Connected and Automated Vehicles Updates

Erik Rudeen, MnDOT
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

Survey Finds Majority Of Autonomous Car Crashes In California Caused By Human Error
4 Priorities: ACES

Connected

Automated

Electric

Shared Mobility
How does it work?
Truck Platooning

- 10% Fuel Savings
- 4.5% Fuel Savings
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 Platooning Laws

Platooning Laws

Legend:
- Platooning Allowed
- Limited Deployment
- Platooning Testing
- Legislation Pending
- None

Map of the United States showing the status of Platooning Laws in different states.
Advisory Council
Report to Governor and Legislature by 12/01/18

- Infrastructure
- Vehicle Registration, Licensing and Training
- Accessibility and Equity
- Cyber Security & Data Privacy
- Economic Development & Workforce
- Planning and Land Use
- Traffic Regulations
- Insurance

Emphasis Areas
- ✓ Rural Minnesota
- ✓ Low Income
- ✓ Disabled
- ✓ 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
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!

Erik Rudeen
MnDOT