

JANUARY 2019

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The Visionary

Chris Urmson
on autonomy's
future—
and Aurora's
place in it.

**Europe's Evolving
AV Proving Grounds**

**Automated-Driving
Simulation
Enhances EVs**

**AV Development
'Mules' — on a
Budget!**

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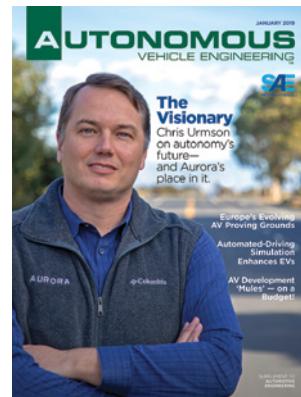
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Chris Urmson is a pioneer of autonomous vehicle development and a true visionary in the AV space. In the past 15 years he’s gone from Carnegie Mellon Ph.D candidate who assisted NASA on a Mars robot project, to leading the CMU team that won the 2007 DARPA Urban Challenge, to CTO of Google’s self-driving vehicle program, interspersed with some CMU professorial work. Today Urmson is co-founder and CEO of Aurora, a company that’s in the vanguard of AV tech working with VW, Hyundai and Byton. His conversation begins on page 4.



AV Regulations: Feds Ready to Get Their Claws Back?

The new AV 3.0 federal guidelines for autonomous-vehicle development drew criticism for having no legal teeth. But they may only be the beginning.

by Jennifer Dukarski

On October 4, 2018, the U.S. Department of Transportation released the long-awaited “Autonomous Vehicles 3.0: Preparing for the Future of Transportation” guidelines—otherwise known as AV 3.0.

These guidelines (<https://www.nhtsa.gov/press-releases/us-department-transportation-releases-preparing-future-transportation-automated>) build upon the voluntary guidance issued in the DOT’s 2017 “Automated Driving Systems 2.0: A Vision for Safety” and incorporate comments from autonomy stakeholders that include auto manufacturers, suppliers, state and local governments and infrastructure owners and operators.

These federal guidelines create a conceptual challenge, as they remind states of the limits of their power while being—controversially—non-binding on automotive manufacturers and suppliers.

Potentially restrictive, yet simultaneously optional. How can the industry navigate this recent DOT release?

It’s not a rule; it’s a guideline

Unlike the Federal Motor Vehicle Safety Standards (FMVSS), the AV 3.0 guidelines are just that: guidelines. All of the AV-related guidelines issued by the National Highway Traffic Safety Administration to date are voluntary and serve to encourage state governments, local governments and private industry to adopt the principles to promote the development of autonomous technology. They do not hold the regulatory weight of actual rules or safety standards.

And there’s a reason for that. Consider a brief history of NHTSA’s enactment and enforcement authority:

The origins of NHTSA (part of the DOT), the FMVSS and the related automotive regulatory framework are found in the National Traffic and Motor Vehicle Safety Act of 1966. The goal of the Safety Act was to “reduce traffic accidents” through the regulation of safety elements. This rulemaking strategy, where

NHTSA would create the framework for safer vehicles, was even hailed as one of the “greatest inventions of modern government.” This approach to auto-industry regulation would lead to three key objectives: (1) compel the industry to strive for innovation; (2) ensure that drivers and passengers would be reasonably safe in their vehicles and (3) elevate safety above cost.

Along with this rulemaking authority, NHTSA was granted the legal rights to oversee recalls.

The agency immediately went to work and issued many of the safety standards we have come to know today. Yet in the decade-plus from 1974 to 1986, there were no major FMVSS issued. After the initial push, companies pushed back, claiming that many of the agency’s rules were not reasonable, practical, objective, or safety-oriented.

Industry won the first battles. During the first 10 years of its existence, NHTSA lost six of its ten major rulemaking cases including cases addressing passive restraints and antilock brakes. At the same time, NHTSA received far more favorable outcomes from cases addressing its recall-enforcement mandate.

Following these significant rulemaking losses, NHTSA acted in only minor ways until compelled by Congress. In 1991, Congress passed ISTEA, a bill requiring rulemaking to address rollover prevention, side impact protection, booster-seat design improvements and related standards. In 2000, President Bill Clinton signed the Transportation Recall Enhancement, Accountability, and Documentation Act (TREAD) which focused predominantly on tire issues. Absent Congressional action, history suggests that NHTSA will tend to remain silent on FMVSS and related regulation. This was true of AV 1.0 and AV 2.0 and, to a degree, AV 3.0.

The only difference is that AV 3.0 suggests NHTSA has its eye on reentering the rulemaking arena after these many years.



Will NHTSA seek to remove an “unintended regulatory barrier?”

