

AUTOMATED VEHICLES IN MINNESOTA



ST. PAUL CITY COUNCIL PRESENTATION

TARA OLDS
THOMAS JOHNSON-KAISER

WHY IS AV TECH IMPORTANT TO MINNESOTA?

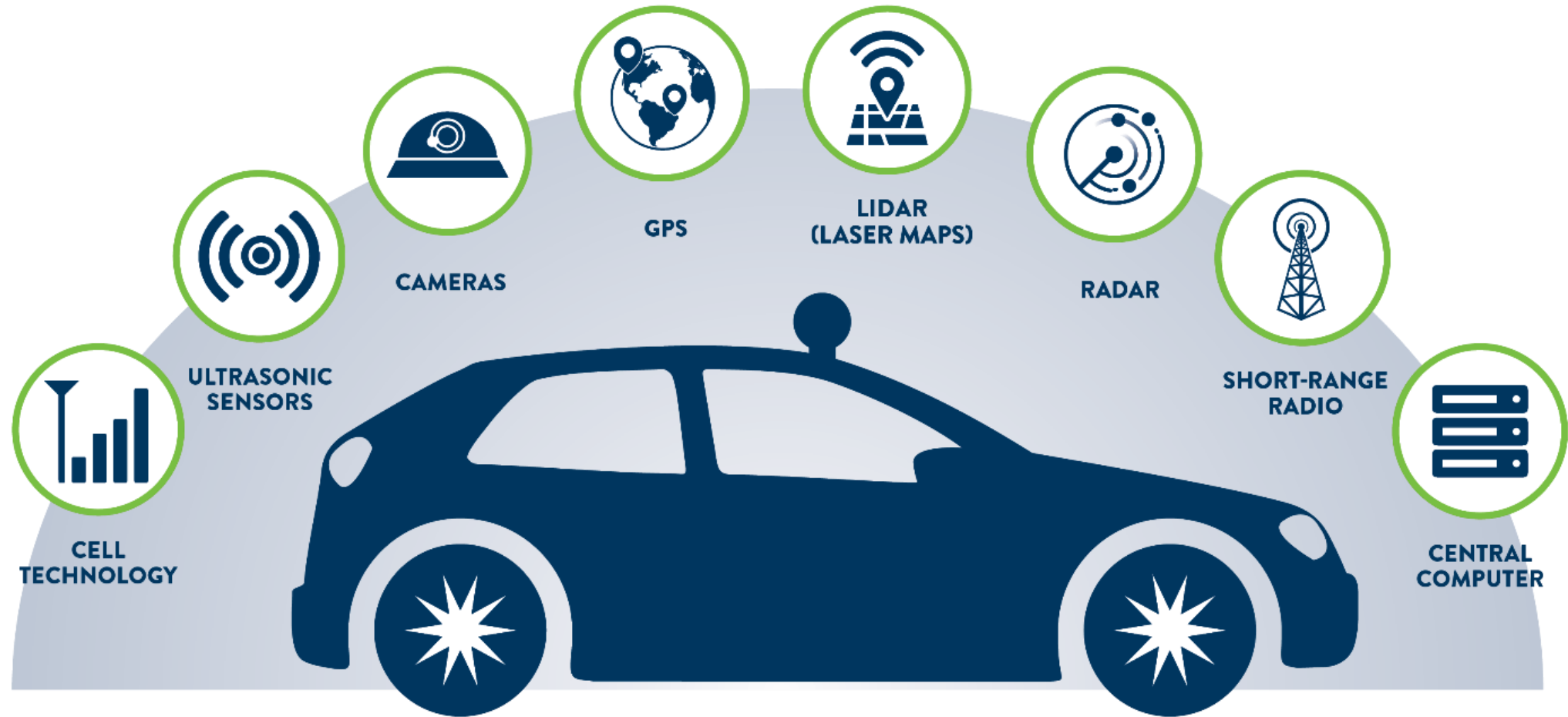
Automated Vehicles are the future of transportation. Vehicles with some level of automated technology are currently being driven on Minnesota roadways and highly automated vehicles are currently being tested in Minnesota and deployed in other states. These technologies have the potential to benefit Minnesotans in several ways.

