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How 'AV 3.0' Changed The Autonomous Vehicle Game In 2018

By **Erika Jones and Linda Rhodes** (December 20, 2018, 12:43 PM EST)

On Oct. 3, the [U.S. Department of Transportation](#) released its most significant 2018 guidance on the design, testing and deployment of driverless vehicles: "Preparing for the Future of Transportation: Automated Vehicles 3.0" (commonly referred to as "AV 3.0"). A key focus throughout AV 3.0 is the removal of unnecessary barriers to the innovation of AV technologies that have the potential to vastly enhance security and increase mobility.

AV 3.0 "builds upon — but does not replace" the DOT's last major policy statement on AVs, "Automated Driving Systems 2.0: A Vision for Safety," which was released on Sept. 12, 2017. AV 3.0 expands the applicability of the DOT's AV guidance to include not only passenger vehicles but also commercial vehicles, on-road transit and the roadways on which they operate. This article highlights issues of interest for light-duty vehicles.

In AV 3.0, the DOT announced six core principles for shaping policy on autonomous vehicles. The DOT will:

- Prioritize safety in order to strengthen public confidence in AV technology;
- Remain technology-neutral among AV technologies;
- Modernize its regulations, including specifically recognizing that the "driver" and "operator" of a vehicle may include an automated system;
- Promote consistency among federal, state and local requirements in order to advance the integration of AVs in the national transportation system;
- Prepare proactively for automation through pilot programs, investments and other means, including preparing for communications between vehicles and between a vehicle and the infrastructure by working to preserve the 5.9 GHz spectrum for these technologies; and



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- Implement these policies in a way that protects freedom of choice to preserve conventional human-operated vehicles while expanding access to transportation choices for the disabled and older populations.

The DOT announced plans to execute these principles through several means. AV 3.0 acknowledges that the current Federal Motor Vehicle Safety Standards, or FMVSS, assume vehicle operation by a human driver, and, accordingly, the FMVSS focus on safe operation of a vehicle by a human. AV 3.0 recognizes that certain current FMVSS, which were drafted with a human driver in mind (e.g., requirements for a steering wheel, brakes, mirrors and the like), create an unintended barrier to the innovation of AV technologies.

Given the fast pace of development of these new and sophisticated technologies, safety standards need to be technology-neutral, and focus on performance outcomes rather than dictate the means for achieving those outcomes. Accordingly, the National Highway Traffic Safety Administration will issue a proposed rule seeking comment on proposed changes to certain FMVSS to accommodate AV technology innovation.

NHTSA will not abandon the traditional self-certification scheme, in which manufacturers self-certify the compliance of their products with applicable standards, and will promote self-certification with international partners as the best approach to balance safety and innovation. Furthermore, NHTSA will issue a proposed rule seeking comment on changes that would streamline and modernize its procedures for processing applications for exemptions from the FMVSS. The changes include eliminating delays associated with seeking public comment to exemptions.

AV 3.0 describes the DOT's desire to encourage AV testing throughout the country. Accordingly, NHTSA announced in AV 3.0 its intent to issue an advanced notice of proposed rulemaking seeking comment on a national pilot program to facilitate, monitor and learn from the testing and development of AV technology in lieu of the currently designated "Automated Vehicle Provider Grounds." Notably, NHTSA intends to rely on its "Special Exemption" authority in 49 U.S.C. § 30114 to provide exemptions for manufacturers seeking to engage in research, testing and demonstration projects.

NHTSA followed with its advance notice of proposed rulemaking, or ANPRM, on a "Pilot Program for Collaborative Research on Motor Vehicles With High or Full Driving Automation" in recognition of the need to prepare for the oncoming reality of broad-scale highly automated and autonomous vehicles on the roads under a variety of driving conditions. The ANPRM was issued on Oct. 23, 2018, and, following extension, the comment period lasted through Dec. 10, 2018. NHTSA sought public comments on:

- The factors and structure for the design of a national pilot program for the testing, development and deployment of advanced vehicle technologies;
- The use of existing laws and regulations to implement the pilot;
- Regulatory relief (e.g., exceptions, exemptions or other potential measures) needed to facilitate the pilot; and
- The nature of the safety and other analyses NHTSA should use for granting exemptions and related terms and conditions.

NHTSA intends to facilitate, monitor and learn from the pilot program in order to assure safety in the testing, development and deployment of advanced vehicle technologies, while maintaining the ability of stakeholders to innovate. The timing on a final decision on establishing a national pilot program, and the structuring thereof, is open.

AV 3.0 highlights the need for cybersecurity and privacy as AV technologies become increasingly integrated. Multiple connected systems for communication, execution of critical driving functions and data collection open up pathways for cyberattacks, and raise concerns about the privacy and security of personal data. The DOT encourages a coordinated effort across the government and private sectors for cyber situational awareness, and a unified approach to cyber incidents, including via the voluntary exchange of information regarding vulnerabilities and threats through Information Sharing and Analysis Centers (e.g., the Auto-ISAC) and the U.S. Department of Homeland Security's National Cybersecurity and Communications Integration Center.

The DOT is committed to provide best practices and policy considerations to support stakeholders as they advance in their development of automation, define their respective roles and responsibilities in the changing automotive landscape, and integrate new AV technologies into a changing transportation network. The DOT is further committed to supporting stakeholders and standards development organizations in the development of voluntary technical standards. The DOT identifies voluntary technical standards for vehicle automation by functional area — technology, functional safety and safety areas — as a means for gaining insight into what standards might be beneficial for AVs going forward.

The DOT intends to focus its own AV research resources on the following three areas:

- Developing strategies for the removal of barriers to innovation;
- Evaluating the impacts of AV technology, especially regarding safety; and
- Addressing market failures and other compelling needs, such as access to transportation for the disabled.

The DOT envisions managing the safety risk associated with AVs through a staged process. First, early testing should be conducted to understand the safety risks and implement mitigation strategies. Second, confidence in the technology can be built through expanded road testing. Finally, it will be possible to move toward limited full deployment (i.e., demonstrations) with wide public engagement and commercial operations, including opportunities for public feedback.

There is much to be done in developing intelligent and connected technologies for autonomous vehicles, and evolving the legislative and regulatory scheme to provide the freedom to innovate while at the same time protecting public safety. But AV 3.0 confirms the DOT's desire to support the industry's efforts to achieve the transportation and safety benefits associated with autonomous vehicles. The acknowledgement of the need to modernize regulations to allow for vehicle operation other than by a human driver, combined with the announcement of a national pilot program and the issuance of the ANPRM, are important steps in paving the way for future widespread use and acceptance of autonomous vehicles.

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