



AMPO Connected and Automated Vehicle (CV/AV) Working Group

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Prep Webinar – November 8, 2018 at noon Eastern time



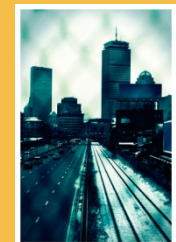
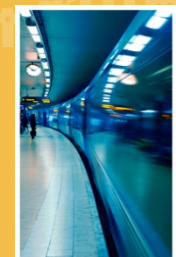
Webinar Purpose and Agenda

Purpose – In preparation for the AMPO CV/AV Symposium:

- Provide an overview of the AMPO CV/AV Working Group and its National Framework for Regional Connected and Automated Vehicles Planning
- Provide materials and discussion questions in advance to ensure participants can actively participate in the Symposium discussion and breakouts

Agenda

- AMPO CV/AV Working Group Overview
- The Framework from the perspectives of the North Central Texas Council of Governments, Maricopa Association of Governments, and MetroPlan Orlando
- Framework Content
- Symposium Breakout Discussion Questions
- Q&A



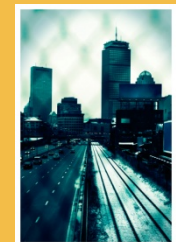
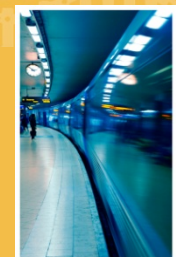


AMPO Technical Working Groups

AMPO is a nonprofit, membership organization established in 1994 to serve the needs and interests of Metropolitan Planning Organizations (MPOs). We offer our member MPOs technical assistance and training, conferences and workshops, legislative and rulemaking updates, newsletters and communications, research, a forum for transportation policy development and coalition building, and a variety of other services.

AMPO facilitates several long-standing technical working groups focused on transportation planning topic areas that are required or of interest to MPOs.

- Air Quality
- **Connected and Autonomous Vehicles (CV/AV)**
- Performance-based Planning & Programming
- Travel Modeling
- Environmental Justice
- Public Involvement





CV/AV Working Group Background

Working Group Composition

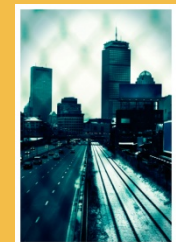
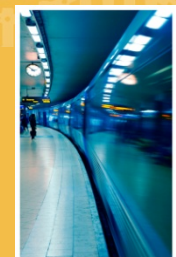
- 15-20 core members from diverse backgrounds, MPO-size, and geography

Working Group Objectives

- Build technical, institutional, and policy capacity
- Leverage the benefits of deployment
- Address knowledge gaps
- Support the U.S. DOT's efforts