Automated Vehicles have the potential to:

-  **Increase safety on our roads and highways**
-  **Provide greater mobility, accessibility and equity by reducing transportation barriers**
-  **Drive economic growth**
-  **Place Minnesota at the forefront of innovation and technological advancement**



AVS – WHAT ARE THEY?



AUTOMATED

WHAT ARE AUTOMATED VEHICLES?



SAE J3016™ LEVELS OF DRIVING AUTOMATION™

Learn more here: [sae.org/standards/content/j3016_202104](https://www.sae.org/standards/content/j3016_202104)

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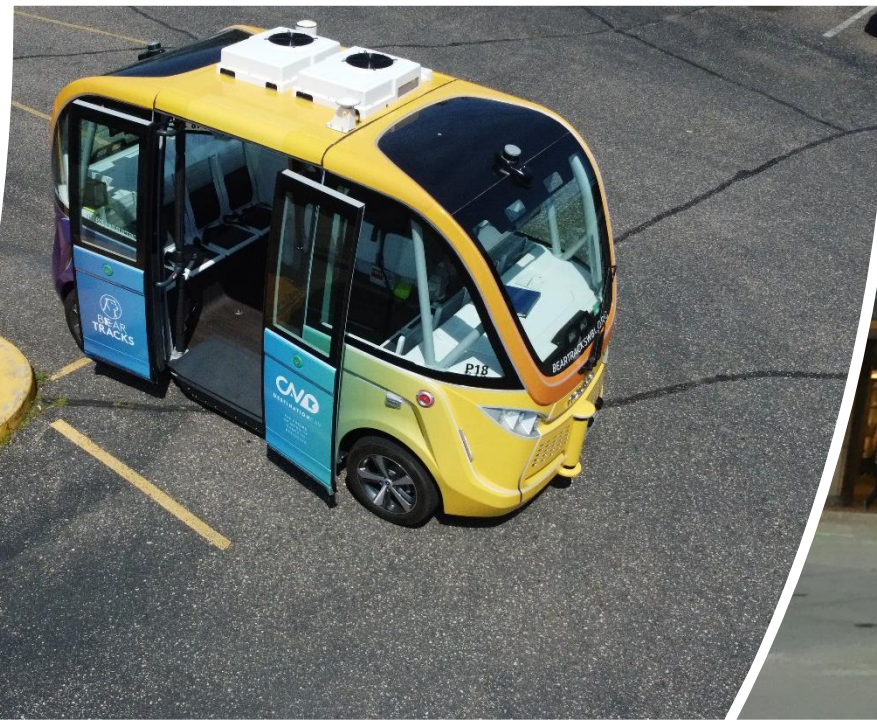
	SAE LEVEL 0™	SAE LEVEL 1™	SAE LEVEL 2™	SAE LEVEL 3™	SAE LEVEL 4™	SAE LEVEL 5™
What does the human in the driver's seat have to do?	You are driving whenever these driver support features are engaged – even if your feet are off the pedals and you are not steering			You are not driving when these automated driving features are engaged – even if you are seated in “the driver’s seat”		
	You must constantly supervise these support features; you must steer, brake or accelerate as needed to maintain safety			When the feature requests, you must drive	These automated driving features will not require you to take over driving	

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	These are driver support features			These are automated driving features		
What do these features do?	These features are limited to providing warnings and momentary assistance	These features provide steering OR brake/acceleration support to the driver	These features provide steering AND brake/acceleration support to the driver	These features can drive the vehicle under limited conditions and will not operate unless all required conditions are met	This feature can drive the vehicle under all conditions	
Example Features	• automatic emergency braking • blind spot warning • lane departure warning	• lane centering OR adaptive cruise control	• lane centering AND adaptive cruise control at the same time	• traffic jam chauffeur	• local driverless taxi • pedals/steering wheel may or may not be installed	• same as level 4, but feature can drive everywhere in all conditions



