solutions. When these shuttles are launched, City of Greensboro officials have discussed integrating their operations into the wider city-wide transportation equation.

Bills Introduced in 2021: House Bill 814

Bills Passed in 2021: House Bill 814

Bills Introduced in 2022: N/A

Bills Passed in 2022: N/A

Bills Introduced in 2023: N/A

Bills Passed in 2023: N/A

North Dakota

North Dakota permits autonomous vehicle operation, as long as the vehicle is capable of operating in compliance with all applicable federal and state laws. State law does not require a human driver to operate on the public highway if the autonomous vehicle is capable of achieving a minimal risk condition in case of a system failure. The law permits on-demand autonomous vehicle networks to provide transportation of persons or goods.

North Dakota also allows for truck platooning, subject to the Department of Transportation, in coordination with the State Highway Patrol superintendent, developing an operational plan that provides guidelines for operation. The plan must include operational information that is provided by a platoon technology provider or commercial motor vehicle operator.

In North Dakota, the agriculture industry is focused on utilizing autonomous technology to increase efficiency and production. The University of North Dakota received a \$1 million grant from the Economic Development Administration (EDA) to study the economic impact of the state’s uncrewed aerial systems network. Grand Farm, an initiative dedicated to improvements in farming, hosted an event bringing together growers, stakeholders and autonomous industry experts to focus on possible opportunities to collaborate. Relatedly, the State of North Dakota recently introduced and passed a law (ND H 1519) providing appropriations to the Department of Career and Technical Education and the Agriculture Commissioner for autonomous vehicle-related and other autonomous technology grants.

Bills Introduced in 2021: N/A

Bills Passed in 2021: N/A

Bills Introduced in 2022: N/A

Bills Passed in 2022: N/A

Bills Introduced in 2023: House Bill 1519

Bills Passed in 2023: House Bill 1519

Ohio

There are no laws in Ohio governing AVs, but there are relevant executive orders (EO) signed by former Governor John Kasich in 2018. The first EO created DriveOhio, a new division of the state DOT, that allows any company to test AVs in the state, so long as they register with DriveOhio and have a human operator behind the wheel. Four cities—Columbus, Dublin, Athens and Marysville—have already signed agreements with DriveOhio to test AVs on their streets, and the state has designated a 35-mile stretch of US Route 33 a “Smart Mobility Corridor” for the deployment of connected vehicle technologies. A \$45 million SMART Testing Center opened in Logan County and is funded by a partnership between Ohio State University and the State of Ohio, will include an indoor highway track capable of simulating ice and snow year-round. The second EO created regulations for testing self-driving vehicles in the state.

DriveOhio previously deployed its Rural Automated Driving Systems project after two autonomous semi-trucks completed their controlled testing and, in partnership with the Indiana Department of Transportation and the Transportation Research Center, will build an I-79 Truck Automation Corridor.⁴⁹ The Corridor will be a lane for autonomous trucking between Columbus, Ohio, and Indianapolis, Indiana. DriveOhio continues to focus on long-term deployment of autonomous technology across the state.

Bills Introduced in 2021: N/A

Bills Passed in 2021: N/A

Bills Introduced in 2022: N/A

Bills Passed in 2022: N/A

Bills Introduced in 2023: N/A

Bills Passed in 2023: N/A

46 NCDOT releases data on CASSI autonomous shuttle pilot program

47 Connected and Autonomous Vehicles

48 N.C A&T UNVEILS AUTONOMOUS SHUTTLE ROUTE TO DOWNTOWN GREENSBORO

49 DriveOhio Deploys Automated Vehicles on Ohio Roadways

Oklahoma

Historically, Oklahoma has not prioritized autonomous vehicles, nor constructed any type of regulatory or legal framework. However, Governor Kevin Stitt has continued to sign autonomous vehicle legislation, including platooning laws, and the creation of the Oklahoma Advanced Mobility Pilot Program, which focuses on autonomous vehicle adoption. In the 2022 session, Oklahoma passed a law approving autonomous delivery vehicles. Notably, Oklahoma law makes clear that "Only the State of Oklahoma may enact a law or take any other action to regulate the operation of motor vehicles equipped with driving automation systems in Oklahoma" and state law "preempts county or municipality authority and supersedes county or municipality laws or ordinances."

