

# Automated Vehicles Issues

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# Public Policy Objectives for AVs

“Thanks to a convergence of technological advances, the promise of safer automated driving systems is closer to becoming a reality. From **reducing crash-related deaths and injuries**, to **improving access to transportation**, to **reducing traffic congestion and vehicle emissions**, automated vehicles hold significant potential to increase productivity and improve the quality of life for millions of people.”

Secretary Elaine Chao, ADS 2.0



## Connected Vehicle

Communicates with nearby vehicles and infrastructure; Not automated



## Connected Automated Vehicle

Leverages autonomous automated and connected vehicles



## Autonomous Vehicle

Operates in isolation from other vehicles using internal sensors



Source: USDOT



# Definitions Are Important

- Connected Vehicles: V2V, V2I, V2X
- Automated or Autonomous Vehicle
  - SAE Levels
  - Low Speed Shuttles, Current Cars, Trucks, Buses
- Deployment Scenarios & Time Horizons
  - Low Speed Shuttles in Dedicated Spaces
  - Truck Platooning
  - AVs in Fleets: TNCs, Transit, Trucking, Corporate
  - Fully Autonomous Vehicles in Mixed Fleets/Traffic



# Possible Public Postures on AVs

- Actively enable or **accelerate** the new technologies for specific public goals
- Actively **facilitate** the new technologies just for novelty's sake or vague policy potentials
- **Respond** cautiously to transportation technology advances when approached
- **React defensively** to the disruptions caused by new technologies
- **Do nothing** and wait and see



# AV Policy Issues – Testing vs Deployment

- **Technical Policy:** What will we allow to operate on our roads and streets and how perfectly?
- **Threshold Issues:** What issues need to be resolved or overcome for widespread deployment?
  - Privacy; Cybersecurity; Liability; **Public Acceptance**; etc.
- **Externalities - Policy Issues:**
  - Labor Disruptions; Revenue Disruptions (fees/tickets); Legal Liability;
- **Transportation Policy:** How are AVs to serve or facilitate societal goals?
  - Mobility, Safety, Equity, Quality of Life, Economic Vitality, Environmental Sustainability, Urban Form, etc.



# Notional Cross Cutting Issues

- Mixed Fleet Operations – What & How?
- Law Enforcement and Emergency Responders
- Expectations – How will AVs Behave
- Education: Officials, the Public, Drivers
- Scenario Planning: Deployment Pathways?
- Protecting Public Safety & Public Interest
- Role of Connectivity & Internet of Things
- Workforce Development
- Other . . .

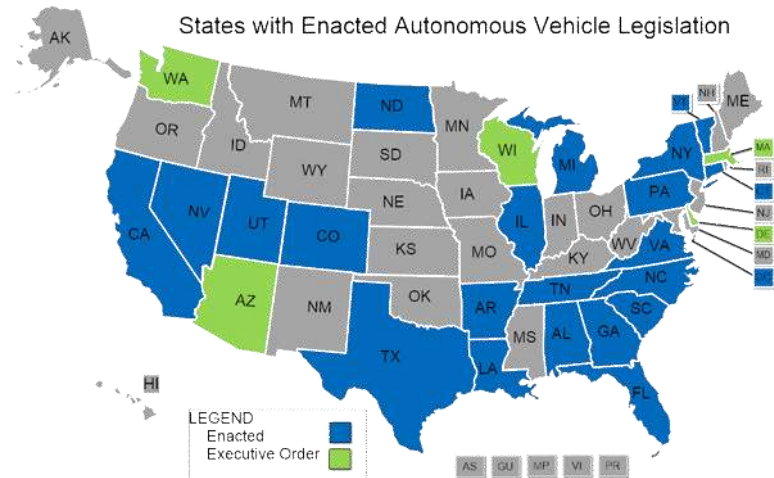


# AV Active States Snapshot

- Programs: CA, CO, FL, MI, NV, PA, UT, . . .
- Corridors: MI, VA, MI-OH-PA, CA-AZ-NM-TX
- Studies Underway: AL, ND, UT, . . .
- Conferences: FL, NV, NJ, OH, TX [AVS 2018, . . .]
- Public-Private Coalitions: MI, TN



Source: Global Automakers – January 2017



Source: NCSL – October 2017





# AV Challenges

- Risk of Technology Driving Public Policy
- Staying Abreast of Fast Moving Developments
- Uncertain Deployment Pathway
  - Slow Speed Shuttles in Enclaves; Truck Platooning; Private AVs; Automated TNCs; Fleets ???
- Guarding Public Interest while Not Stifling Innovation
- Interoperability and Performance Parameters
- The Known-Unknowns and Unknown-Unknowns
- **Partnerships with the Private Sector**



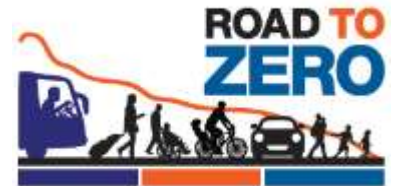
***Thank You!***

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