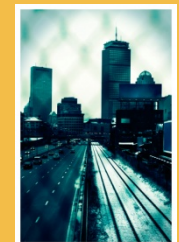
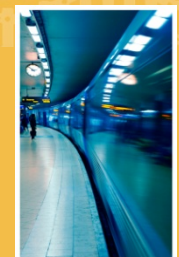
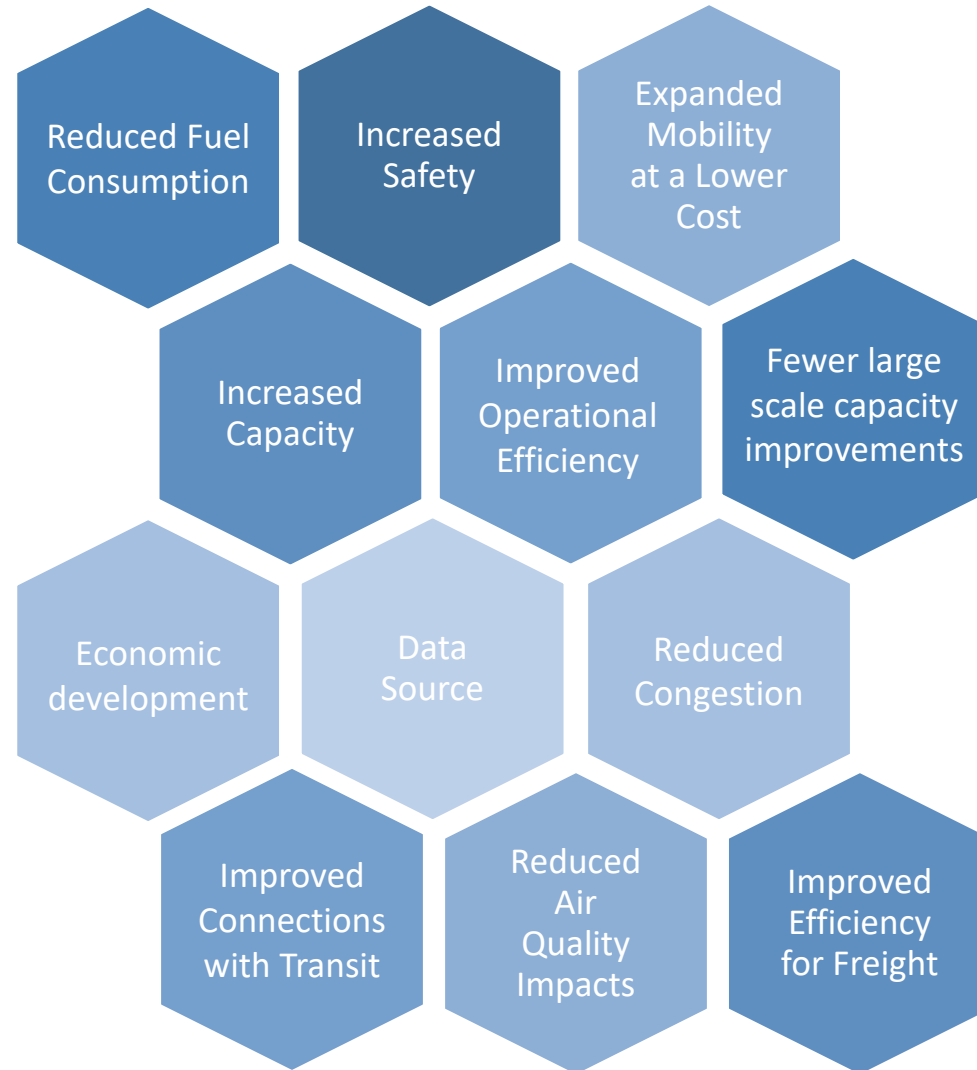
Working Group Activities and Products

- Four meetings between 2017 – 2018 documented by a whitepaper
- National Framework for Regional Connected and Automated Vehicles Planning (Framework)
- Symposium in Denver, CO on November 14-15, 2018
 - Refine the Framework and identify next steps/items for potential further exploration



Working Group Findings

Potential Benefits of CV/AV



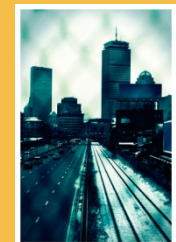
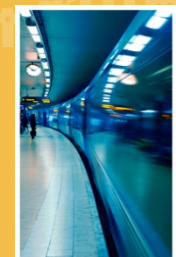
Working Group Findings

Challenges and Needs:

- Unknowns and uncertainty
- Data
- Managing perceptions and expectations
- Building technical, institutional, and policy capacity
- Staying informed
- Regulations and guidance
- Building partnerships
- Full range of impacts of emerging technologies

Potential Risks for Future Exploration:

- Safety
- Environmental Justice and equity
- Stakeholder expectations, acceptance, and unpredictability
- Data sharing and security
- Incorporation into current planning process and decision making
- Land use





The MPO Perspective

- **Tom Bamonte**

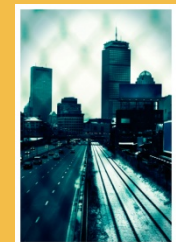
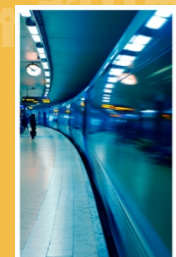
Senior Program Manager for Autonomous Vehicles at the North Central Texas Council of Governments

- **Bob Hazlett**

Senior Engineer Project Manager at the Maricopa Association of Governments

- **Eric Hill**

Director of Transportation System Management and Operations at MetroPlan Orlando

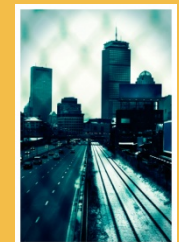
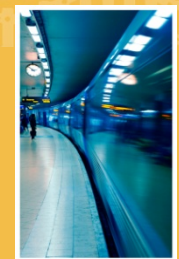




National Framework for Regional Connected and Automated Vehicles Planning

Purpose: Provide a framework and tool as MPOs:

- Incorporate CV/AVs into their metropolitan transportation planning process and work to guide its deployment to help meet regional transportation needs and goals.
- Explore the potential impacts of CV/AV technologies and their implications for the transportation system, its users, and the concept of mobility

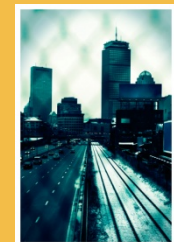
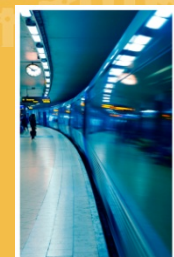




National Framework for Regional Connected and Automated Vehicles Planning

Importance of the MPO:

- 80.7% of the U.S. population is urban and ~90% of the U.S. GDP is generated within metropolitan areas
- Shape the transportation system, maintain safety and equity, and move people and goods regardless of mode choice
- Through policy boards, technical committees, community outreach, and the development of core MPO products, build relationships with transportation agencies and decision makers, community organizations, and the public
- Through policy development and investment decisions, guide how CAV technology can help meet regional transportation needs and goals

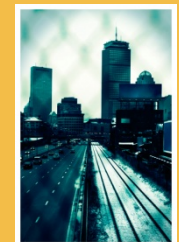
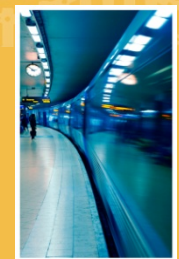




National Framework for Regional Connected and Automated Vehicles Planning

CV/AV Impact Areas:

- Safety and security
- Operations
- Mobility and mode choice
- Freight
- Transportation demand
- Infrastructure design and capacity
- Funding and financing
- New transportation service markets
- Equity
- Data collection and analysis, housing, availability, and affordability
- Public acceptance
- Land use
- Air quality conformity
- Policy Engagement and Coordination
- Employment

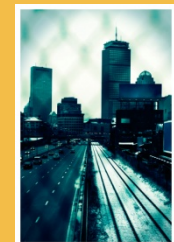




National Framework for Regional Connected and Automated Vehicles Planning

Recommendations and Resources: Engagement, coordination, and collaboration

- Advise policy and decision makers
- Build partnerships to reduce redundancy and move forward in a unified direction
- Inform and share information regarding the current reality of CV/AV deployment
- Gather feedback on values and concerns
- Develop a vision and goals for the desired future of transportation with CV/AV technology to help understand how it can help meet regional transportation needs and goals
- *Fact Sheet, Resource Packet, Impact Areas Table*

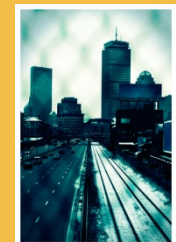
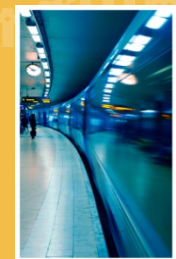




National Framework for Regional Connected and Automated Vehicles Planning

Recommendations and Resources: Metropolitan Transportation Plan (MTP)

- Develop vision/goals with CV/AV technology deployed and support deployment scenarios that help meet the vision/goals and transportation system needs, maintain equity, and do not decrease safety, security, operations, reliability, or mobility
- Support an environment that fosters innovation
- Ensure investment decisions support the current and future transportation system
- Encourage shared use/other strategies that will minimize or mitigate potential increases in VMT
- Support data sharing and explore opportunities for using CV/AVs as an additional data source for management of the transportation system
- Build partnerships and collaborate with transportation partners and engage stakeholders for discussions on policy and investment decisions related to CV/AVs
- *Shared Use Mobility, Transportation Technology, and Intercity Transit Services, FTA 6/2018*

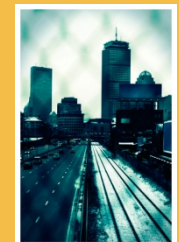




National Framework for Regional Connected and Automated Vehicles Planning

Recommendations and Resources: Investment Decisions and the Transportation Improvement Program (TIP)

- Update the TIP process to encourage innovative technology applications
- Ensure investments for near-term funding address current needs while also evaluating them against the background of future scenarios with the deployment of CV/AVs
- *TBD*

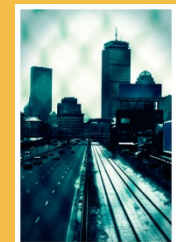
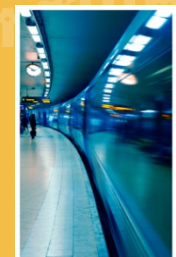