In 2022, Governor Kevin Stitt partnered with outgoing Arkansas Governor Asa Hutchinson to create an innovative partnership for the states to collaborate on autonomous vehicle and future mobility work. Together, Arkansas and Oklahoma are paving a new path forward for states that want to attract the AV industry. While they may not possess the same natural advantages as California or Arizona, Arkansas and Oklahoma are encouraging their public educational institutions, economic development organizations and industry leaders to work together in creating an environment that advances current work while encouraging new investment from companies involved in future mobility work.

By creating out-of-the-box solutions, Governor Stitt and Governor Hutchinson have ensured that their states will not fall behind others, but still gather the full benefit of autonomous technology. An example of such a benefit is the fall 2023 launch of the first commercial autonomous trucking lane between Houston and Oklahoma City involving A.P. Moller – Maersk and Kodiak Robotics, Inc.⁵⁰

Bills Passed in 2020: Senate Bill 1688

Bills Introduced in 2021: N/A

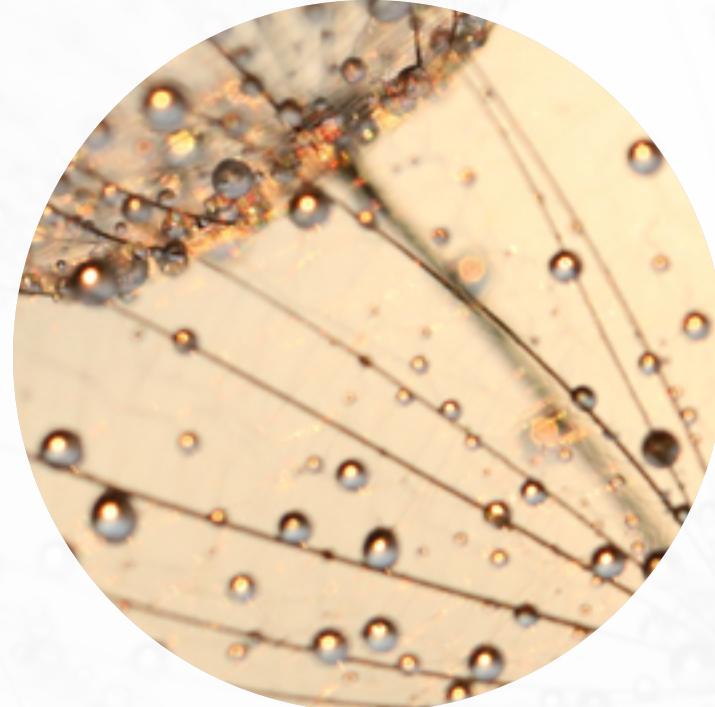
Bills Passed in 2021: Senate Bill 706

Bills Introduced in 2022: House Bill 3317, House Bill 3483, Senate Bill 1541

Bills Passed in 2022: Senate Bill 1541

Bills Introduced in 2023: N/A

Bills Passed in 2023: N/A



Oregon

Oregon has no current regulations in place concerning autonomous vehicles. However, House Bill 4063, signed by Governor Kate Brown on April 10, 2018, named the Oregon Department of Transportation (ODOT) the state's lead agency on automated vehicle policy and directed the ODOT to facilitate a task force on automated vehicles. The task force submitted its first report to the legislature on September 10, 2018 and its second on September 9, 2019. The task force voted to continue meeting on an ad hoc basis in response to significant developments in automated vehicle technology and policy. The task force dissolved on January 2, 2021. Meanwhile, ODOT's Office of Innovative Funding continues to provide a voluntary testing notification form to initiate the exchange of information between AV manufacturers and the agency. This voluntary notification process allows ODOT to provide safety information to interested companies, solicit feedback from AV system developers and track AV testing in the state.

In the past, different agricultural producers have utilized autonomous technology in Oregon and more integration in this space is anticipated in the future.

Bills Introduced in 2021: N/A

Bills Passed in 2021: N/A

Bills Introduced in 2022: N/A

Bills Passed in 2022: N/A

Bills Introduced in 2023: N/A

Bills Passed in 2023: N/A

Pennsylvania

After years at the forefront of autonomous vehicle research, due in part to Carnegie Mellon University's history in the space, Pennsylvania has finally passed a comprehensive legal framework for autonomous vehicles via House Bill 2398, which took effect in July 2023. The law has successfully spurred autonomous vehicle-related initiatives into action, including a project funded by the Delaware Valley Regional Planning Commission's "Travel Options Program" that is designed to enhance access to the Navy Yard in South Philadelphia involving Drexel University and a mid-sized self-driving transit shuttle.⁵¹ Consequently, Pennsylvania will be able to join in the investments from an industry that it helped incubate for years.

