



MEMORANDUM

TO: TPB Technical Committee
FROM: Andrew J. Meese, TPB Systems Performance Planning Program Director
SUBJECT: Connected and Automated Vehicles: Update on Recent Activities and Development of Regional Principles
DATE: September 2, 2021

This memorandum provides an update on regional activities related to Connected and Automated Vehicle (CAVs), and serves as an introduction to draft regional principles regarding CAVs.

BACKGROUND ON PRINCIPLES DEVELOPMENT

The TPB's most recent long-range transportation plan, Visualize 2045 (approved in 2018), included only limited information on the potential impacts of future CAVs. Recently, staff and partners have been working to strengthen our understanding of CAVs in preparation for the 2022 update of Visualize 2045. The TPB's activities in 2020 and 2021 have included webinars and the production of a consultant-developed white paper. Among the white paper's recommendations was to develop regional CAV principles. Staff has now developed such a draft list of principles with consideration given to earlier discussions with the Community Advisory Committee, the Access for All Advisory Committee and with input on the principles by the Systems Performance, Operations, and Technology Subcommittee (SPOTS). TPB staff will provide interested committees the opportunity to review the principles in draft form, toward anticipated review and approval by the TPB this fall.

SCHEDULE

The draft principles will be discussed at the September 10, 2021 TPB Technical Committee meeting, following presentations at the July 8 and September 9 meetings of SPOTS. Additionally, the principles are slated to be discussed at the September 24 TPB Access for All Advisory Committee. Other committee discussions may follow. Pending the outcome of these discussions, the draft principles are anticipated to return for re-presentation to the TPB Technical Committee meeting, followed by presentation to the TPB (currently anticipated in November, agenda time permitting). This schedule aims to enable inclusion of approved principles in the update to Visualize 2045 currently underway.

WHITE PAPER AS BACKGROUND TO CAV PRINCIPLES DEVELOPMENT

The white paper¹ was developed to assist the TPB in planning for CAVs on the region's transportation system. Specifically, it looked to inform regional conversations on CAVs and TPB's role related to this topic by examining:

- Areas where TPB goals, policies, and activities may substantially interact with CAVs.
- Potential CAV deployment impacts (issues, challenges, opportunities) as they relate to corresponding jurisdictional authorities and roles (primary, secondary, collaborative).
- Opportunities to enhance CAV considerations within TPB's planning products/activities including processes for developing regional CAV principles.

This paper also supported development of the region's planning, policy, and programming priorities related to CAVs and identifies actions TPB may take to further achievement of its goals and minimize the potential for adverse impacts as CAVs are deployed.

INTRODUCTION TO DRAFT CAV PRINCIPLES

Staff's approach to the development of draft CAV principles was based on the following:

- Similarity in structure, phrasing, number, and length number to documents previously approved by TPB (the Regional Freight Policies approved as part of the 2016 Regional Freight Plan were a particular model that staff emulated)
- Brevity and inclusiveness of topics were favored
- Positive phrasing was favored where possible (what should happen rather than what should not happen)
- Emphasis on topic areas generally in the purview of the TPB and its member jurisdictions (rather than state-level, national, or international issues)
- Avoidance of phrasing that would be interpreted as endorsing or promoting (or prohibiting) CAVs; rather, echoing and building upon TPB's previous policies regarding the region and our communities
- Emphasis on evergreen principles that will not depend on (or go out of date because of) quickly-changing technologies or market forces
- Emphasis on policy/principle viewpoints, and outcomes, rather than strategies or tactics.

Attached is the current draft, comprising 17 (seventeen) principles based on consultant white paper information, staff analysis, and committee discussions. The draft list is subject to change based on further review and discussions of interested committees as noted above. The structure of the principles list is a single preamble: *The deployment, use, or operation of Connected and Automated Vehicles (CAVs) in the National Capital Region should...* followed by each of the 17 statements.

¹ [“Connected and Autonomous Vehicles \(CAVs\): Planning Considerations for the National Capital Region Transportation Planning Board.”](#) Prepared by ICF on behalf of the Metropolitan Washington Council of Governments Department of Transportation Planning, June 2020.

Eventually, the context of these principles will be a section of the upcoming update of Visualize 2045 regarding factors that will affect our future (CAVs are just one of a number of such factors), including background information on CAVs from the consultant white paper noted above.

Staff welcomes committee participants' comments at the September 10 meeting, or otherwise by email to me at ameese@mwkog.org.

Attachment: Draft TPB CAV Principles

National Capital Region Transportation Planning Board Principles for Connected and Automated Vehicles

The deployment, use, or operation of Connected and Automated Vehicles (CAVs) in the National Capital Region should:

1. increase the safety of everyone on or near transportation facilities.
2. increase mobility options for all.
3. increase opportunities for and quality of accessible transportation, including for persons with disabilities.
4. maintain and enhance opportunities for and the quality of bicycling and walking in the region.
5. interoperate safely with non-automated vehicles, vehicles with differing levels of automation, and all other transportation system users.
6. support the priority of transit on the region's roadways.
7. enhance the provision of transit, including providing opportunities for microtransit access to the region's high-capacity transit (HCT) stations.
8. prioritize reduction of vehicle miles of travel and minimize zero occupant vehicle miles of travel.
9. ensure CAVs' benefits are available equitably to all people in the region, and avoid disproportionate negative impacts to any group or community.
10. bolster regional environmental and land use objectives, including prioritizing shared vehicles and advancing decarbonization of the transportation system.
11. ensure security (including cybersecurity) and privacy, and prevent risks to people and infrastructure.
12. ensure freight and goods movements that help minimize disruptions and facilitate livability of the region's communities.
13. bolster effectiveness of emergency and incident response, systems management by traffic operations centers, and information sharing among agencies and the public.
14. bolster interjurisdictional coordination and technical interoperability among TPB member agencies, in conjunction with relevant national efforts and standards.
15. provide public revenues that are no less than the costs they impose on infrastructure, transportation systems management and operations, and communities.
16. make data freely available to TPB member agencies to enhance planning, operations, and emergency preparedness and response.
17. be accompanied by robust efforts by TPB and member agencies to keep abreast of evolving technology to enhance support of TPB's goals.