National Framework for Regional Connected and Automated Vehicles Planning

Recommendations and Resources: Other Planning Products and Processes

- Use modeling and scenario planning to explore future unknowns
- Be aware of the different dimensions of readiness: vehicle systems technology, supportive infrastructure, responsive institutions, and community acceptance
- Identify drivers, levers, triggers, and tipping points of scenarios to help identify key milestones
- Be aware of CV/AVs potential to support performance measures, target setting, and national goals
- Explore the potential for CV/AV technology to impact air quality and transportation conformity
- Incorporate a discussion of CV/AV technology into the region's ITS Architecture Plan
- How might CV/AV technology influence thoroughfare design?
 - Design of pickup and drop-off points
- *TBD*

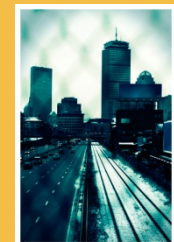
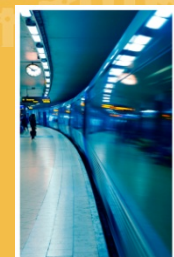




National Framework for Regional Connected and Automated Vehicles Planning

Recommendations and Resources: Institutional Readiness

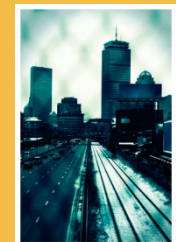
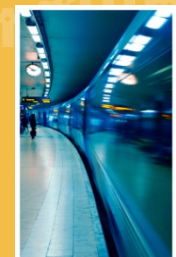
- Identify needs for expanding staff skills sets or restructuring program areas
- When possible, provide training or participation in regional, state, or national dialogues
- Encourage staff to monitor the status
- Ensure staff are aware of how CV/AV technology impacts their program areas
- *Resource Packet, Impact Areas Table, Sample Job Description for CV/AV Skill Set, and Sample AV Statewide Procurement Language*



Prep for Symposium/Breakouts

Scenario planning and modeling

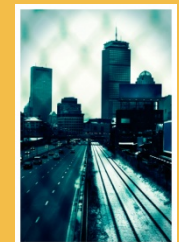
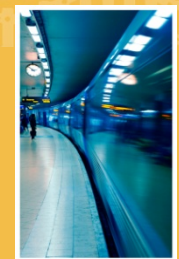
- What are your existing activities?
- What are elements of a preferred scenario that would help achieve your regional transportation goals?
- Have you taken any actions to help steer towards elements of a preferred scenario?
 - e.g., policies to help prevent big increases in VMT
- Are there other plausible scenarios you've identified and what are the primary concerns?
- What resources would be helpful?
- What terminology are you using? (e.g., connected and automated vehicles, connected vehicles, automated vehicles)



Prep for Symposium/Breakouts

Messaging, educating the public and stakeholders, and informing the MPO Board and decision makers

- What are your existing activities/strategies?
- What activities/strategies have been particularly successful or not?
- What elements within CV/AV are these groups particularly interested in hearing about?
- Who are you partnering with?
- What resources would be helpful?
- What terminology are you using? (e.g., connected and automated vehicles, connected vehicles, automated vehicles)

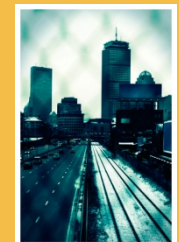




Prep for Symposium/Breakouts

MPO planning process and products

- What processes and products do you incorporate CVAV technology in? How?
 - MTP & TIP project prioritization / evaluation criteria
 - Air quality conformity
 - Performance measures
 - ITS architecture
 - Other?
- Do you have staff dedicated to following and addressing emerging technology issues?
- What resources would be helpful?
- What terminology are you using? (e.g., connected and automated vehicles, connected vehicles, automated vehicles)

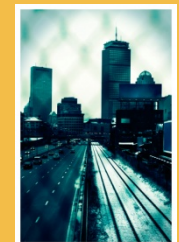




Prep for Symposium/Breakouts

Comments on the National Framework

- General comments
- Did we miss any issues?
- Additional resources?





Thank you

The working group meetings are documented in a whitepaper. Whitepapers and other meeting materials may be found at: <http://www.ampo.org/resources-publications/ampo-work-groups/connected-and-autonomous-vehicles-working-group/>

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