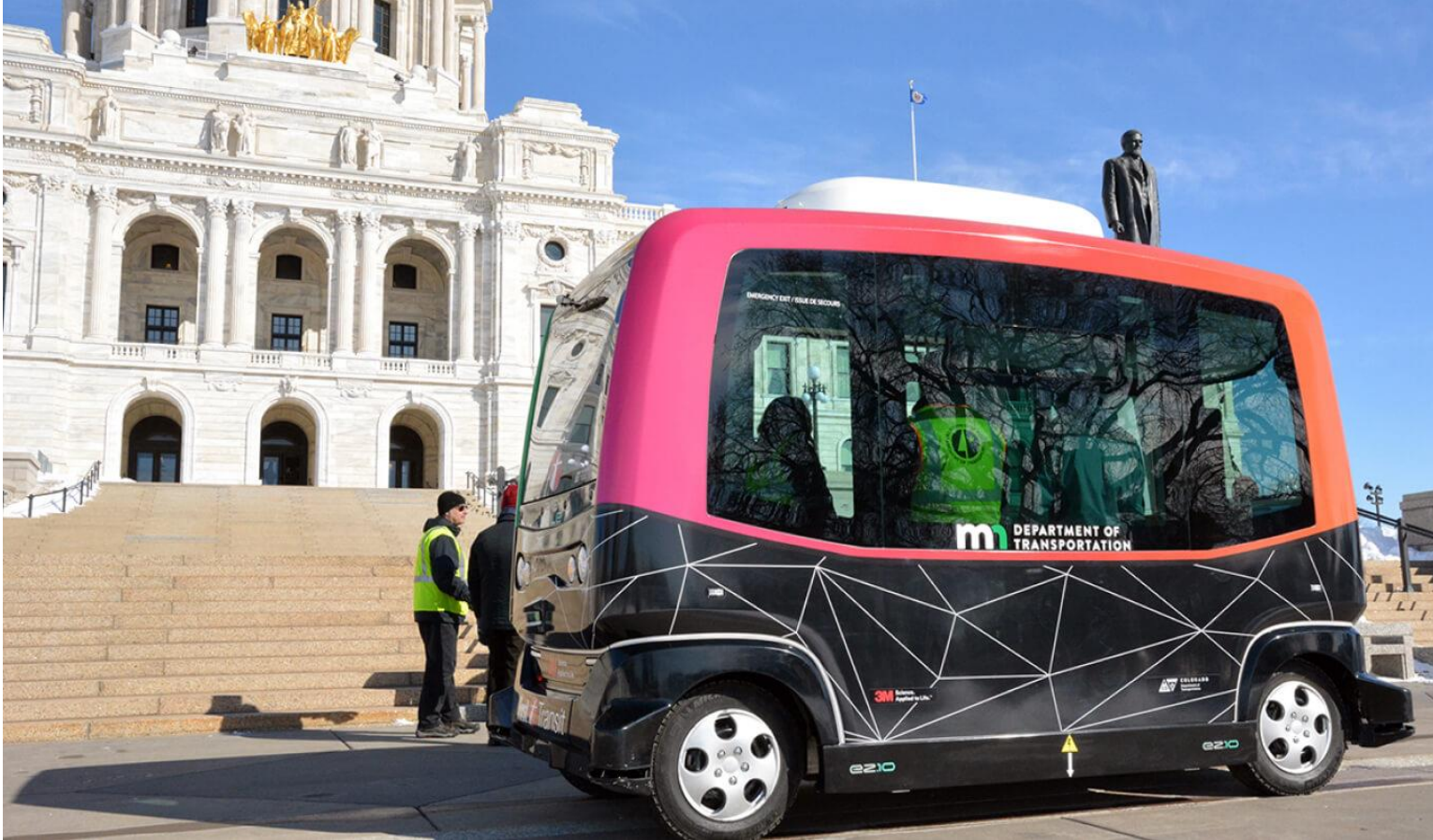
AUTOMATED VEHICLE DEMONSTRATION PROJECTS IN MINNESOTA



AVS IN THE US



GOVERNOR'S ADVISORY COUNCIL



STATE OF MINNESOTA EXECUTIVE DEPARTMENT



MARK DAYTON
GOVERNOR

Executive Order 18-04

Establishing the Governor's Advisory Council on Connected and Automated Vehicles

I, Mark Dayton, Governor of the State of Minnesota, by virtue of the authority vested in me by the Constitution and applicable statutes, do hereby issue this Executive Order:

Whereas, the State of Minnesota is a global center for innovation and opportunity with a highly educated and entrepreneurial workforce and welcoming business climate;

Whereas, the State of Minnesota is supportive of public-private collaborations for the research and development of the connected and automated vehicles;

