National Guidance Update

AV Task Force Meeting
December 4, 2018

Andrew Dick, ODOT Office of Innovation
Federal Automated Vehicles 3.0 Policy
Automated Vehicles 3.0

- U.S. DOT released 3.0 policy in early October
- Builds on, does not replace, previous policy
- Expands applicability to commercial vehicles, including freight and transit
U.S. DOT AUTOMATION PRINCIPLES

1. We will prioritize safety.

2. We will remain technology neutral.

3. We will modernize regulations.

4. We will encourage a consistent regulatory and operational environment.

5. We will prepare proactively for automation.

6. We will protect and enhance the freedoms enjoyed by Americans.
Automated Vehicles 3.0 – Federal Role

• Establish performance-oriented, consensus-based, and voluntary standards and guidance for vehicle and infrastructure safety, mobility, and operations.

• Conduct targeted research to support the safe integration of automated vehicles.

• Identify and remove regulatory barriers to the safe integration of automated vehicles.

• Ensure national consistency for travel in interstate commerce.

• Educate the public on the capabilities and limitations of automated vehicles.
SAE Automated Vehicle Standard Update
• SAE definitions update clarifies automation levels

• Several new definitions:
  – ADS-dedicated vehicles – A vehicle designed to be operated exclusively by a level 4 or level 5 ADS for all trips within its given ODD limitations (if any).
  – Conventional vehicle – A vehicle designed to be operated by a conventional driver during part or all of every trip
    • A conventional vehicle may be equipped with automated features, but requires a conventional driver to operate the vehicle during portions of each trip.
  – Dual-mode vehicle – A type of ADS-equipped vehicle designed for both driverless operation and operation by a conventional driver for complete trips.
Infrastructure Requirements Update
NCHRP 20-102(06): Road Markings for Machine Vision

• Still awaiting final release of NCHRP report on machine vision

• Preliminary findings
  – Edge lines and lane lines had similar performance
  – Daytime wet conditions were most difficult
  – Roadway lighting had minimal impact on nighttime performance
Updates to Manual on Uniform Traffic Control Devices (MUTCD)

• AV 3.0 Policy announced updates to MUTCD, related in part to AVs

• FHWA will use research into how sensor and machine vision systems interpret traffic control devices

• Public agencies still seeking better information from manufacturers about infrastructure needs
Transportation Safety Spectrum: 5.9 GHz Band

• Currently, the 5.9 GHz radio spectrum is reserved for transportation safety uses, like DSRC communications

• However, pressure from telecom companies to open the spectrum to other uses such as WiFi and C-V2X

• 5G Automotive Association (5GAA) has petitioned FCC for a waiver to deploy C-V2X applications in transportation safety band
Federal AV Workforce Study
Workforce Study

• DOT received $1.5 million from 2018 Consolidated Appropriations Act to study labor displacement from AVs

• DOT sought public comment on this scope of work

• Received 31 responses from labor, industry, and public sector groups

• Comments suggested a number of modifications to improve study
Workforce Study – Areas of Inquiry

• **Labor force transformation/displacement:** What will be the pace of potential job displacement and what segments of transportation will be affected?

• **Labor force training needs:** What will be the minimum skills and training required for new jobs created by the market transition, and what are the gaps in federal and state programs to meet needs of displaced workers?

• **Technology operational safety issues:** What are the risks of reduced situational awareness for drivers using ADAS technology? What are the principle safety issues associated with the use of platooning?

• **Quality of life effects due to automation:** How will higher levels of automation impact health and quality of life of the driving labor force? What are economic benefits from increased access to jobs and mobility?
AV START Act
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• AV START Act is before the U.S. Senate
• Corresponding House Bill (SELF DRIVE Act) has already passed House
• AV START Act components:
  – Reaffirms federal role in vehicle design and safety
  – Directs DOT to review federal regulations for conflicts with AV technology
  – Raises number of exemptions DOT can issue for self-driving cars to 100k
  – Requires AV manufacturers to submit safety evaluation reports
  – Directs DOT to conduct traffic safety research for AVs
  – Requires manufacturers to develop, maintain, and execute cybersecurity plan
AV START Act

• AV START Act has been delayed due to state/local government and consumer protection concerns
• Leaked revisions suggest that new bill affirms state/local authority for traffic, sale, distribution, repair, and service of automated vehicles
• Also contains limits on forced arbitration
• If passed, AV START must be reconciled with House version
NHTSA 3.0:

Updated SAE:
https://www.sae.org/standards/content/j3016_201806/

MUTCD:
https://www.fhwa.dot.gov/pressroom/fhwa1823.cfm
https://mutcd.fhwa.dot.gov/

NCHRP:

Federal AV Workforce Study: