



# Connected and Automated Vehicles Updates

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# Why CAV is important to Minnesota



Safety



Greater mobility and equity



Economic and workforce development



Efficiency



Maximize health and environment



# Fake News – Fear of AV



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Survey Finds Majority Of Autonomous Car Crashes In California Caused By Human Error

# 4 Priorities: ACES



Connected



Electric



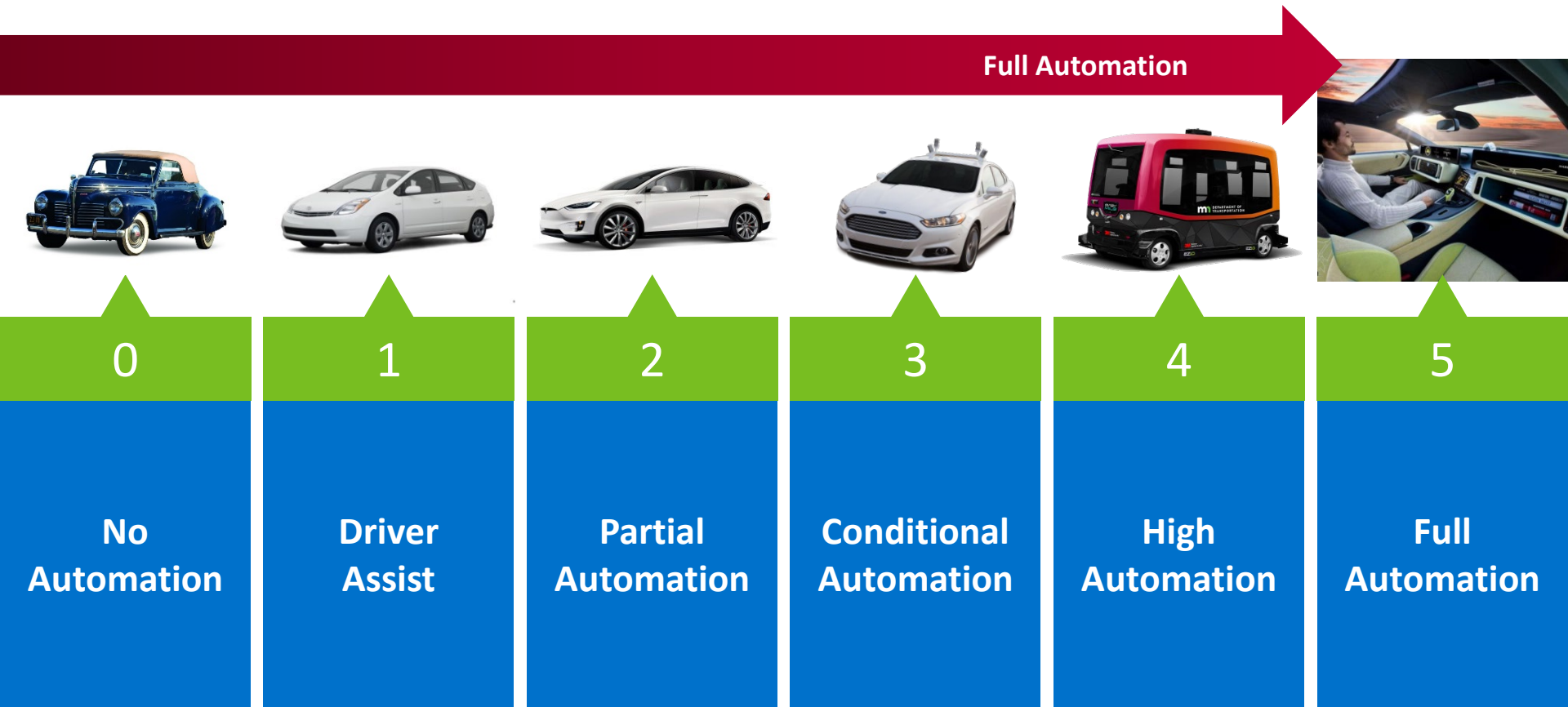
Automated



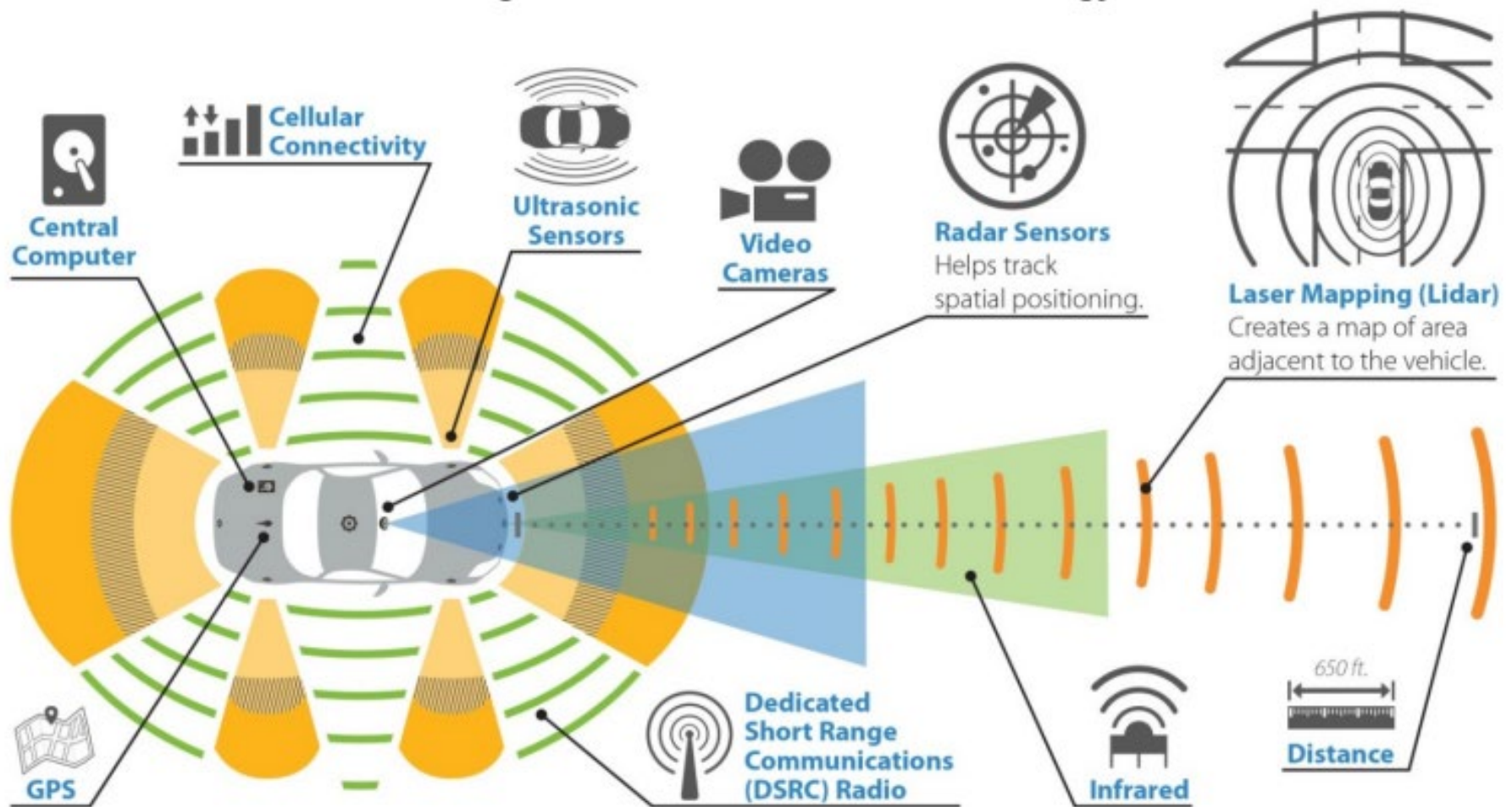
Shared Mobility



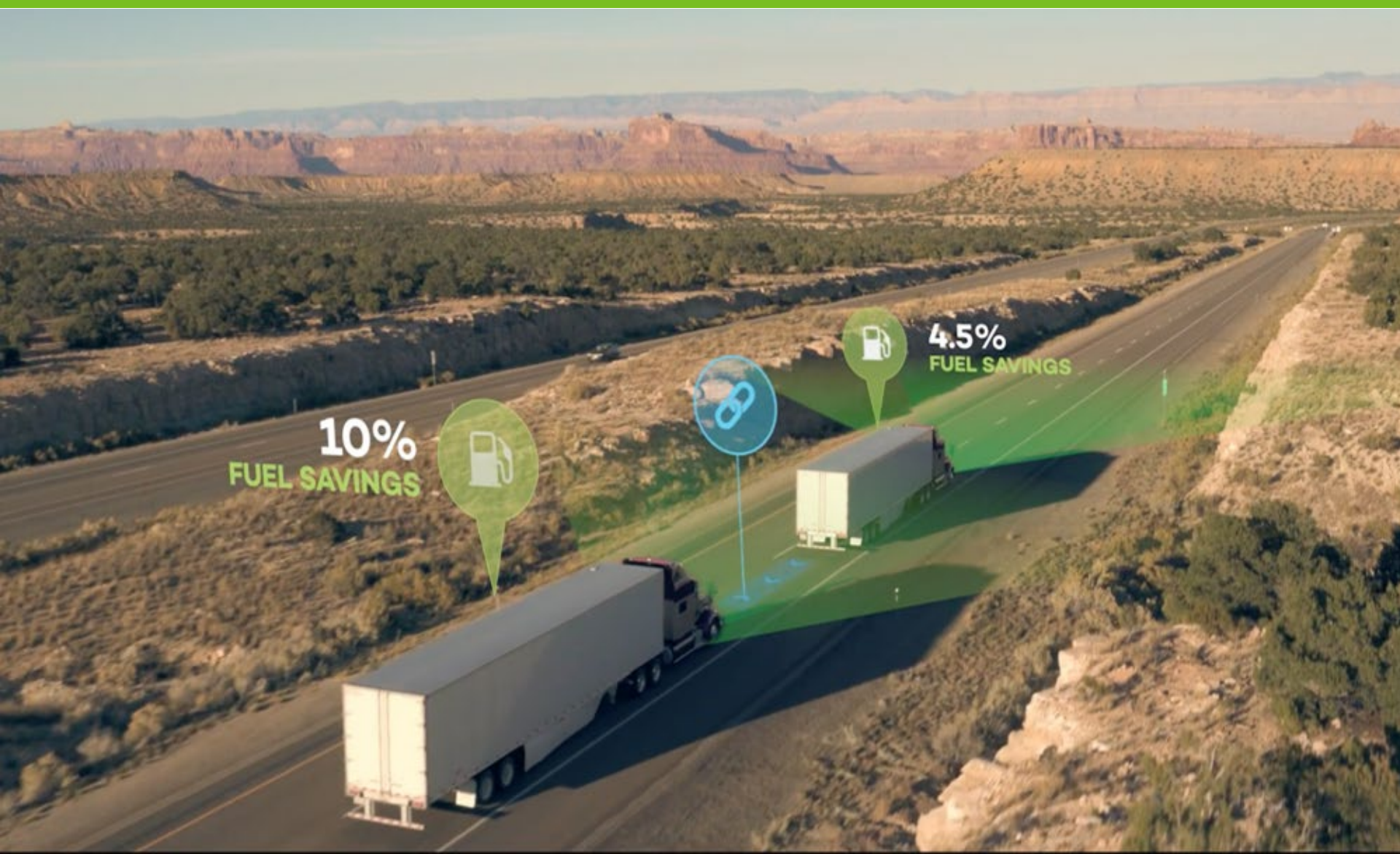
# Society of Automotive Engineers (SAE) Levels of Automation