The new AV 3.0 guidelines recognize that the current FMVSS may be a barrier to innovation.

Autonomous vehicles designed for SAE Level 4 and 5 performance may not be equipped with steering wheels, control pedals, mirrors or other components that are currently required for on-road vehicles. The NHTSA will, in an upcoming rulemaking, seek comment on changes to relevant safety standards; judging by the agency’s response to Google’s November 12, 2015 letter requesting interpretation of the FMVSS as applied to a driverless vehicle operated by a “Self-Driving System,” it is likely a review of any number of existing FMVSS.

In addition to new rulemaking, NHTSA will make FMVSS more flexible, responsive, technology-neutral and performance-oriented. AV 3.0 suggests that new-age FMVSS may “incorporate simpler and more general requirements to validate” autonomous systems in a world where unpredictable obstacles, vehicles and pedestrians dot the landscape.

These recommendations foreshadow a departure from the recent historical silence that has fallen over NHTSA rulemaking.

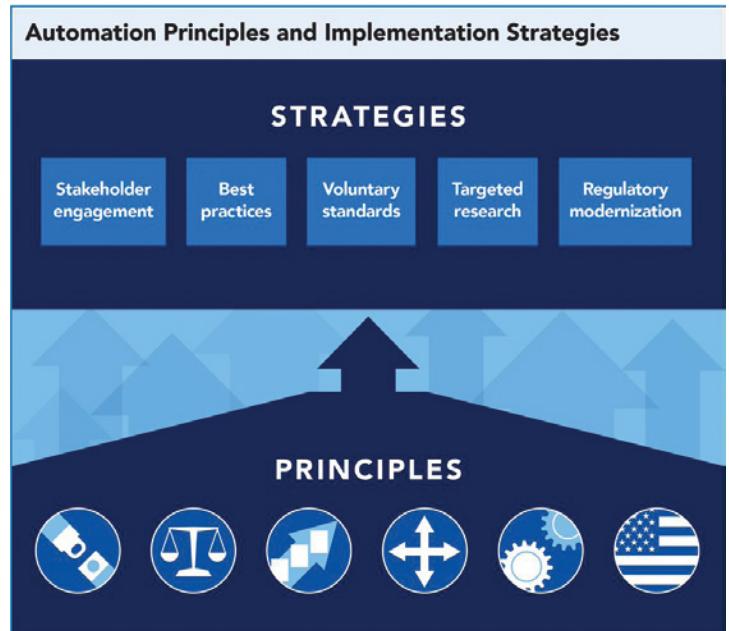
How to prevent a patchwork of state safety standards?

The guidelines continue to address the preemptive force of the FMVSS. Federal preemption occurs when a federal law “trumps” or preempts a state law that is inconsistent with the federal law. In 2000, the United States Supreme Court analyzed the issue of preemption in a lawsuit that asserted that a 1987 Honda had a design defect because it did not have airbags at a time when the FMVSS allowed manufacturers to choose one of three options (including airbags) to address passive restraints. Through this case and several that followed, courts determined that state, local and tribal governments cannot enforce laws on the safety performance of a vehicle in ways that differ from federal standards.

In all of the guidance issued on autonomous vehicles, NHTSA has been clear that it holds responsibility for establishing safety and performance-related standards, while the states retain four key areas: insurance, licensure, traffic safety laws, and liability (including product liability).

What will the future hold?

The only certainty given in AV 3.0 is that the regime for autonomous-vehicle development and deployment



The U.S. Dept. of Transportation’s “Autonomous Vehicles 3.0: Preparing for the Future of Transportation” guidelines, issued in October 2018, seek to continue a structure of voluntary action from autonomy-development stakeholders.

is still in the voluntary-compliance phase. It is clear from the significant research placed in AV 3.0’s appendices that NHTSA will continue to rely heavily on the work performed by standards organizations such as SAE International while they hope to return to the rulemaking function that inspired their creation. Perhaps legislation will speed that effort, just as the TREAD Act did for tire-related defects.

But in the event the current divided Congress fails to act, it is plausible that NHTSA will once again test the rulemaking waters. The only question that will remain is whether the industry will support those efforts or, as it did from 1968-1974, challenge the authority and the scope of any newly drafted rules. Perhaps with the existing uncertainty and limits in exemptions, the choice may be different this time. ■



A self-described “recovering engineer” with 15 years of experience in automotive design and quality, Jennifer Dukarski is a Shareholder at Butzel Long, where she focuses her legal practice at the intersection of technology and communications, with an emphasis on emerging and disruptive issues that include cybersecurity and privacy, infotainment, vehicle safety and connected and autonomous vehicles.