CSG convened the Autonomous and Connected Vehicle Policy Academy, June 12-14, 2017 in Detroit. A group of state policymakers from around the country attended the event. The academy included a panel discussion on the benefits and challenges that may be part of the autonomous and connected vehicle future. Attendees heard from former National Highway Traffic Safety Administrator David Strickland, AAA director of state relations Jennifer Ryan, Alliance for Transportation Innovation co-founder Ralph Menzano and Paul Lewis, vice president for policy and finance at the Eno Center for Transportation.

Defining the Role of the States in Autonomous & Connected Vehicle Policy

It was during David Strickland’s tenure as NHTSA administrator that the agency issued its first policy regarding testing of autonomous vehicles in 2013.

“I’ll be honest with you,” he told policy academy attendees. “I thought that policy would probably stand in place—probably with some modifications and evolutions but probably the core of it ... for
maybe a decade. Two years later it was completely and totally eclipsed and had to be completely and totally redone and expanded by the agency because of how fast the market is moving.”

NHTSA issued its latest “Federal Automated Vehicles Policy” [4] in September of 2016. The policy attempts to lay out not only the guidelines for safe design, deployment and testing of highly automated vehicles and the agency’s current and future role in regulating such vehicles but also the role that states should play in their traditional areas of responsibility such as vehicle licensing and registration, traffic laws and enforcement and insurance and liability regimes.

“The role of the states is incredibly important in what has to be done for this technology to be a success,” said Strickland, who now serves as counsel and spokesman for the Self-Driving Coalition for Safer Streets [5], an organization formed by auto and tech companies, including Ford, Lyft, Uber, Volvo and Waymo, to work with policymakers, regulators and the public to help realize the safety and societal benefits of self-driving vehicles.

Many in the industry and elsewhere have been concerned however about a proliferation of state legislation this year that runs the risk of creating a patchwork of laws around the country and creating confusion for the companies looking to test automated vehicles. U.S. Secretary of Transportation Elaine Chao has said [6] to expect a revision to NHTSA’s Federal Automated Vehicles Policy in the coming months that will “incorporate feedback and improvements recommended by numerous stakeholders.” Congress is also reportedly considering [7] autonomous vehicle legislation. At a recent hearing on Capitol Hill, some speakers complained about the patchwork being created by state legislation and called for federal legislation that would override states and prevent them from setting different rules.

**Consumer Opinion on Autonomous & Connected Vehicles**

One of the things that Chao has focused on in her recent remarks [6] about autonomous vehicle policy is that she expects automakers and tech firms to play an important role in educating consumers about the technology to try and allay safety concerns. As Detroit attendees learned from another policy academy speaker, that education process may be very much needed.

AAA, the federation of motor clubs throughout North America, has been surveying the public on the issue in recent years. A recent survey by one AAA club with members in 12 states found that the public in nearly equal measure believes autonomous vehicles will mean fewer or more crashes on the nation’s roadways. Jennifer Ryan, director of state relations at AAA, offered details [8] of another national survey conducted by her organization.
the prospect that autonomous vehicles offer safer, more efficient and are more convenient ... three quarters of drivers report feeling afraid to ride in a self-driving car,” Ryan said. “About half of drivers feel less safe at the prospect of sharing the road with a fully automated vehicle and one-third felt that it wouldn’t make a difference. Only 10 percent report they would actually feel safer sharing the road with a driverless car.”

Ryan said AAA believes that while automakers and tech companies are doing a good job of advancing technology, consumer education appears to be a “significant missing link.” Fears about autonomous and connected driving systems may in part be linked to consumer confusion generated by marketplace competition.

“We’re concerned that consumers might be confused by these systems because there is a high degree of variability from automakers including naming, designs, implementation and ultimately performance,” she said. “For example, similar systems are being marketed under different names. In Tesla, it’s called auto pilot. In Volvo it’s called pilot assist. And in Mercedes, it’s called driver pilot. This variation may be particularly concerning to consumers as our survey results reveal that 81 percent of Americans feel that automated vehicle systems should work similarly and consistently across all vehicle manufacturers.”

The complete transition of the fleet to autonomous vehicles will likely take place over a long period of time during which a mix of autonomous and traditional vehicles will be on the road. Ryan said that makes it imperative that the education process start now.

“Consumer acceptance—and more importantly understanding—of vehicle systems is important and will be a continual process,” she said. “AAA is committed to help motorists understand how these
technologies work, along with their benefits and limitations."

