



Automated Vehicles – States Engage in Nationwide Conversation

CTAA AV PRINCIPLES
Accessibility
Equity
Rural Connectivity
Safety

In the aftermath of Mar. 18, 2018, the date of the Uber-caused pedestrian death in Arizona, the attitude of state legislatures to favor leniency for automated vehicle (AV) operations shifted considerably. Here, we examine state AV legislative activity and the potential consequences for CTAA members. Such legislation can be divided into three types:

1. Establishing committees to study different aspects of AV operations and legal rules;
2. Restricting AV operations on public roads; and
3. Allowing truck platooning.

Even within each category, there is a range of approaches. For example, for platooning (which refers to trucks traveling in a row and at close distances to each other), some state legislatures limit this to highways; a few require notification or permission to operate truck platoons; and some do not limit platooning to any particular type or types of vehicles, which would allow for bus or shuttle platoons.

In the past year, only two states, Nevada and Utah, have passed completely permissive AV laws, but, as I write this, such a bill is being considered in Iowa as well. Nevada requires that an AV be able to reach a “minimal risk condition,” but the statute does not mandate proof of such capability or performance standards.

States Are Studying

State-level automated vehicle (AV) task forces and the reports they are producing vary a great deal, though most others appear to presume a static, mostly auto-based transportation system, similar to what we have now in most of the US.

These reports serve as AV primers for state legislators, government agencies, and others who work on transportation-related issues within a given state. They explain basic AV concepts, levels of automation, and how AVs differ from connected vehicles. [Wisconsin's report](#) is a good example of a report that offers fundamental, basic information about AV systems and terminology. Some explain well the traditional

Recent AV News

[The transit agency in Wichita, KS, is considering an AV shuttle.](#) These conversations are in the preliminary stages, but the city is already gathering cost information. Wichita Transit has identified two existing trolley routes to convert to AV shuttle service with 15-passenger vehicles – with a human backup operator on board.

AVs have appeared on Providence, RI, roads, with a transit 5.3 mile shuttle route [planned for late spring](#) for the general public. Rhode Island is receiving \$300,000 grant from the Federal Highways Administration and the state department of transportation is contributing \$800,000. The [AV shuttle, named Little Roady, is operated by May Mobility and it fits six passengers.](#)

federal-state division of responsibilities over regulation and oversight of vehicle manufacturing, driver licensing, insurance, and infrastructure design. The [Utah report](#) does a nice job of describing the federal-state division of responsibilities, as well as which federal concerns are monitored by which federal agencies.

Cultural Mirrors

These reports reflect the culture of each state, especially in terms of the scope of topics explored. [Minnesota's report](#), for example, emphasizes equity and accessibility concerns, even describing the inclusiveness of the meetings that the Governor's advisory council in charge of the report conducted to discuss AV issues with people around the state.

The fear of an inequitable lack of balance between urban and rural areas was evident throughout the Minnesota report and, reflecting the concern with public perception, public engagement was a major priority for the advisory council.

Each meeting included remote participation. In addition to the public meetings, individuals could participate online, by survey, or share their feedback directly with the CAV-X [Connected Automated Vehicle to Everything] office. To ensure transparency for the process, MnDOT placed all materials on its public website, including dates and times for each meeting. MnDOT conducted additional outreach activities for those unable to attend meetings, including individual meetings and calls, public events, presentations at various conferences and events, and a demonstration at the Minnesota State Fair. MnDOT also participated in intergovernmental consultation with tribal governments through the Advocacy Council on Tribal Transportation, the Minnesota Indian Affairs Council, and individual meetings with tribal executives. The final recommendations considered input from all of these outreach efforts.*

Unlike most such bodies tasked with producing a report, the Minnesota advisory council did not include any AV companies or car manufacturers. Instead the advisory council was comprised of staff from government, non-profit organizations, labor, the insurance industry, and the energy sector.

[* The three types of connected automated vehicles (sometimes called CAVs) are generally referred to as V2V, or vehicle to vehicle; V2I, or vehicle to infrastructure; and V2X, or vehicle to everything.]

Transportation Modes Besides Cars and Trucks

On the other end of the spectrum is the [report from Idaho](#), which mainly ignores the possibility of shifting transportation modal choices, and explores the usual AV concerns of cybersecurity, privacy, licensing and insurance. This might be due to the fact that members of the Autonomous and Connected Vehicle Testing and Deployment Committee were auto dealers, representatives of various vehicle associations, and lots of law enforcement staff. Transit was not represented.

