MPO & RPA Quarterly Meeting





December 16, 2020

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Update on Regional & National AV Efforts



MAASTO CAV Committee





State Rulemaking



- AAMVA AV Subcommittee
 - Safe Testing and Deployment of Vehicles Equipped with Automated Driving Systems Guidelines - Edition 2



Update on Regional & National AV Efforts

MAASTO



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Update on Regional & National AV Efforts

CAV MOU Commitments

- Ongoing information sharing, sharing best practices, collaborating on regional projects
- Develop a regional strategy for CAV for the region
- Host an annual summit
- The first U.S. region to develop an MOU and work towards developing a regional strategy

MEMORANDUM OF UNDERSTANDING

Agreement to Collaborate on Connected and Automated Vehicle Innovations

This Memorandum of Understanding (MOU) is made and entered into by and among the Illinois Department of Transportation. Indiana Department of Transportation. Indiana Department of Transportation. Knass Department of Transportation. Knass Department of Transportation. Mischigan Department of Transportation. Miscound Department of Transportation. Onlio Department of Transportation. Onlio Department of Transportation. Transportation. Miscound Department of Transportation.

WHEREAS, private companies are rapidly developing connected and automated vehicle (CAV) technologies, and there are active deployments and testing being conducted in MAASTO states, som without state DOT knowledge or involvement, and

WHEREAS, CAV innovation is much broader than vehicles, and includes significant innovations in the transportation industry, such as managing big data, data privacy, cyber security, intelligent transportation systems, vehicle connectivity, automated safety features, roadway design, licensing and registration, training and education, shared mobility, and multi-modal transportation including transit, active transportation, freight, and ports, and

WHEREAS, CAVs have the ability to greatly increase safety, mobility, equity, efficiency, sustainabili and public health, and

WHEREAS, the Mid-America Association of State Transportation Officials (MAASTO) convened first CAV summit in 2019 committing to continued collaboration and information sharing, and

WHEREAS, MAASTO states are developing regional priorities and strategies to leverage its strong state leadership, research expertise, and private sector industries, and

WHEREAS, MAASTO has an opportunity to coordinate with other AASHTO regions, regional collaborations, and national organizations such as the Cooperative and Automated Transportation Coalition, the Institute for Traffic Engineers, and the Intelligent Transportation Society of America.

NOW THEREFORE, as leaders of our state departments of transportation, we express our mutual

- THAT the purpose of this MOU is to establish a cooperative and coordinated effort to develop best practices, share information, collaborate on regional projects, and develop a regional strategy for CAV for MASTO.
- THAT each Partner may appoint and maintain one or more points of contact to represent the
 respective Partner for this effort. Each Partner may change its own point(s) of contact at any time by



MAASTO CAV Vision

A national leader in collaborative advancement of connected and automated technologies to increase transportation safety, create a thriving Midwest economy, shape national transportation policy, and enhance quality of life.

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Update on Regional & National AV Efforts

MAASTO CAV Mission

Advance regional safety and collaboration to promote unified policy, interoperability across boundaries, and establish cooperative public-private partnerships to safely test and deploy emerging technologies that advance regional and community transportation needs.



2020 CAV Summit

Goal: Hear from national industry leaders and researchers to collaboratively finalize a 10-year CAV strategic plan and regional strategy

Audience: DOT leadership and staff in key functional areas. Industry attended on day 1

Day 2 reserved for DOT staff

Day 1 Agenda National Perspectives and Research	Day 2 Agenda Finalizing a Regional Strategy Recap & Feedback			
Welcome				
2019 Summit Recap	Overview of MAASTO Regional Strategy			
MAASTO state CAV updates	Strategy Polling & Feedback			
FHWA, AAMVA, TETC, ITS America National CAV Panel	8 Breakouts & Report-Outs			
MAASTO Regional Research Updates	MAASTO States' Round Robin & Takeaways			

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Update on Regional & National AV Efforts

State CAV Program Updates & Themes

	COMMONALITIES	DIFFERENCES		
 1. 2. 3. 4. 5. 6. 7. 	Strategy and planning State councils/task forces CAV lead/office/staff Automated freight & platooning Reviewing AV laws 6-inch markings Mixed fleet approach	 CAV corridor development Few designated CAV offices UAS/drone coordination EV/shared mobility/micro-mobility AV laws Investment and funding levels Standards vs. testing 		
8.9.	DMV coordination Broadband investment			



2030 MAASTO Regional Strategy

- Strategies based on a 2020 survey of member states, interactive MentiMeter exercises and discussions with the member states
- The 10-year MAASTO CAV Regional Strategy is divided into 3 phases: short-term strategies, medium-term strategies, and long-term strategies.