Whereas, the widespread adoption of connected and automated vehicles will transform the future of transportation, commerce, mobility, workforce, land-use, and public safety;

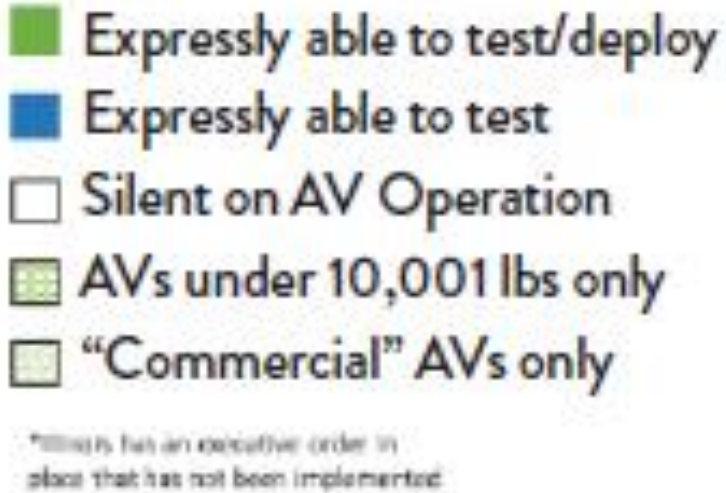
Whereas, the widespread adoption of connected and automated vehicles will positively impact public health by reducing injuries, traffic congestion, and air pollution;

Whereas, there are approximately 400 vehicle crash fatalities in Minnesota each year and human error contributes to approximately 94 percent of all serious and fatal crashes;

Whereas, connected and automated vehicles technologies are evolving rapidly, developing new capabilities including the ability to communicate with infrastructure and with other vehicles, and drive safely without a human operator;

Whereas, the development of connected and automated vehicle technologies has the potential to support economic growth, create high-skilled jobs, and promote business opportunities;

Whereas, Minnesota's diverse weather conditions provides significant advantages for the testing of connected and automated vehicles;



WHO REGULATES WHAT?

Federal

- National Standards:
 - Motor vehicles
 - Motor vehicle equipment
 - Infrastructure
- Non-Compliance
- Defects

State

- Defects
- Licensing
- Vehicle registration
- Operations permits
- Insurance and liability
- Traffic laws
- Vehicle inspections
- Roadway design standards
- Business Operations (TNCs)

Local

- Traffic laws
- Building codes
- Zoning codes
- Local street design
- Curb management
- Land development
- Business Operations (TNCs)



MN AV POLICY WORK

AV Laws
Around US

AV Themes
Overview

Gaps in MN
Law

AV Law
Needs in
MN

Stakeholder
Summary

AV Policy
Recs

KEY AV THEMES

Testing, deployment,
operations

Privacy and security

State and local
governance

Safety verification
(FMVSS compliance,
minimal risk condition)

Liability and insurance

Role of driver/operator

Registration/permitting

Emergency services
interaction plan

Ability to remove bad
actors from operating

Accessibility
requirements

Workforce development

WORKFORCE

What will the impacts be?

- Jobs lost
- Jobs created
- Jobs changed

What can Minnesota do?

- Policies
- Programs



RESOURCES

WWW.DOT.STATE.MN.US/AUTOMATED

Automated Vehicles: State-Level Policy Themes

Automated Vehicles in Minnesota

Automated Vehicles: State Laws and Regulations

Governor's Council Automated Vehicle Policy
Recommendations

2026 AV LEGISLATION

MN House

- HF 3513 (Koznick)
- HF 4216 (Sencer-Mura)
- HF 3553 (Backer)

MN Senate

- SF 4014 (McEwen)
- SF 4010 (Johnson Stewart)
- SF 4381 (Maye Quade)
- SF 4816 (Dibble)

Federal Legislation

- SELF DRIVE Act
- Surface Transportation Authorization bill



CONSIDERATIONS FOR ST. PAUL

Planning

- Follow state and federal legislation updates
- Address local gov't policy issues

Involvement

- NACTO and Emerging Technologies Committee
- USDOT AV Peer Exchange
- MN GAC and Innovation Alliance
- MN CAV Newsletter

THANK YOU

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CONNECTED AND AUTOMATED VEHICLES
MINNESOTA DEPARTMENT OF TRANSPORTATION

