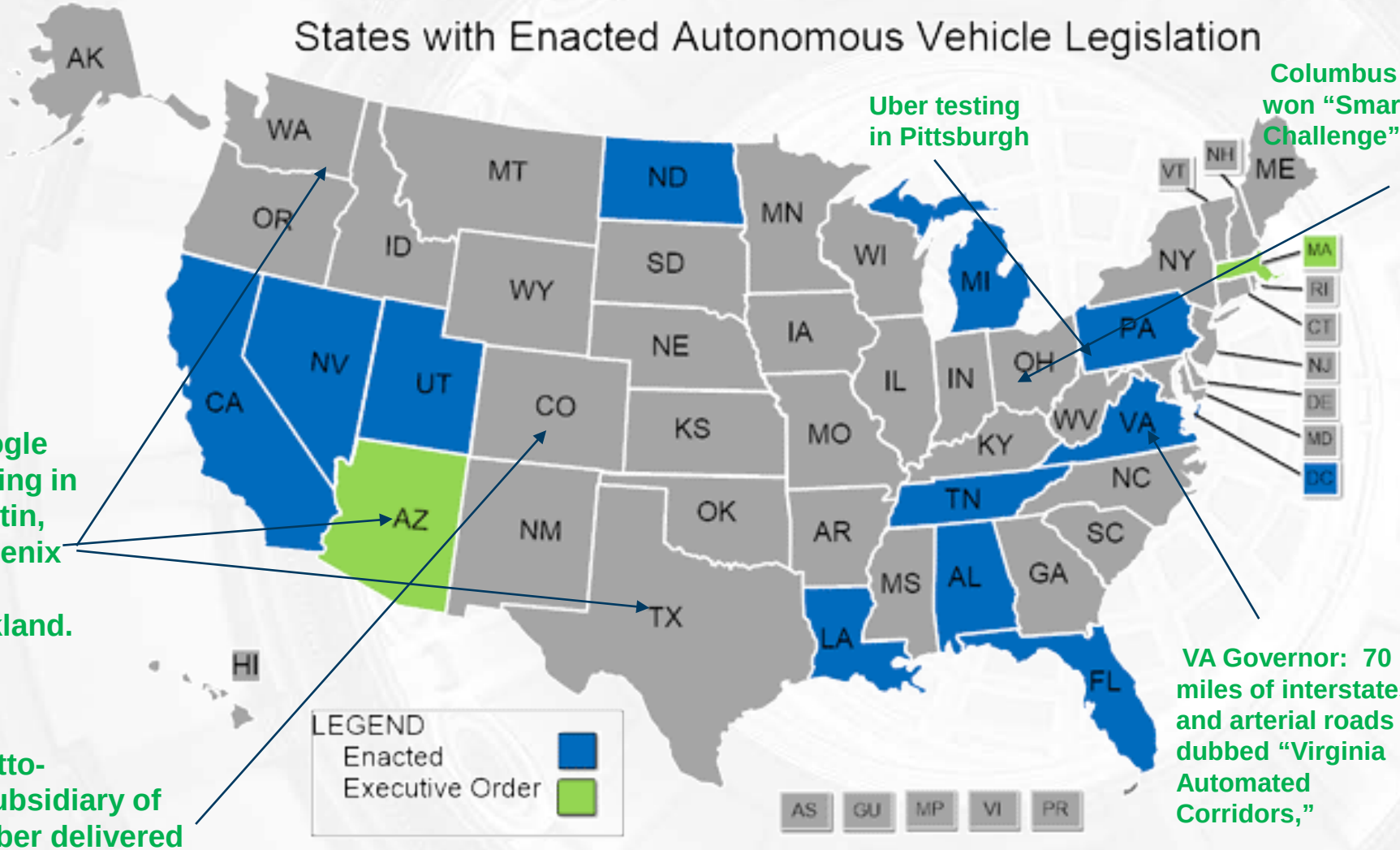
Pennsylvania Senate and House Transportation Committees - Joint Hearing "Highly Automated Vehicles (HAV) Testing Legislation"

National Conference of State Legislatures

March 21st, 2017

States with Enacted Autonomous Vehicle Legislation



Uber testing in Pittsburgh

Columbus OH won "Smart Cities Challenge"

Google testing in Austin, Phoenix and Kirkland.