Short-Term Priorities (1-4 years) 2020-2023 Medium-Term Priorities (5-9 years) 2024-2029 Long-Term Priorities (10+ years) 2030+

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Update on Regional & National AV Efforts

MAASTO CAV Strategy Gaps to Address

MEDIUM-TERM LONG-TERM SHORT-TERM STRATEGIES **STRATEGIES STRATEGIES** 2. Develop model AV Understand how transportation budgets, projects, legislation long-range operations and business needs 8. Engage law enforcement transportation 2. Leverage industry partners/ and first responders planning is impacted academia to research CAV regarding enforcement by platooning. and public safety connected vehicle Identify opportunities to share 9. Work with Mid-America technologies, data collected across states (and Freight Coalition to autonomous shuttles. address data governance) prioritize freight and other CAV 4. Work with local communities to movements for regional technologies address accessibility and equity 10. Collaborate to develop uniform minimum. 13. Support local governments for those with unmet transportation needs governments in preparing for CAV 5. Host an annual CAV conference following distance through education and Encourage DOTs to understand platooning laws continued 11. Create a CAV regional legislative concerns about CAV, including those that impact forecasting and scenario 14. Coordinate on US DOT DMVs grant opportunities

- Safety focus
- 2. CAV strategic plans
- 3. Meeting with private sector
- Uniform terms and definitions
- 5. Deployment timelines
- 6. National Strategy coordination
- 7. Outreach and engagement
- Funding



CAV Committee Working Groups

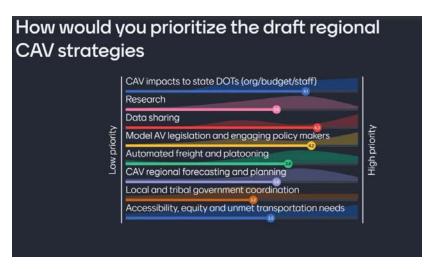
- 1. CAV impacts to DOTs (organizational development)
- 2. Research
- 3. Data sharing
- 4. Model AV legislation and engaging policy makers
- 5. Automated freight and platooning
- 6. CAV regional forecasting and planning
- 7. Coordination with local/tribal governments
- 8. Accessibility, equity and engagement

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Update on Regional & National AV Efforts

Prioritizing this Work



- 1. Data sharing
- 2. AV policy
- Organizational development and readiness
- 4. AV freight and platooning
- 5. Research
- Planning and forecasting
- 7. Access, equity and outreach
- 8. Local/tribal coordination



Final MAASTO CAV Strategy

SHORT-TERM STRATEGIES MEDIUM-TERM STRATEGIES LONG-TERM STRATEGIES 1. DOT Organizational Readiness

- 2. Data Sharing
- 3. AV Legislation and Engaging Policy
- 4. AV Freight and Platooning
- 5. Research

- 6. Planning and Forecasting
- 7. Local and Tribal Coordination

ONGOING STRATEGIES

- Equity, Access and Engagement
- Coordination on Federal Grants
- Regular Convening and Annual CAV Summit

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Update on Regional & National AV Efforts

Planning & Forecasting Strategy (Draft)