Indeed, none of the Idaho recommendations mention transit, walking, or biking, or transportation services for older adults, people with disabilities, or other transportation-vulnerable populations. The Committee did refer to a subcommittee that included transit, biking, and walking advocates. Some

interesting text in the report could be attributed to their involvement, though nothing related made it to the executive summary or the recommendations.

The predictable routes, limited number of vehicles, fixed infrastructure in the public right-of-way, and public oversight place public transit in a unique position to pilot AV/CV technology. By piloting AV/CV for transit, the public could become more familiar and comfortable with the technology. Enabling and deploying AV/CV technology for public transit would also provide operational benefits to transit agencies by providing more consistent operations at potentially lower costs.

... ..

In the future, most vehicles using Idaho's transportation infrastructure may not be individually owned, as they are today. The Mobility as a Service (MaaS) model predicts that most vehicles would be owned by corporations or collectives, and dispatched to users on demand. This model already exists with services like UBER and Lyft that currently use human drivers. These services have pilot projects testing the use of AVs.

AV technology is accelerating faster in urban areas than rural areas. If state policies fail to address the needs of rural and local jurisdictions, the state could develop a disconnected network for AV/CV operations.

With this text, albeit deep within the report, Idaho demonstrates how widespread are the expectations that transit and shared-use modes will represent a large part of our AV future.

Garden State Is Typical



[Photo from Hyundai](#) shows an accessible AV concept that offers accessible service up to the doorstep.

Most laws and executive orders that establish these task forces and advisory committees do not ask for much, if anything, in terms of imagining a transformed mix of transportation modes.

The [New Jersey joint resolution](#)¹ to establish a task force is typical. It requires the establishment of a task force to evaluate existing state and federal law, consider whether to pass AV legislation, whether to allow AVs to operate on public roads, and whether to enact AV safety standards. The task force is also asked to examine the other usual topics of licensing, registration, and liability. This is a completely typical state AV task force. It basically allows a state to begin a conversation with various transportation players and information technology experts, and to come together to learn, to discuss, and to question – all of which will be reflected in a public report.

Where Are We Now?

What Should Transit and Other Transportation Professionals Be Doing?

The table and map below show exactly which US states have AVs laws and whether what types of executive orders, and/or regulations exist.

U.S. State Regulatory Activity

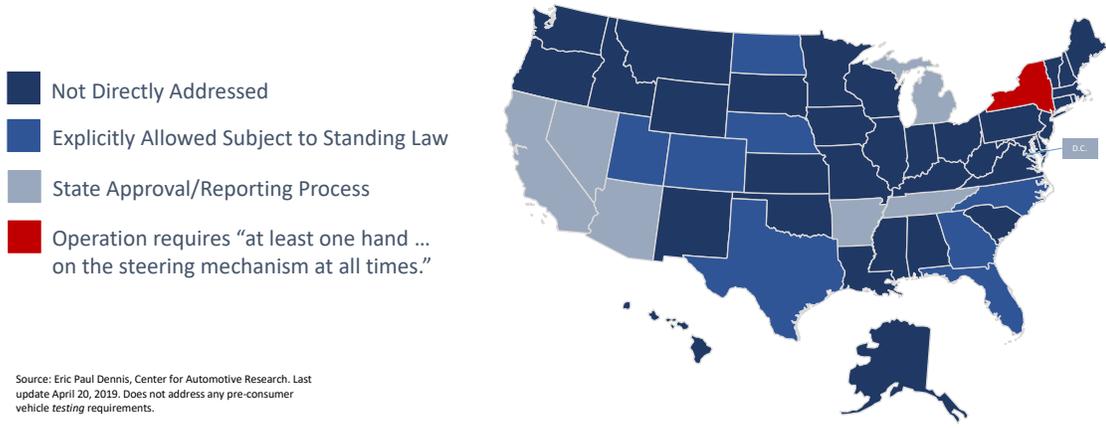
Includes enacted legislation, executive orders, and any regulatory-agency activity that has been identified.