Now that autonomous vehicles can operate on public roads, many of the state's AV companies are looking forward to quickly moving toward commercialization. Even still, the state's autonomous technology industry has experienced some consolidation while major players in the space dissolve and send their expertise to other players in the field. This consolidation can benefit the industry in the long run as key experts collaborate and amplify each other's development efforts.

Bills Introduced in 2021: N/A

Bills Passed in 2021: N/A

Bills Introduced in 2022: House Bill 2398, Senate Bill 965

Bills Passed in 2022: House Bill 2398

Bills Introduced in 2023: N/A

Bills Passed in 2023: N/A

50 Maersk and Kodiak Robotics Launch the First Commercial Autonomous Trucking Lane Between Houston and Oklahoma City

51 Philadelphia navy yard embraces innovation with automated shuttle launch



Rhode Island

Rhode Island has yet to pass legislation on that affects autonomous vehicles. The Rhode Island Department of Transportation started the Rhode Island Transportation Innovation Partnership (TRIP) in 2017 to encourage autonomous vehicle testing and usage. Multiple autonomous shuttles, including those relating to the "Little Roady" Pilot Project (which offered free rides on an autonomous shuttle along a 12-stop, 5.3-mile fixed route between Olneyville Square and the Providence Train Station), have conducted limited runs in the state.

Researchers at the University of Rhode Island continue to find innovative uses for automated technology and plan on including it in their new project, alongside the University of Hawai'i, to research "the shape, size and drifting speed of the icebergs, and the properties of the surrounding water."

Bills Introduced in 2021: N/A
Bills Passed in 2021: N/A
Bills Introduced in 2022: N/A
Bills Passed in 2022: N/A
Bills Introduced in 2023: N/A
Bills Passed in 2023: N/A

South Carolina

South Carolina has yet to pass legislation that affects autonomous passenger vehicles, but it has exempted platoons from certain traffic laws.

As a major automotive manufacturing state, South Carolina will likely play a large role in producing the next generation of automobiles. BMW Manufacturing opened a new logistics center on Freeman Farm Road in Spartanburg, South Carolina, that utilizes autonomous vehicles to transport goods across two public bridges that lead to I-85. Additionally, Latitude AI, Ford's new wholly owned subsidiary whose mission is to develop a hands-free, eyes-off-the-road, automated driving system, will operate a highway-speed test track facility in Greenville, South Carolina.

Bills Introduced in 2021: N/A
Bills Passed in 2021: N/A
Bills Introduced in 2022: N/A
Bills Passed in 2022: N/A
Bills Introduced in 2023: N/A
Bills Passed in 2023: N/A

South Dakota

South Dakota has directed the Transportation Commission to promulgate rules to authorize the testing and operation of platooning at electronically coordinated speed and distance intervals that are closer than otherwise allowed under the "following too closely" laws in the state. Further, in January 2023, South Dakota introduced House Bill 1120, a bill designed to set up parameters for using autonomous vehicles in the state. However, the bill appears to have been, at least temporarily, discarded through an obscure legislative technicality known as a "Deferral to the 41st legislative day."

Raven Industries, a South Dakota-based company, is continuing to lead the way in integrating autonomous technology with agriculture, a process it calls "autonomous farming.⁵²"
Bills Introduced in 2021: N/A
Bills Passed in 2021: N/A
Bills Introduced in 2022: N/A
Bills Passed in 2022: N/A
Bills Introduced in 2023: House Bill 1120
Bills Passed in 2023: N/A

Tennessee

Legislation passed in 2017 allows certified autonomous vehicles to operate in the state, provided they contain automatic crash recording and notification technology. The law also preempts local regulation of ADS-operated vehicles and specifies that the ADS shall be considered a driver for liability purposes when it is fully engaged and operated properly. Legislation introduced in 2023 (House Bill 0139 and Senate Bill 0083) appears to build on the 2017 legislation by eliminating regulatory requirements relating to the platooning of commercial vehicles and thus allowing, if not promoting, the use of autonomous commercial vehicles in platoons.