VA Governor: 70 miles of interstates and arterial roads dubbed "Virginia Automated Corridors,"

Otto- subsidiary of Uber delivered 45,000 cans of beer in self driving truck.

State Laws: Nevada

- First state to authorize the testing/ operation of autonomous vehicles in 2011.
- Nevada Center for Advanced Mobility established in 2016.
- October 2016: 1st Autonomous Vehicle Restricted License issued.
- Otto violates Nevada Law

State Laws: California

- Passed Legislation in 2012
- 2015 draft regulations and backlash
- Enacted AB 1592
- September 30th 2016: CA DMV issued revised draft of regulations.
  - SAE Level 3 vehicles must have driver
  - SAE Levels 4 and 5 would be able to operate driverless.

State Laws: Michigan

- Michigan passed 4 package bill in 2016:
  - Eases testing restrictions
  - Allows autonomous vehicles to be driven on roads in the state when they are sold to the public.
  - Allows for truck platooning
  - Finalized American Center for Mobility

Executive Orders: Arizona and Massachusetts

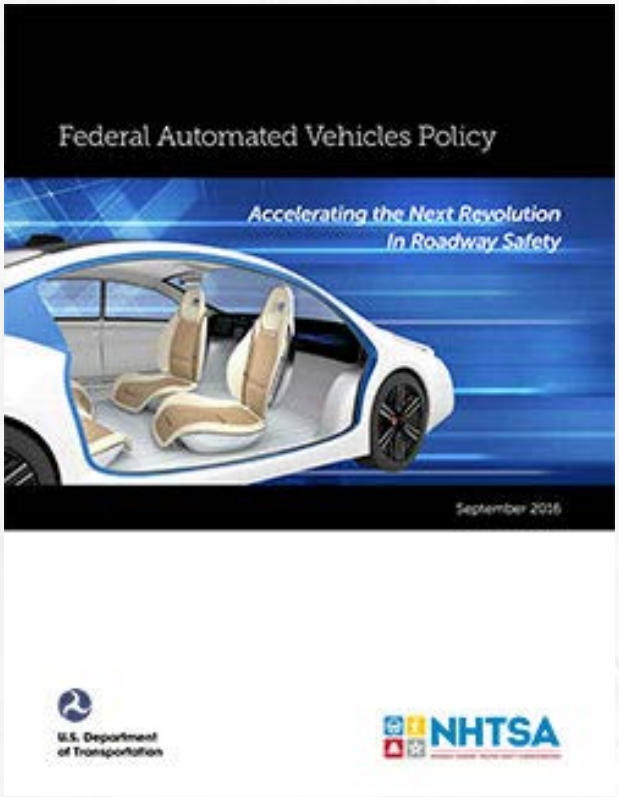
- Arizona: Governor Ducey signed EO August 2015
  - Directed agencies to support testing and operation of HAV's
  - Created "The Self-Driving Vehicles Oversight Committee"

- Massachusetts: Governor Baker signed EO October 2016
  - Established "The AV Working Group"

State Legislative Action: 2016/2017 and Beyond

- 20 states considered legislation in 2016.
- 28 states in 2017
  - NHTSA Guidelines a likely reason.

Federal Automated Vehicle Policy (FAVP)



- Released in September 2016
- 1st edition, with updates expected
- A Roadmap with no mandates
- Attempts to define state and federal roles

Federal Automated Vehicle Policy (FAVP)
-Federal Roles-

Vehicle Safety

- Federal Motor Vehicle Safety Standards (FMVSS)
- Vehicle Recalls
- Regulating Vehicle Performance
  - Should states require?