	Alabama	Arizona	Arkansas	California	Colorado	Connecticut	Delaware	Florida	Georgia	Hawaii	Idaho	Indiana	Illinois	Kentucky	Louisiana	Maine	Maryland	Massachusetts	Michigan	Minnesota	Mississippi	Nebraska	Nevada	New Jersey	New Mexico	New York	North Carolina	North Dakota	Ohio	Oregon	Pennsylvania	South Carolina	Tennessee	Texas	Utah	Vermont	Virginia	Washington	Washington D.C.	Wisconsin	
Definitions	X	X	X	X	X	X	X	X				X		X	X			X				X	X		X	X	X				X	X	X						X		
Address Testing		X	X	X	X	X							X				X	X	X				X			X		X							X		X		X		
Address Deployment		X	X	X	X			X	X										X				X	X			X	X	X				X	X	X						X
Local Preemption					X			X				X							X				X	X			X	X						X	X						
Call for Study	X	X		X	X	X	X			X		X			X	X	X	X	X					X	X	X	X	X		X	X					X	X		X	X	X
Permit Platooning	X		X	X			X	X			X		X	X					X			X	X	X			X	X	X	X	X	X	X	X	X						X

Source: Eric Paul Dennis, Center for Automotive Research. Updated April 20, 2019.

¹ In New Jersey, a [joint resolution](#) is defined as "a formal action adopted by both Houses (of the legislature) and approved by the Governor. A joint resolution has the effect of a law and is often used instead of a bill when the purpose is of a temporary nature, or to establish a commission or express an opinion." As of Feb. 20, 2019, the Governor had not yet approved of this joint resolution; it passed unanimously in both houses of the legislature.

State Regulation of Automated Vehicle *Deployment*



The table and map are reprinted with permission of the author, [Eric P. Dennis](#), Senior Transportation Systems Analyst in the Analysis Group at the [Center for Automotive Research](#) (CAR).

What Should Transit and Other Transportation Professionals Be Doing?

Look at the table above to find out whether your state has an AV law and whether its law includes a provision for an AV report. Communicate with a task force in your state, relevant state legislative committees, and local planning entities about the importance of including transit, specialized transportation, equity and accessibility in your AV future.

Remember that tech and automobile companies are lobbying on their own and with each other in state capitals and in Washington, DC, to make sure that laws and regulations will be friendly to them. All of the riders – be they people with disabilities, older adults, people who cannot afford to drive, or others – and those who provide transportation to those transportation-challenged populations must also raise their voices to ensure that we improve our transportation system as we move toward AVs and to avoid perpetuating the problems we have with our current transportation network and infrastructure.

Educate the appropriate actors in your state, city, and region that AV transportation will mean more than cars. Policy and funding decisions should examine the rural interest in transit and shared-use transportation, broadband availability, accessibility, affordability, equity for low-income populations, and connectivity to important destinations, such as healthcare, employment, education, and community entertainment and gathering locations.

Be sure to mention topics that get little notice:

- Accessibility for physical access, human machine interfaces, and planning for those situations where human assistance in transportation is needed.
- Availability of AVs in rural areas, where service will likely not generate profits. We do not expect roads, public schools or libraries to generate revenues, yet we all appreciate the benefits that they make possible.
- Retraining of transit staff, drivers, and mechanics whose jobs could be eliminated or significantly altered with automation. We will be eliminating as well an entire job category that has traditionally been available to those with a higher education and to people who are newly arrived in the US.

Contact CTAA staff to discuss what you want to see as your state, region, and city address the transition of our transportation system.

Resources

- [CTAA AV Principles](#)
- [National Center for Mobility Management – Autonomous Vehicles: Considerations for People with Disabilities and Older Adults](#)
- [US Department of Transportation – AV 3.0](#)
- [National Academies TRB Forum on Preparing for Automated Vehicles and Shared Mobility](#) – a circular
- [United Kingdom Law Commission – Automated Vehicles: A Joint Preliminary Consultation Paper](#)

Where to Talk AVs with CTAA:

* **CTAA EXPO conference in Palm Springs, CA.: May 20-23**

* **TRB AV Symposium in Orlando, FL.: July 15-18**

* **N4A Conference in New Orleans: July 27-31**

AV Coverage Coming Up:

* **CTAA’s next AV update will focus on accessibility and rural connectivity.**

* **CTAA will be submitting comments in response to General Motors’ petition to produce AVs that are exempt from Federal Motor Vehicle Safety Standards (FMVSS).**

* **After USDOT announces the AV demonstration grant awards, CTAA will analyze how our AV Principles are being addressed.**