Evolving the Vehicle-Highway System

Source: U.S. DOT
Automated Vehicle Technologies

Source: USDOT
Current and Planned AV Testing Activities
April 2019

Source: U.S. DOT (Based on publicly available information as of April 5, 2019. This does not represent procurement-sensitive information.)
Automated Vehicle Testing

Sources: U.S. DOT
Key objectives

1. Assess national issues and priorities.
2. Develop guidance, best practices, standards.
3. Support necessary research.
4. Adapt programs and policies.
5. Create a national community or coalition.

Photo Courtesy of FHWA
Preparing for the Future of Transportation: AV 3.0

STRATEGIES

- Stakeholder engagement
- Best practices
- Voluntary standards
- Targeted research
- Regulatory modernization

PRINCIPLES

- Balance
- Equity
- Innovation
- Collaboration
- Adaptability
Select Themes:

- Greater **Uniformity and Quality** in road markings and traffic control devices would enable automation.

- FHWA should take a **Leadership** role in convening stakeholders to encourage **Collaboration**.

- Certain **Data Elements** about the roadway environment are useful for industry, State, and local DOTs to share and could improve automation operations.

- Conducting **Pilots** and supporting pilot testing are important for facilitating learning and collaboration.

- **Uncertainty** in infrastructure investment and allocation of limited resources are key concerns for State and local agencies.
National Dialogue 2018 Workshop Themes

Additional Key Insights:

• **National vision** for automation could clarify goals and focus action.

• Coordinated communication about technology can encourage **public acceptance**.

• State and local **agencies need education**, resources, and guidance.

• Need to better understand opportunities to integrate **automated freight operations**.

• Need clear processes and practice to guide **public safety & emergency response interactions**.

• The transportation **planning process** may need to evolve.

• **Data** exchanges, standardization, and lifecycle management can accelerate integration of Av’s.

• Need to update infrastructure design, structural, and operations **standards**
1. Support state and local agencies to define and enable roadway automation readiness.

2. Collaboratively inform communities and stakeholders.

3. Understand and manage the uncertainty of impacts.

4. Incrementally prepare the roadway infrastructure.
Work Zone Data Exchange (WZDx) Project Overview

• Jump-start voluntary adoption of a basic work zone data specification.
• Enable collaborative maintenance and expansion of the specification.
• **Data producers** make an active work zone data feed available using a common, non-proprietary specification.
• **Non-government developers** use that data in a meaningful way – thus establishing a minimum viable product of voluntary data exchange for work zone data.
• Make travel on public roads safer and more efficient.
• Validate a repeatable approach to accelerate harmonization of local data sources.

Source: U.S. DOT
Cooperative Automation Research Program

Safely improve the operational efficiency and maximize capacity of our Nation's urban and rural roadways.

- Reduce fuel consumption at intersections by 20%.
- Fuel savings of 10%.
- Increase capacity of existing lanes.

Source: Federal Highway Administration
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