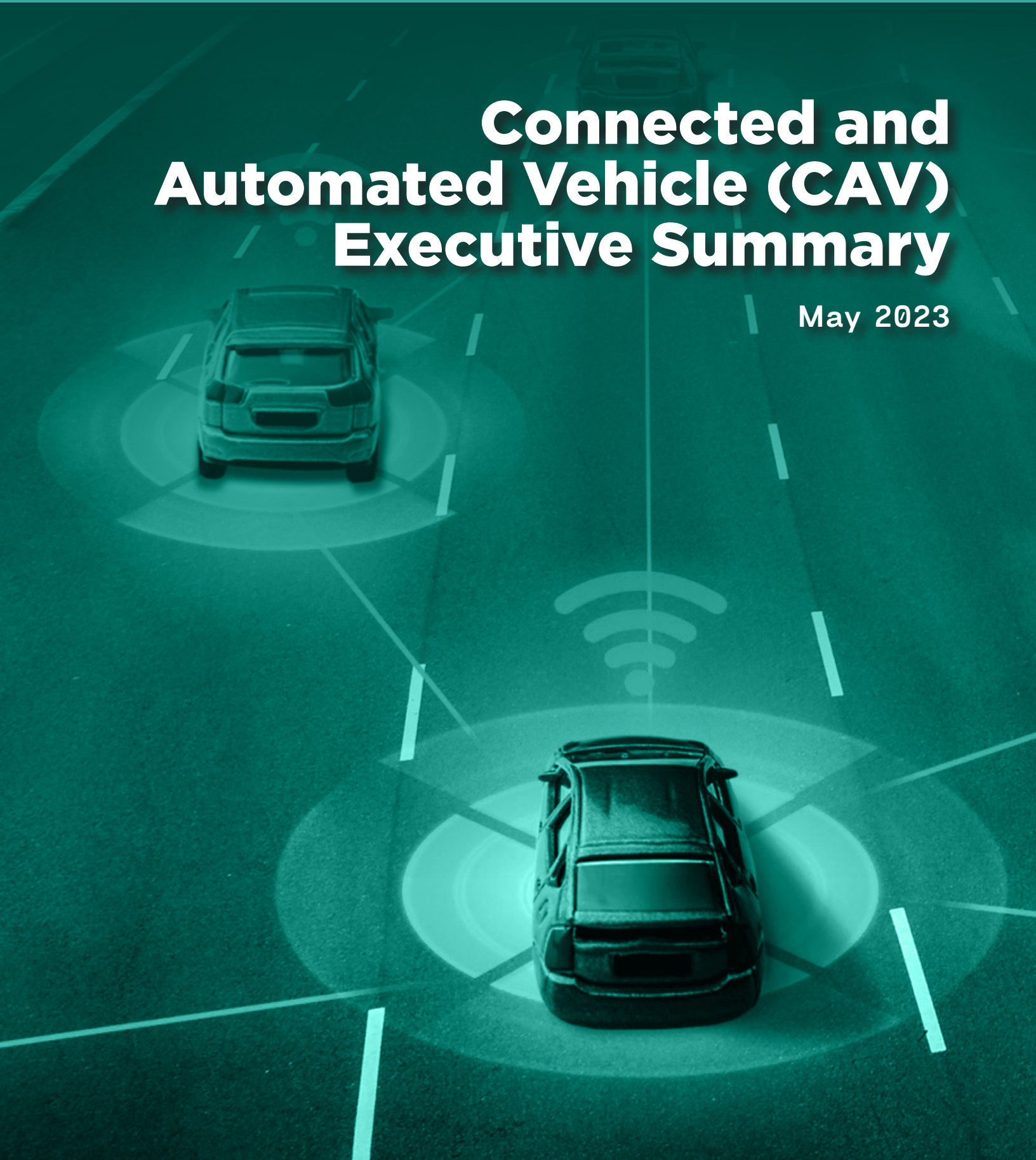
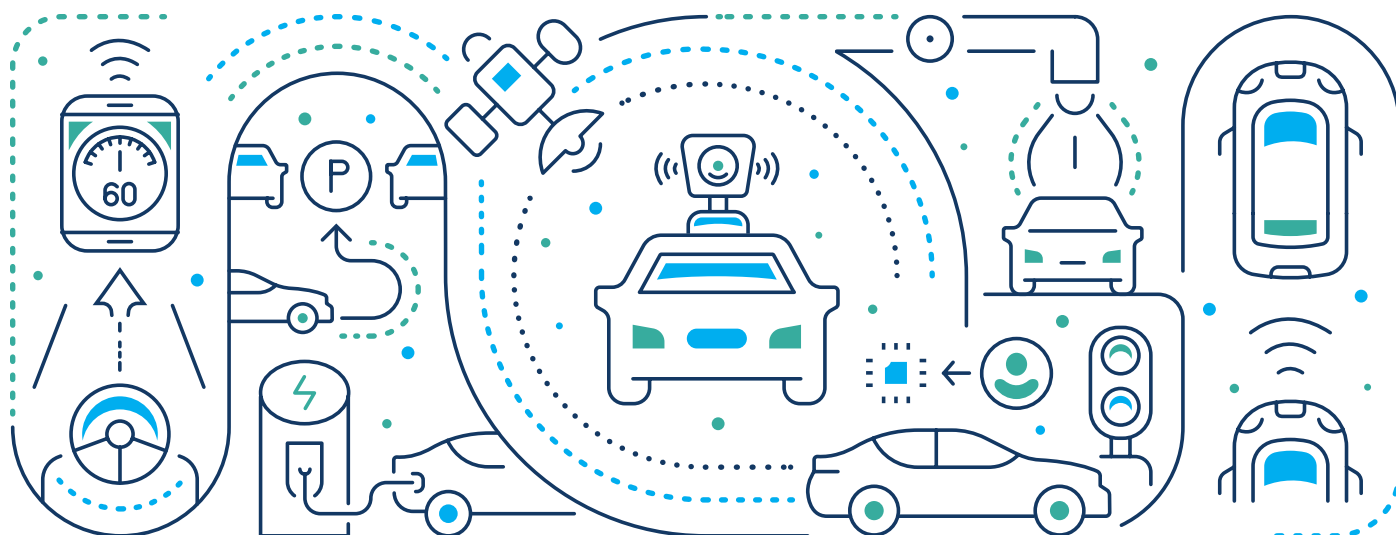