# How does it work?



# Truck Platooning



# CAV - When Will It Come?

GM will focus on autonomous and electric vehicles

'Platoons' of autonomous Freightliner trucks will drive across Oregon

Uber signs deal to buy up to 24,000 autonomous vehicles from Volvo

Toyota and Lexus to introduce DSRC-based connected vehicles in the USA from 2021



# Industry Needs

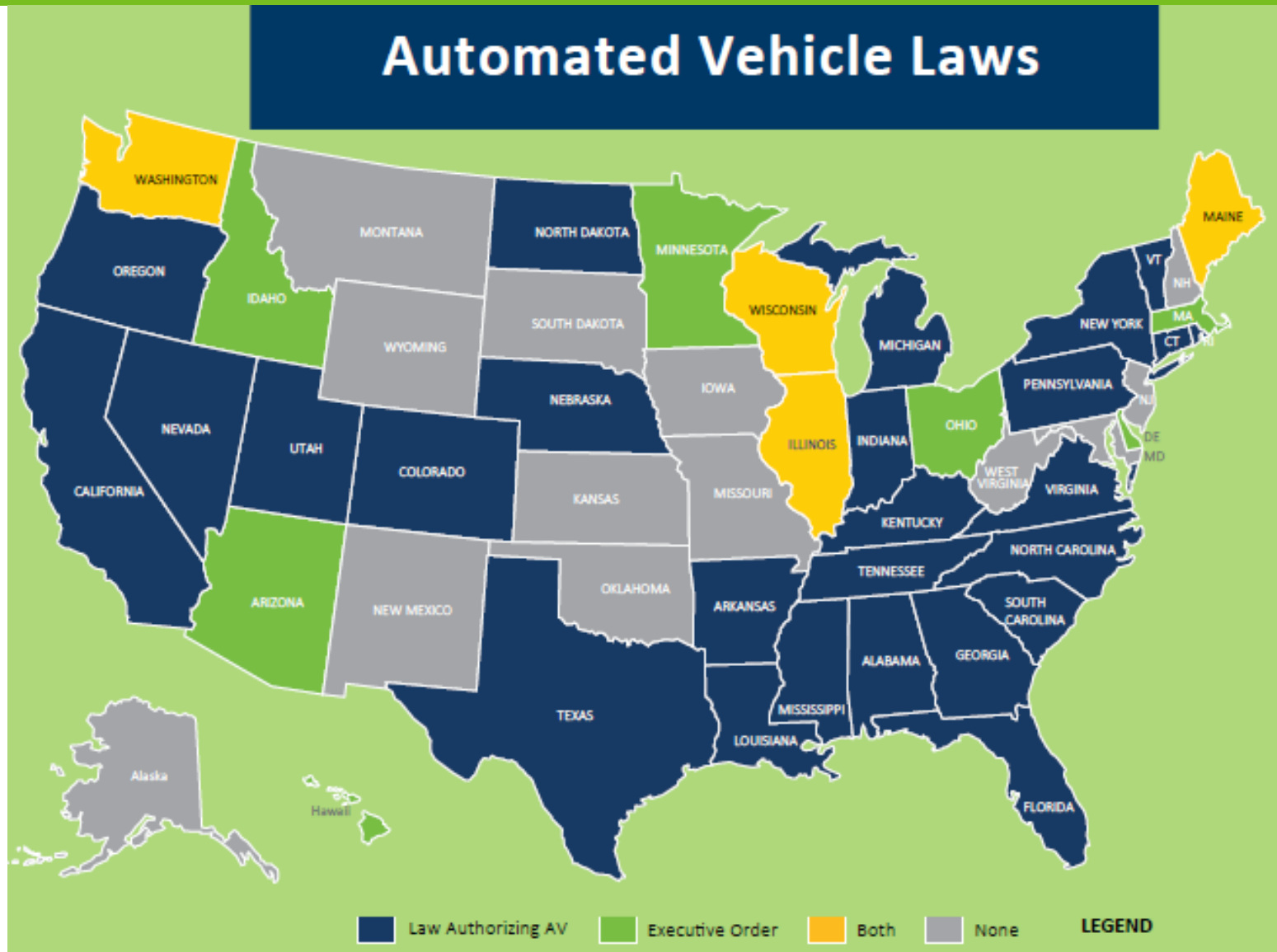
## Policy

- Clear and uniform laws for testing and operation

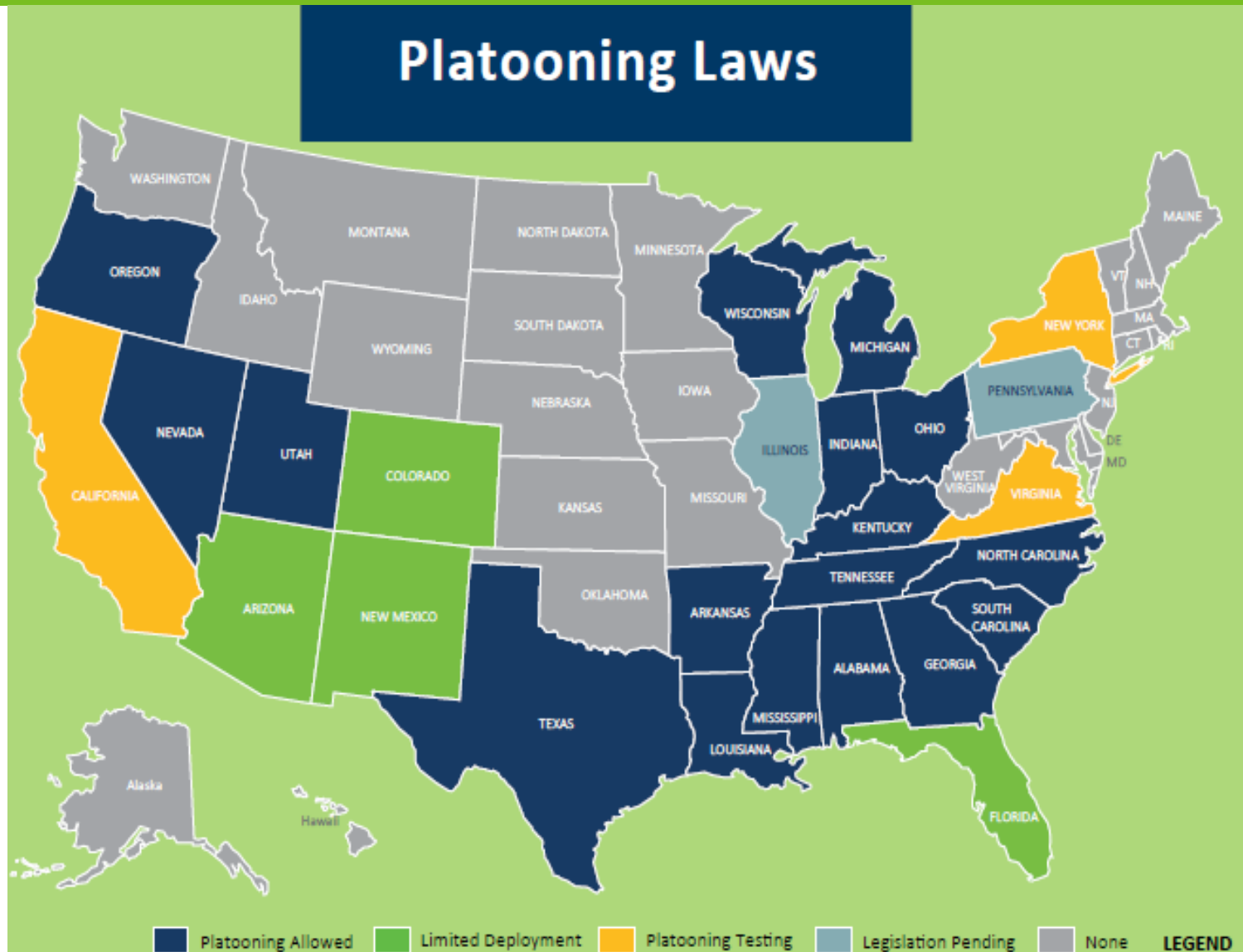
## Infrastructure

- Better pavement markings
- Real time information
  - Signals
  - Work Zones
  - Incident Management (weather events, closures)