Federal Automated Vehicle Policy (FAVP)
-State Roles-

Vehicle Use

- Driver Education and Training
- Traffic Laws and Regulations
- Insurance and Liability
- Law Enforcement/Emergency Response
- Safety Inspections

NCSL Activities

- 2016 Legislative Summit – Chicago, IL
  - The Future is Near -- Revolution of the Roadways
- 2016 Capitol Forum – Washington D.C.
  - Regulating Autonomous Vehicles – The Role of States and the Federal Government
- 2017 Legislative Summit – Boston, MA

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NATIONAL CONFERENCE *of* STATE LEGISLATURES

The Forum for America's Ideas

ORAL TESTIMONY OF

Ben Husch
Senior Committee Director
Natural Resources and Infrastructure Committee
National Conference of State Legislatures

ON BEHALF OF THE
NATIONAL CONFERENCE OF STATE LEGISLATURES

REGARDING
AUTONOMOUS VEHCILES – PENNSYLVANIA SENATE BILL 427

BEFORE A
JOINT HEARING OF THE SENATE TRANSPORTAITON AND HOUSE TRANSPORATION COMMITTEE
PENNSYLVANIA GENERAL ASSEMBLY

March 21, 2017

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Slide 1

Chairman Rafferty, Minority Chairman Sabatina, Chairman Taylor, Democratic Chair Keller and members of both the Senate Transportation Committee and House Transportation Committee

Good morning and thank you for the opportunity to speak with you today. I am Ben Husch with the National Conference of State Legislatures. I serve as the policy director for NCSL's Natural Resources and Infrastructure Committee, which covers state-federal transportation public policy issues. I'd like to take just a few minutes to give you an update on what is going on across the country regarding autonomous vehicles.

I'd like to start with a very quick overview of what we are seeing in the states. I have limited my written remarks to be cognizant of my allotted time but NCSL has put together a very detailed database of state Autonomous Vehicle legislation that contains all introduced and enacted legislation to date that is available at ncsl.org.

Slide 2

Currently, 11 states and the District of Columbia have passed some type of legislation related to autonomous vehicles and executive orders have been issued by the Governors of Arizona and Massachusetts. But those numbers don't accurately represent the state activity; it does not give a

full picture of everything going on across the country. There is a lot more activity going on as you can see. Companies are testing autonomous vehicles all across the U.S., including in states where the legislature has not yet passed any laws.

Slide 3

First up– Nevada.

Nevada passed its legislation in 2013, which mandates that companies submit a permit application, a $5 million bond, and proof that their self-driving vehicles have completed 10,000 miles of testing before vehicles can be allowed on public roads in the state. During tests, vehicles must be supervised by people sitting in the driver and passenger seats. Approved vehicles are given a red license plate to show they are autonomous. Otto, a subsidiary of Uber, recently conducted a media event and demonstration of a truck driving on I-80 that did not have proper permitting and the driver was in the back of the cab. Nevada has no penalties for violators but because of this incident they are looking into this issue during their current legislative session. The state has established an initiative between the Governor's Office of Economic Development, Nevada Department of Transportation, the Department of Motor Vehicles and University of Nevada Las Vegas.

Slide 4

California passed AV legislation in 2012. The California DMV then issued draft regulations in 2015 that would have required a licensed driver behind the wheel at all times in an AV. These draft regulations received significant backlash from the industry that argued the regulations were onerous and created roadblocks to innovation. In October 2016, the DMV issued a revised draft of regulations. It stressed that the draft regulations are not a “formal rulemaking,” but rather “the next step in an iterative process” to collect feedback that “will be used to inform a future rulemaking by the DMV.” According to the draft rules, SAE Level 3 vehicles would still require the constant presence of a human driver to potentially take control of the vehicle if needed. But vehicles meeting criteria for levels 4 and 5 will, in the future, operate driverless. The last slide in the handout has a summary of the different levels.

Also in 2016, the legislature passed a bill authorizing the Contra Costa Transportation Authority (CCTA) to test the first fully autonomous vehicle, not equipped with a steering wheel, brake pedal, accelerator or operator, on a California public road. This was necessary because there had been testing with autonomous shuttles on private roads but they wanted to expand where the shuttle could go. The California DMV recently issued a new set of draft rules in response this legislation and they remain open for public comments through April 24.