**Ensuring Cybersecurity of Autonomous Vehicles**

Earning public trust, increasing confidence in self-driving technology and accelerating the transition to a fully self-driving fleet are three of the eight challenges listed in “A National Strategic Framework to Advance Life-Saving Self-Driving Vehicles,” [9] which was issued last year by the Alliance for Transportation Innovation, a consortium of transportation technology innovators and researchers based in Washington, D.C.

Alliance co-founder Ralph Meenzano, who was also part of the policy academy panel, is a veteran of the Oracle Corporation, Philadelphia’s transit agency SEPTA and General Motors. He pointed to another challenge with autonomous vehicles outlined in the framework: ensuring robust cybersecurity of the vehicles.

“Everything can be hacked,” he said. “There is no data company, whether it’s Microsoft, IBM, Oracle that can say to you it’s totally secure. ... And anytime you install a new level of encryption, there is somebody who will break it until you come out with the next one. You can’t expect it to be secure. ... We have to put up barriers so that it’s not hacked easily and maybe put in some protective, investigative hooks so we can find out who the hackers are.”

As the framework notes: “As vehicles become increasingly cyber-connected, the American public must be fully confident that manufacturers are ensuring the integrity of systems through the application of sound cybersecurity practices in vehicle production and operation. This will be particularly important as over-the-air software updates to safety critical systems become increasingly common. The adoption of common security protocols, standards and practices—particularly relating to authentication, encryption, and redundancy common in other industries—requiring the highest
levels of information assurance can mitigate these risks.”

**How Should States Engage on Autonomous Vehicle Policy?**

Paul Lewis has been thinking about cybersecurity as well. Lewis, the vice president for policy and finance at the Eno Center for Transportation in Washington, recently co-authored the Eno whitepaper “Adopting and Adapting: States and Automated Vehicle Policy,” which identifies a number of ways for states to engage on these issues, including this one: “States need to proactively define (autonomous vehicle) developers’ limited liability for crashes that result from a security breach, and ensure that all (autonomous vehicle) developers are taking cybersecurity seriously.”

Among the other state action items listed in the Eno report: making sure that testing of autonomous vehicles is not only allowed, but also that it fosters the development of an entire ecosystem of automakers and/or tech firms, research institutes and localities. The report also touts the benefits of interstate cooperation, limited regulatory hurdles and adherence to consistent definitions when it comes to technology, as demarcated by NHTSA and the Society of Automotive Engineers (SAE International). Further, Eno recommends that states review and update current traffic laws that might be in conflict with capabilities of future autonomous vehicles, form advisory committees with representatives of state and local government and stakeholders and create statements of principles for outstanding issues such as privacy, roadway safety, data sharing and consumer advocacy.

Of the latter, the whitepaper said: “Consumers need to be aware of what their vehicle is capable of and what is it not. States can set principles for consumer information for new and used cars with AV features. In addition, consumers should be informed of data ownership rules prior to purchasing an AV.”

Lewis told policy academy attendees one of the best things states can do is invest in improving the nation’s roadways to a state of good repair so they can be ready to test autonomous vehicles.

“Having a predictable driving environment is hugely important and probably more important than states dumping hundreds of millions of dollars or more into a completely new set of infrastructure,” he said.

With the potential for autonomous vehicles to have a huge impact on truck and taxi driver jobs in the years ahead, states can also invest in programs that develop the nation’s workforce, Lewis said.

“We in this country have viewed education as something you complete when you’re 18 or when you’re 22 and you’re kind of done with it,” he said. “And in the world of automation, not just for vehicles but also for automation in factories and throughout the entire workforce, workforce training is something we’re going to need to invest in as a public sector for career training throughout our careers. ... And the folks who are driving trucks—perhaps we’re not going to remove them from the cab of the truck (entirely) but their job is going to fundamentally change and we need to prepare them for that.”

The Eno whitepaper also said states should work to foster the creation of autonomous vehicle testing grounds in partnership with universities, military bases, localities, industrial zones, and/or privately-managed roadways. Policy academy attendees had the opportunity to visit one such testing ground, Mcity at the University of Michigan in Ann Arbor, and tour the facility in a fully autonomous shuttle.

While the Eno report has no shortage of ideas for how states can engage on autonomous and connected vehicle policy, Lewis said it’s important that policymakers not overthink things and enact laws and regulations that may prove too restrictive in the future.
“The bottom line is we shouldn’t do too much right now in large part because we don’t really need to,” he said. “States have always been responsible for driver licensing and vehicle registration, defining liability standards, defining insurance standards and it’s already a patchwork and the system works fairly well. ... It’s (about) setting up advisory committees. It’s creating statements of principles in a way that is flexible and allows for the technology to develop so that when the automated technologies do hit the roadways and are commercially ready, the laws already fit that, so we can create an environment that is adaptive to that.”

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