Connected and Automated Vehicle (CAV) Executive Summary

May 2023





What is the document?

The document [*Connected and Automated Vehicle \(CAV\) Planning Guide: Recommended Actions for Local Agencies to Prepare for CAVs \(or the CAV Planning Guide\)*](#) outlines the potential benefits and challenges of connected and automated vehicles and recommends local, regional, and state agency actions to guide CAV implementation to support local and regional goals. The accompanying [*User Guide for CAV Planning*](#) provides a structure that local and regional staff can use to implement the recommended actions over the next 1-2 years.

What are CAVs?

The recommended actions in the Baltimore Metropolitan Council's (BMC) [*CAV Planning Guide*](#) focus on preparing for connected and automated vehicles.

Connected vehicles (CVs)

use wireless communications to share and receive information from other vehicles, the roadway infrastructure, and/or other road users (like pedestrians or bicyclists).

Automated vehicles (AVs)

perform some or all driving tasks for a human using sensors, cameras, automated driving systems, or other technology.

Connected and automated vehicles (CAVs)

combine the information sharing of connected vehicles and the "brain" of automated driving systems.

Why is it important now?

CAVs are expected to impact transportation planning, design, and policy development. Proactive planning will help agencies maximize the benefits of CAVs, minimize the challenges, and achieve articulated goals.