The TennSmart consortium, made up of government agencies, universities and companies with ties to the state, hopes to encourage collaboration and innovation in the AV area.⁵³

Vanderbilt University and the Tennessee Department of Transportation announced a partnership to conduct a road study on I-24 that examines how autonomous vehicles impact traffic. By recording traffic data and analyzing the videos, researchers will be able to identify where “phantom traffic” originates.⁵⁴ Phantom traffic is slowdowns created by human reactions to traffic conditions instead of wrecks or emergencies. In addition to analyzing video tape, researchers will introduce 100 autonomous vehicles onto the road to see if they can help mitigate the causes of phantom traffic. Last fall, researchers from the CIRCLES Consortium, which includes the previously stated members plus Nissan, Toyota and GM, launched this project in full. Now, selected testers are travelling along I-24, equipped with collection devices, each morning to gather data about traffic.

These vehicles utilize adaptive cruise control and communication technology to work in sequence to eliminate the stop-and-go traffic that clogs up morning commutes. If this project is successful, it could go a long way to eliminating “phantom traffic” as we know it.

Bills Introduced in 2021: N/A

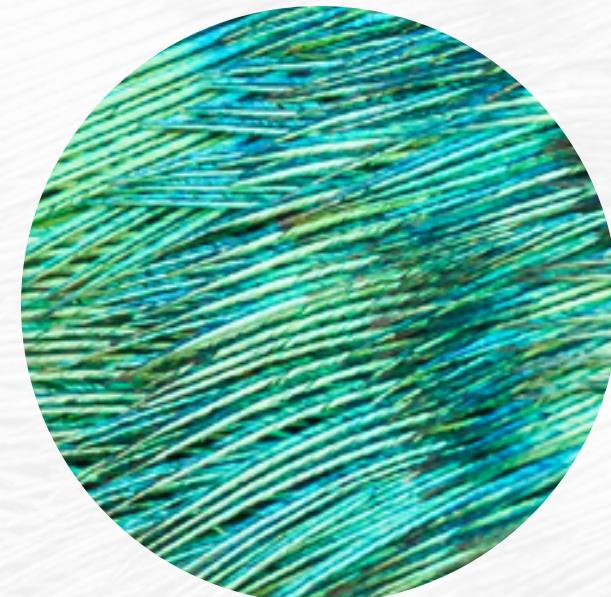
Bills Passed in 2021: N/A

Bills Introduced in 2022: N/A

Bills Passed in 2022: N/A

Bills Introduced in 2023: House Bill 0139,
Senate Bill 0083

Bills Passed in 2023: N/A



Texas

Texas’ geography and friendly regulatory climate have made it a magnet for autonomous vehicle testing for some time. However, over the last year, it seems almost every major autonomous vehicle company has launched a project across Texas’ wide plains. Texas is commanding a California-like status in the AV industry, with new projects from several leading players in the AV space. The I-45 corridor, in particular, has become a hotspot for autonomous truck testing. State law allows an automated motor vehicle to operate in the state, regardless of whether a human operator is present in the vehicle, as long as certain requirements are met. Texas also preempts local regulation of automated motor vehicles and automated driving systems. During their 2021 legislative session, Texas lawmakers passed two autonomous vehicle laws. Senate Bill 1308 instructs the legislature to study autonomous and connected vehicles and House Bill 3026 exempts autonomous vehicles from irrelevant regulations. Texas provides the AV industry with interesting opportunities, as it encompasses both the idyllic college town-like setting of Austin, perfect for robotaxis, with major economic powerhouses, including Dallas-Fort Worth, and a strong trucking industry.

While Texas may be positioned for maximum growth in the AV sector as an autonomous future moves forward, there appears to be some backlash to the rapid implementation of AV technology in the state. In 2023, of the bills introduced, two (Senate Bill 2024, Senate Bill 2156) may pose particular obstacles to the growth of AV in the state. Senate Bill 2024 would prevent the state from requiring the use of autonomous vehicles (and thus preclude a future where autonomous vehicles are required by the state), while Senate Bill 2156 would require human operators of autonomous vehicles to hold a valid divers’ license (and thus exclude certain segments of the population with unique transportation needs, such as the elderly or disabled, from operating an autonomous vehicle).