# State Automated Vehicle Laws

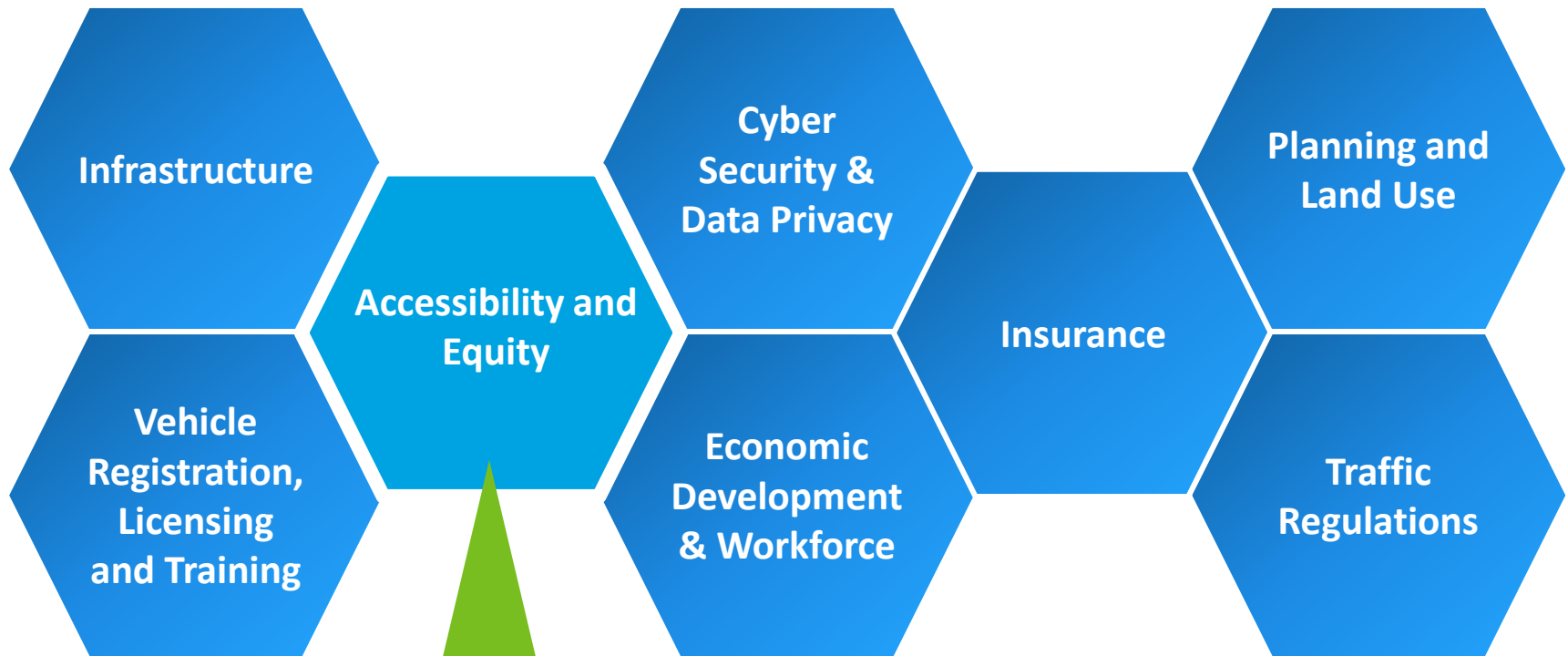


# State Platooning Laws



# Advisory Council

Report to Governor and Legislature by 12/01/18



## Emphasis Areas

- ✓ Rural Minnesota
- ✓ Disabled
- ✓ Low Income
- ✓ Tribal Nations
- ✓ Elderly
- ✓ Communities of Color