Connected and automated vehicles have the potential to:

- Improve safety.
- Provide more accessible and equitable mobility options.
- Increase fuel-efficiency and reduce vehicle emissions.
- Improve mobility and reduce congestion.
- Promote informed decision making.
- Provide economic opportunity.
- Provide an opportunity for infrastructure investments to benefit all travelers.

Local governments can play an important part in helping to realize the benefits of CAVs. Key roles and responsibilities for local governments include:

- Setting and enforcing traffic laws and regulations as permitted by the state.
- Updating land use plans, codes, and land development regulations
- Updating building codes.
- Updating local street design standards and complying with state and national requirements.
- Setting local regulations, policies, and guidance through legislation and adopted planning documents.
- Conducting local community engagement and education efforts with the public.

Where do I start?

Read BMC's [CAV Planning Guide](#) and consider implementing the short-term recommendations:

Cross-Cutting

- **Coordination.** Follow state guidance on CAVs and coordinate all CAV planning efforts with the State, BMC, and surrounding jurisdictions. The [Maryland Connected & Automated Vehicles Working Group](#) is a collaborative effort that is the central point of coordination for the development and deployment of emerging CAV technologies in Maryland.

CAVs are here now.

According to the [National Highway Traffic Safety Administration \(NHTSA\)](#), over 140 automated vehicle pilots have been completed or are planned across 29 states. CAV technology is being applied to cars, trucks, buses, sidewalk delivery robots, and even aerial delivery drones. As a result, CAVs will have diverse impacts on transportation and land use. Example of pilots in Maryland include:

- Automated vehicles have been tested at National Harbor (2016-2020) and in the parking lots of Dorsey and Odenton MARC stations (2019-2021).
- Maryland Department of Transportation has installed 49 roadside units (RSUs) across the state to be compatible with CAV technologies.
- Westminster's Autonomous Corridor project completed aerial and ground scanning of the city in 2022 to prepare for AVs.
- Personal delivery devices (sidewalk delivery robots) are being operated on Morgan State University and Stevenson University campuses.

- **Safety.** Identify safety partners and define safety goals.
- **Freight & Goods Delivery.** Plan for the different needs of automated freight or goods delivery versus people-moving services.

Planning

- **Stakeholder and Organizational Readiness.** Define your agency's vision for CAVs and nominate a CAV champion in your agency.
- **Planning and Land Use.** Integrate desired outcomes of CAVs and other emerging technologies into local plans, travel demand models, building and zoning codes, and design manuals.
- **Funding, Financing, and Fiscal Health.** Plan for the impacts of CAVs on local fiscal health. CAVs could impact transportation revenues such as fuel taxes, traffic violations, parking revenue, tolling revenue, vehicle registration fees, and transit fare revenue.
- **Travel & Mobility.** Prioritize multimodal mobility and Complete/Slow Streets policies.
- **Equity and Accessibility.** Include equity and accessibility partners in all projects and develop requirements for CAV service to underserved communities.

Workforce Development

- **Workforce & Education.** Invest in people and the future of the workforce.

Infrastructure

- **Physical infrastructure.** Maintain infrastructure in a state of good repair with improvements that benefit all travelers today.

- **Data Privacy & Security.** Follow guidance or industry standards for collecting, storing, and securing CAV data.

Need additional support for implementation? The [User Guide for CAV Planning](#) will walk you through the steps.



What should I be thinking about next?

- Coordinate your actions with peer jurisdictions (within and outside the Baltimore region), BMC, and the State.
- Establish recurring touchpoints with your agency's staff to check-in on the status of each recommended action.
- Include CAV-supporting projects in Capital Investment Program (CIP), Transportation Improvement Program (TIP), and other plans.
- Implement necessary policy changes and internal agency practices, procedures, and actions.
- Consider sponsoring a pilot demonstration program.



Need more information?

The [CAV Planning Guide](#) provides more details and advice for local agencies. BMC is also here to help. Contact BMC at CAV@baltometro.org to coordinate your local actions with BMC.