Bills Enrolled in 2021: House Bill 3026,
Senate Bill 1308

Bills Passed in 2021: House Bill 3026, Senate Bill 1308

Bills Introduced in 2022: N/A

Bills Passed in 2022: N/A

Bills Introduced in 2023: House Bill 3274,
House Bill 4435, Senate Bill 2024, Senate Bill 2156

Bills Passed in 2023: N/A

53 TennSMART SHAPING THE FUTURE OF INTELLIGENT MOBILITY IN TENNESSEE

54 Vanderbilt University conducts groundbreaking study to uncover cause of phantom traffic jams

Utah

Driverless vehicles are regulated on Utah roads under legislation approved in 2019. While all properly insured autonomous vehicles are allowed to operate, autonomous networks must be registered with the state. Vehicles must be operated in compliance with all applicable traffic and safety laws and must be able to achieve a minimal risk condition or make a request to intervene if a system failure occurs. Finally, Utah permits the Department of Transportation to obtain, collect and utilize anonymized location data of connected vehicles. In 2022, the state legislature passed House Bill 137, which clarified that a "human driver" operating an autonomous vehicle is still subject to traffic laws, including a prohibition against driving under the influence. Unlike some other Southwestern states, Utah has not seen widespread autonomous vehicle testing and acceptance. However, Utah is leading the way out West by partnering with the surrounding states of Montana, Idaho, Wyoming, Utah, Nevada, Colorado, New Mexico and Arizona to create ChargeWest. ChargeWest is committed to improving electric vehicle charger availability throughout the region. At the same time, the US Department of Transportation in 2023 increased funding for AV technology development, and the Utah Department of Transportation was one of the recipients of these funds. Altogether, these efforts will assist the AV movement by laying the groundwork for mass EV deployment and adoption.

Bills Introduced in 2021: House Bill 31

Bills Passed in 2021: N/A

Bills Introduced in 2022: House Bill 137

Bills Passed in 2022: House Bill 137

Bills Introduced in 2023: Senate Bill 264

Bills Passed in 2023: Senate Bill 264

Vermont

Vermont has established an automated vehicle testing program and granted authority to the Agency of Transportation to adopt specific rules. State law (Vt. Stat. Ann. tit. 23, § 4203 et seq.) requires that during a test, an operator is seated in the driver's seat of the automated vehicle monitoring the operation of the vehicle and is capable of taking immediate control, if necessary. Although the state may not be at the forefront of the autonomous vehicle industry, Vermont has spent significant effort ensuring that electric vehicles are able to secure a charger in the state when they need one.

Bills Introduced in 2021: N/A

Bills Passed in 2021: N/A

Bills Introduced in 2022: N/A

Bills Passed in 2022: N/A

Bills Introduced in 2023: N/A

Bills Passed in 2023: N/A

Virginia

Although Virginia has no laws or regulations specifically pertaining to autonomous vehicles, the state has taken an active role in encouraging testing and deployment. Seventy miles of Virginia highways have been designated "automated corridors"⁵⁵ and outfitted with high-definition mapping and data acquisition systems to support automated-vehicle testing. Virginia has become a hotbed of autonomous vehicle activity and shows that autonomous vehicles can operate in regulation-less states, as long as the operator adheres to state and federal laws.

Virginia's universities and institutions of higher learning are researching autonomous technology and continue to contribute to the autonomous sector. Virginia Tech has worked with Ford to research signals and communication systems for autonomous vehicles. Virginia Tech is home to the Virginia Tech Transportation Institute, which has partnered with the Governors Highway Safety Association (GHSA) to research how first responders can best interact with autonomous technology.⁵⁶ The University of Virginia is also making a name for itself in the autonomous space. UVA's Autonomous Racing Team participated in the Indy Autonomous Challenge and earned a spot as the fastest American car in the race. In 2022, Virginia Tech

launched a new open-access tool that allows autonomous vehicle companies to examine and compare different cities and their conditions for autonomous driving.