# Key Themes



**1. Modernize Policy**



**2. Equity**



**3. Proactive Leadership  
& Public Engagement**



**4. Education**



**5. Funding / Revenue**



**6. Partnerships**

# Council Recommendations



## Modernize Policy

- MnDOT and DPS permit process to safely automated vehicle
- MnDOT and DPS permit process for connected vehicle platooning

# Council Recommendations



## Leadership and public engagement

- Continue CAV Advisory Council work
- Create a public engagement plan
- Expand Interagency CAV team to include tribes, local government and universities

# Council Recommendations



## Transportation Infrastructure

- Modernize signals, improve pavement markings, expand fiber optic network, improve traffic data
- Fund testing on existing publically owned facilities
- Assess infrastructure to support truck platooning and AV operations



# Council Recommendations



## Revenue

- Create working group to review current and future revenue options to diversify and supplement transportation funding



## Land Use and Planning

- Maintain current delegation of powers for local government planning and land use
- Assist local government, transit and MPOs to fund CAV pilots, training and research

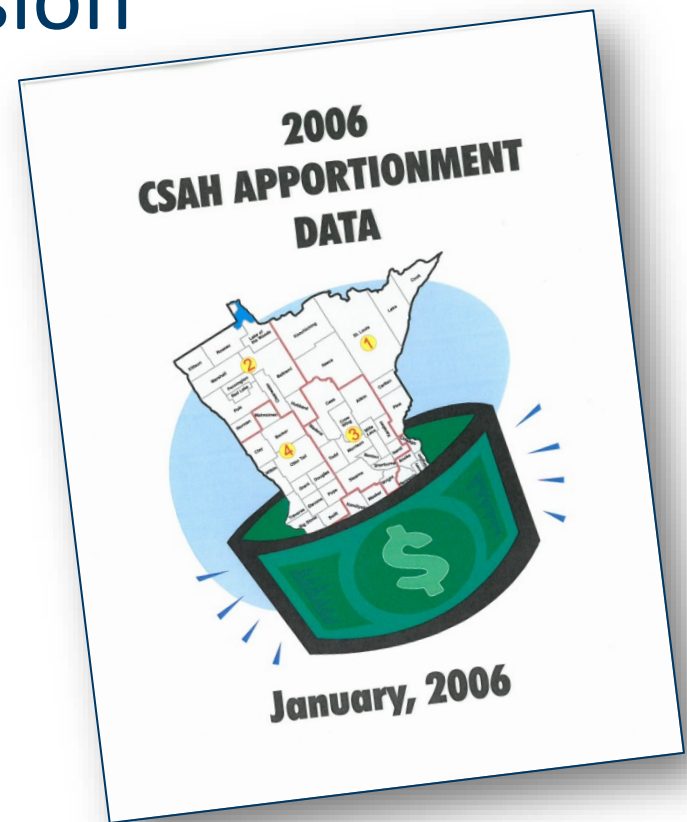
# County CAV Challenges

- System Diversity
- Work Zones
- Snow and Ice
- Standards
- Legal/Risk



# County CAV Challenges

- Infrastructure Conversion
- Staffing
- Fleet Conversion
- Data Management
- Funding



# What Can Counties Do

- Start Now
  - Monitor activity
  - CAV Strategic Plan
  - Cross Department Work Team
- LRRB Research
- Participation: CAV Challenge
- MCEA CAV Committee



# Thank you!

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