

# State DOT Implications of Automated Commercial Motor Vehicles

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## Topics

- The Automated Vehicle Driving Task
- Pavement Markings
- Signs
- Signals
- Winter Weather Challenges
- What is MnDOT Doing



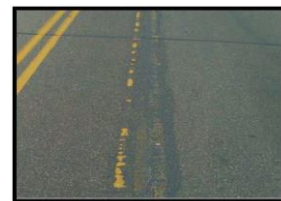
## The Automated Vehicle Driving Task

- Strategic
  - Route From Point A to B
  - Digital Maps
  - GPS/GNSS
- Tactical
  - Lane, Speed, Turns, Stops etc
  - Pavement Markings
  - Signs
  - Traffic Signals
- Operational
  - Adjust Real Time to Other Vehicles, Debris, etc
  - On-Board Sensors
    - Radar
    - Lidar
    - Cameras
    - Ultrasonic
  - V2V connectivity

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## Pavement Markings

- Issues
  - Never applied
  - Worn out
  - Construction
  - Weather
- Higher Level of Marking Maintenance?
- New Materials & Technology
- High Accuracy Digital Maps



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## Signs

- Issues
  - Knocked Down
  - Non-Standard / Unusual
  - Weather
- New Materials & Technology
- Sign Database
- V2I In-Vehicle Signing



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## Traffic Signals

- Issues
  - Detecting with Onboard Sensors
  - Power Outages
  - Weather
- Signal Database
- V2I Signal Phase & Timing



Photos6MnDOT

## Winter Weather Challenges

- Snow – Fallen and Blowing
- Salt Spray
- Icy Surfaces

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## MnDOT AV Activities

- Autonomous Bus
  - Winter weather testing at MnROAD
  - Demo during Super Bowl
- “Connected Corridor”
- Partnerships for testing

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## MnDOT AV Activities

- Jurisdictional Committee / Internal Committee / Minnesota Guidestar
- Proposed legislation for testing and for truck platoons
- CAV Strategic Plan

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# Thank you again!

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