At the beginning of 2022, Governor Glenn Youngkin appointed W. Sheppard "Shep" Miller III as Virginia's new Secretary of Transportation. Secretary Miller was the former chairman of Virginia Beach-based defense contractor KITCO Fiber Optics and a member of the Commonwealth Transportation Board. Miller has said he wants to position Virginia for success when future mobility options become more widespread. To that end, Iteris Inc, a company focused on smart mobility infrastructure management, signed a contract to provide the Virginia Department of Transportation with connected and automated vehicle-related planning services.⁵⁷

Bills Introduced in 2021: N/A

Bills Passed in 2021: N/A

Bills Introduced in 2022: N/A

Bills Passed in 2022: N/A

Bills Introduced in 2023: House 6001, Senate 6001

Bills Passed in 2023: House Bill 6001

55 Virginia Automated Corridors

56 ADVANCING TRANSPORTATION THROUGH INNOVATION

57 Iteris Selected By Virginia Department Of Transportation For Statewide Traffic Operation Center Services

Washington, DC

In 2012, the District of Columbia became one of the first jurisdictions to pass legislation regarding the testing of autonomous vehicles. On November 2, 2020, Mayor Muriel Bowser signed the Autonomous Vehicles Testing Program bill, which was approved by Congress just a few days later. The Act regulates the testing of autonomous vehicles on District roads through a testing program at the District Department of Transportation. To test an autonomous vehicle on public roads, an autonomous vehicle-testing entity must submit certain information to the DDOT for approval, including vehicle information for each vehicle tested; a safety and risk mitigation plan; and a description of the area and conditions under which an autonomous vehicle can function while being tested autonomously. Among other things, the bill requires crash and data reporting, including any crash of its vehicles while under autonomous operation that results in property damage, bodily injury or death.

In early 2022, Bill 24-134 was introduced in the DC City Council to modernize the city's autonomous vehicle framework. The bill has been unable to gain traction and has languished in committee.

In fall 2022, Mayor Bowser announced the city's first Mobility Innovation District (The MID) anchored in Southwest DC along the waterfront. The MID will include partnerships with the Office of the Deputy Mayor for Planning and Economic Development (DMPED), the Southwest Business Improvement District (Southwest BID) and community leaders. The district will focus on equitable access to transportation, Universal Basic Mobility (UBM) and electrification. Through the MID, DC has an opportunity to establish itself as a global hub for innovative transportation solutions.

Bills Passed in 2020: Bill 23-232
(Autonomous Vehicles Testing Program Bill)

Bills Introduced in 2021: Bill 134

Bills Passed in 2021: Bill 285

Bills Introduced in 2022: Bill 24-134

Bills Passed in 2022: N/A

Bills Introduced in 2023: N/A

Bills Passed in 2023: N/A

Washington

While Washington State has a legal framework for autonomous vehicle, its regulations are not overbearing. Governor Jay Inslee signed an executive order in June 2017 to require that state agencies with pertinent regulatory jurisdiction "support the safe testing and operation of autonomous vehicles on Washington's public roads." The executive order establishes an interagency workgroup and enables pilot programs throughout the state. The order specifies certain requirements for vehicles operated with human operators present in the vehicle and for vehicles operated without human operators in the vehicle. In 2020, Washington passed House Bill 2676, which established minimum requirements for testing AVs, necessitating the reporting of planned local testing and any collision accidents. In 2021, Senate Bill 5460 defined autonomous vehicles as Levels 4 through 5, clarifying that Level 3 was not considered autonomous in Washington. The bill also provided the Department of Licensing additional rulemaking authority. In 2022, the state legislature considered multiple bills to change the reporting requirements for autonomous vehicles and autonomous vehicle testing. None of these bills were passed.

Multiple companies are self-certified to operate autonomous vehicles in Washington. Seattle, in particular, provides autonomous vehicle companies with an interesting test environment due to its unique streets, weather and diversity of transportation modes. However, in late 2022, Seattle passed new regulations for AV companies wanting to test their vehicles in the city. Now, AVs must obtain a permit from the city, have a human driver in the vehicle ready to take control, notify the city before testing and prominently display company logos on self-driving vehicles. The regulations also include an interesting requirement that companies notify the public before they launch a pilot program through two community events in order to receive a permit. These new regulations from Seattle, as well as an AV strategic plan published by Seattle and Bellevue in February 2023, show how cities can be active participants in the autonomous vehicle industry. Instead of relying on states to regulate, cities can make sure that the industry reflects their wishes and vision. It is possible, however, that such active participation by cities may come to an end should Senate Bill 5594, introduced in January 2023, come to pass.