Slide 5

Michigan enacted a series of bills related to AVs. The bills would ease testing restrictions allowing for testing to take place without the presence of a researcher inside an autonomous test vehicle although said researcher would have to "promptly" take control of its movements remotely if necessary, or the vehicle would have to be able to stop or slow on its own. Additionally, autonomous vehicles are allowed to be driven on public roads in the state WHEN they become available to the public. The package also allows for truck platooning—commercial trucks traveling closely together at electronically coordinated speeds. However, there were some concerns by technology companies that the legislation includes limits to the types of testing such companies can engage in as compared to original equipment manufacturers.

Finally, one quick note on Tennessee, in 2015, the legislature prohibited local governments from banning the use of autonomous vehicles.

Slide 6

With regard to state action from the executive branch, Arizona's Governor Doug Ducey signed an executive order in 2015 directing various agencies to "undertake any necessary steps to support the testing and operation of self-driving vehicles on public roads within Arizona."

He also ordered the enabling of pilot programs at selected universities and developed rules to be followed by the programs. The order established a Self-Driving Vehicle Oversight Committee within the governor's office. That committee met for the first time in August of 2016.

Additionally, Massachusetts Governor Charlie Baker signed an executive order in October 2016, "To Promote the Testing and Deployment of Highly Automated Driving Technologies." The order created a working group on HAVs. The group is expected to work with experts on vehicle safety and automation, work with members of the legislature on proposed legislation, and support Memorandums of Understanding and other agreements that AV companies will enter with the state DOT, municipalities, and state agencies. The Mayor of Boston announced his own executive order that same day that established that the Boston Transportation Commission would lead oversight of autonomous vehicles in the City of Boston.

Slide 7

In total, twenty states considered autonomous vehicle legislation in 2016. Thus far in 2017, 28 states have introduced 75 bills. This

increased activity was anticipated due to the release of the federal guidance last fall.

Slide 8

On September 20, 2016 - the National Highway Traffic Safety Administration released the first iteration of its "Federal Automated Vehicles Policy" (FAVP). Although this version stresses that the policy is an iterative document, with the change in administration, it remains unclear whether the document will be updated annually.

Overall, there are 4 sections, although I'm only going to touch on the first two in my comments but, of course, I will be happy to discuss the other two if necessary.

Starting with section 2, entitled the Model State Policy (MSP), the guidance presents a roadmap for states to voluntarily use when determining how AV testing and possible deployment should be structured in their state. Although non-binding, NHTSAs goal was to provide a framework for states to use so that while there may be minor specific differences between states in their testing and deployment requirements, overall structures would be similar. However, I would be remiss if I did not reiterate that this model state policy in no way binds a

state from implementing an AV testing and possible deployment system that best fits its particular needs.

Slide 9

The other part of this section that you should be aware of is its discussion on the delineation of federal versus state authority when it comes to AVs. The document describes how the federal government is responsible for setting motor vehicle safety standards. Therefore, states are currently preempted from issuing any safety standard that regulates performance if that standard is not identical to an existing Federal Motor Vehicle Safety Standard regulating the same aspect of performance.

Slide 10

However, states remain the lead regulator when it comes to vehicle use. This incorporates licensing, registration, traffic law enforcement, safety inspections, and insurance and liability to name a few areas. Further the document calls on states to consider updating possible gaps in regulations that pertain to these areas in order to make the transition from human-driven motor vehicles to fully automated vehicles.

The guidance provides more of a road map of steps a state could consider than a detailed set of legislative language. Specifically, it notes that “this guidance is not mandatory,” though the agency may make “some elements of the guidance mandatory and binding through future rulemakings.” Further, it identifies several areas of state law that might require updating to accommodate a world full of automated vehicles. These include law enforcement and emergency response, vehicle registrations, liability and insurance, education and training, vehicle inspections and maintenance, and environmental impacts.

Slide 11

I’d like to close by quickly touching on how NCSL has addressed the issue of AVs. As one of the primary objectives of NCSL is member education, we have over the past year, held a number of events looking into different aspects of AV technology and how states are addressing the many questions in front of them. And we will continue to make sure that we serve not only as a resource for state legislators and staff but also to provide opportunities for them to connect with other states to discuss and learn this new and exciting technology.

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Again, thank you very much for the opportunity to speak with you today, and I’d be happy to answer any questions you have.