#	Topic	Strategy	Next Steps and Action Items	Deliverable	Lead	Timeline	Resources
6	Planning and forecasting	6.1 Create a CAV regional forecasting and scenarios	Identify members between MAASTO CAV Committee and MAAASTO Planning Committee to serve as liaisons Host discussion with AASHTO Planning Committee's AV Group and MAASTO Planning Committee Monitor MCHRP/TRB AV planning and forecasting research Develop a list of MAASTO members that are following this research Host discussion on CAV trends and forecasting Review AV scenario planning resources used by MAASTO states Need to build a shared understanding of what CAV transportation planning looks like Develop a regional model by creating common baseline assumptions, such as lane capacity and a range of deployment scenarios. Address whether a common timeframe across MAASTO is helpful. Some states may see deployment earlier than others, but there is strong consensus that a common framework is needed.	Lead champion identified Group membership finalized Documented list of CAV trends Draft regional CAV scenarios	Minnesota (Philip Schaffner)	2025	Staff time; potential \$300k funding for consultant support
	Planning and forecasting	6.2 Understand how long-range transportation planning is impacted by platooning, connected vehicle technologies, autonomous shuttles, and other CAV technologies	1. See item #6.1 [Create CAV forecasting and scenarios] 2. Meet with MAASTO/AASHTO Planning Committees to discuss CAV planning 3. Host discussion on MAASTO States* CAV strategic plans and roadmaps 4. Conduct economic analysis amongst the states 5. Address how do we include shorter/mid-term strategies (e.g. 5-10 years) for CAV since DOT long-range plans look 20 years out. 6. Are trigger points/thresholds needed to make more serious revisions to plans, such as market penetration rates? 7. Select a few focus areas to prioritize in long-range plans as a region to have a common approach, e.g. lane markings; usability, accessibility; prioritizing winter; thinking about rural transportation. We could collectively push the national conversation through this work.	Lead champion identified Group membership finalized Documented strategies and framework	Minnesota (Philip Schaffner)	2026	Staff time; potential \$300k funding for consultant support



Next Steps



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Update on Regional & National AV Efforts

Federal Rulemaking

NHTSA (URL)

- Automated Driving System Safety Framework
- Docket Number: NHTSA-2020-0106
- Comments close: 2/1/2021

FHWA (URL)

- National Standards for Traffic Control Devices;
 MUTCD for Streets & Highways Revision
- Docket Number: FHWA-2020-0001
- Comments close: 3/15/202

State Rulemaking

AV Framework (SF302 - 2019)

- Based on model legislation
- Passenger & Commercial MVs
- New code sections:
 - Definitions
 - Operation
 - Insurance
 - Accidents
 - On-demand driverless-capable vehicle network
 - Authority



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Update on Regional & National AV Efforts

State Rulemaking

AV Framework (cont.)

- Iowa DOT AV Policy Working Group
- Draft Rulemaking
 - Additional Definitions (SAE levels)
 - Identification in Vehicle Registration
 - Operational Restrictions (e.g. ODD)
 - Testing Permit
- Stakeholder Engagement
- Goal: Finalize Early 2021





Safe Testing and Deployment of Vehicles Equipped with Automated Driving Systems
Guidelines - Edition 2

OUR VISION

Safe drivers Safe vehicles Secure identities Saving lives!



AAMVA Mission and Vision

OURMISSION

serve North American motor vehicle & law enforcement agencies to accomplish their missions

OURVISION

safe drivers safe vehicles secure identities saving lives!

- Founded in 1933, the American Association of Motor Vehicle Administrators (AAMVA) represents to Motor Vehicle Administrators of all 69 states, provinces and territories of the U.S. and Canada
- Support uniformity and reciprocity among jurisdictions
- Provide guidance and best practices on emerging issues.



Established fall 2014 - 20 US and Canadian jurisdictional members and AAMVA staff with wide range of expertise in:

Vehicle and driver programs
Law enforcement
Legal and policy

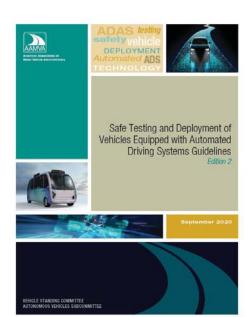


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Edition 2 Overview



Developed Edition 2 over the last 2 years

Published September 2020 Replaces Edition 1

https://www.aamva.org/SafeTestingandDeploymentOfVehiclesEquippedwithADSGuidelines/



Global Changes In Edition 2:

- The term "Highly Automated Vehicles" been retired and replaced by the term "ADS-equipped vehicles"
- Several chapters now include information related to Advanced Driver-Assistance Systems (ADAS)
- The Autonomous Vehicles Working Group (AVWG) was renamed the Automated Vehicles Subcommittee

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Edition 2 Overview

8 Chapters

- 1. Executive Summary
- 2. Definitions and Acronyms
- 3. Administrative Considerations
- 4. Vehicle Considerations
- 5. Driver Licensing Considerations
- 6. Law Enforcement Considerations
- 7. Other Considerations
- 8. Next Steps





7.3 – Low-Speed Automated Shuttles



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Next Steps

The subcommittee will be developing whitepapers over the next year

Automated Delivery Vehicles





Updating Distracted Driving Laws





THANK YOU!

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