Bills Passed in 2020: House Bill 2676

Bills Passed in 2021: Senate Bill 5460

Bills Introduced in 2022: House Bill 1731, House Bill 2070, House Bill 2100, Senate Bill 5828

Bills Passed in 2022: N/A

Bills Introduced in 2023: Senate Bill 5594

Bills Passed in 2023: N/A

West Virginia

After years of inaction, West Virginia has finally passed major autonomous vehicle legislation. In 2021, it approved legislation offering tax credits for autonomous vehicle companies. In 2022, the state legislature passed two bills concerning autonomous vehicles. House Bill 4675 codifies, regulates and defines autonomous and semi-autonomous delivery robots. House Bill 4787 is a comprehensive legal framework that defines autonomous vehicles as Level 4 and Level 5 systems, regulates autonomous vehicles and allows for all manners of operation, including commercial and non-commercial, with a driver and without a driver present and platooning. This new legislation will give autonomous technology companies security and certainty as they begin to deploy in West Virginia. West Virginia is clearly taking steps to make itself a home for autonomous vehicle activity.

Bills Introduced in 2021: House Bill 2760

Bills Passed in 2021: House Bill 2760

Bills Introduced in 2022: House Bill 4675, House Bill 4787

Bills Passed in 2022: House Bill 4675, House Bill 4787

Bills Introduced in 2023: N/A

Bills Passed in 2023: N/A

Wisconsin

Former Governor Scott Walker signed an executive order in May 2017 creating the Governor's Steering Committee on Autonomous and Connected Vehicle Testing and Deployment within the state's Department of Transportation. The committee was tasked with advising the governor "on how best to advance the testing and operation of autonomous and connected vehicles in the State of Wisconsin." The Committee submitted its report in 2018 and made several recommendations, including requiring municipal oversight, an application process and backup drivers. While these have yet to be enacted, the committee also noted that it believes current state law "does not prohibit the operation of autonomous vehicles." This position is reflected by official statements by the State of Wisconsin Department of Transportation.

Despite the lack of any legal framework, Wisconsin regularly sees autonomous vehicle activity in the state. In 2017, the USDOT named University of Wisconsin-Madison one of 10 "proving ground pilot sites" for autonomous vehicles. Since then, UW-Madison has helped create the Wisconsin Connected and Automated Transportation Consortium alongside multiple partners, including engineering firms, the city of Madison and even the Road American race course. Together, these partners provide support and designated testing facilities for autonomous vehicles. This year, the City of Racine announced the launch of its own driverless shuttle, the "Badger." Painted to resemble the University of Wisconsin mascot, this driverless shuttle is built in partnership with Perrone Robotics in Virginia, and help's the City of Racine live up to its "smart city" moniker.

The Wisconsin Department of Transportation partnered with Racine, Gateway Technical College and UW-Madison to use the "Badger" to train local law enforcement officials on how to interact with autonomous vehicles. Now that AVs are a part of the city's transportation infrastructure, officials wanted to ensure they are able to safely adapt to vehicles without a driver to deal with directly. Projects like these reinforce how important it is that the public be introduced to AVs in a safe and moderated environment where they can learn without any unnecessary fear or misunderstanding.

Bills Passed in 2019: N/A

Bills Introduced in 2020: N/A

Bills Passed in 2020: N/A

Bills Introduced in 2021: N/A

Bills Passed in 2021: N/A

Bills Introduced in 2022: N/A

Bills Passed in 2022: N/A

Bills Introduced in 2023: N/A

Bills Passed in 2023: N/A

Wyoming

In 2018, the Wyoming Department of Transportation director argued for the need to prepare for driverless vehicles. Wyoming is one of three states that received a grant from the USDOT in 2015 to participate in a connected vehicle pilot program tested along I-80. Yet, although Wyoming has established a voluntary reporting system for manufacturers conducting automated driving system vehicle testing within the state, there are still no laws or executive orders governing AV use in Wyoming, though self-driving vehicles are not specifically prohibited by law. In 2021, Yellowstone National Park launched autonomous shuttles named TEDDY (The Electric Driverless Demonstration in Yellowstone). These shuttles, provided by Beep, helped alleviate the summer crowds. In 2022, Senate File 16 sought to institute a comprehensive regulatory framework for autonomous vehicles in Wyoming, but failed in committee. The bill would have created markings requirements, insurance requirements and reporting requirements, and would have given authority to the Wyoming Department of Transportation to create further rules or regulations.

Bills Introduced in 2021: Senate Bill 7

Bills Passed in 2021: N/A

Bills Introduced in 2022: Senate Bill 16

Bills Passed in 2022: N/A

Bills Introduced in 2023: Senate Bill 1

Bills Passed in 2023: N/A

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