San Mateo County Automated Vehicles (AV) Strategic Plan

Public Workshop

November 15, 2023

SAN MATEO COUNTY Transportation Authority

C/CAG City/County Association of Governments of San Mateo County

Workshop Agenda

6:00 – Introductions & Opening Remarks

6:15 – Project Overview Presentation

6:45 – Q & A

6:55 – Breakout Room Discussions

7:40 – Breakout Sessions Debrief (Return to Main Session)

7:50 – Next Steps & Conclusion

Opening Remarks

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Director, Planning and Fund Management

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This project is co-sponsored by San Mateo County Transportation Authority (SMCTA) and City/County Association of Governments of San Mateo County (C/CAG)

Project Overview Presentation

Project Background

Workshop on **Towards an Autonomous Future in San Mateo County** on November 17, 2021

Identified Next Steps:

- Organize an AV Task Force or Working Group
- Develop a San Mateo Countywide AV Strategic Plan
- Plan for and fund AV pilots

Why Do We Need an AV Strategic Plan?

- Identify current policy and regulatory frameworks for AVs
- Develop a cohesive strategy for AV pilots and programs
- Strategically compete for funding and economic opportunities
- Help prepare for future automated vehicle deployment

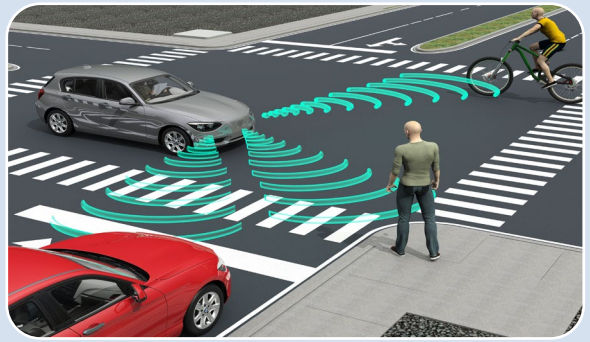
Project Timeline

Phase 1 (Summer 2023): Identify existing AV programs at local, state, and federal levels

Phase 2 (Fall 2023): Develop a framework for AV pilot programs, projects and activities

Phase 3 (Winter 2023): Prepare the draft San Mateo Countywide AV Strategic Plan

About the Technology: Overview

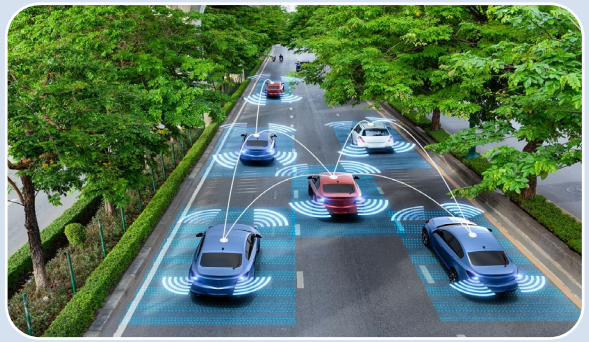


Automated Vehicles:

- Use internal sensors to interpret the environment
- Range from assistance to full automation

Connected Vehicles:

- Use information received from external systems
- Information can come from other vehicles or infrastructure like traffic signals



Connected Automated Vehicles:

- Use both sensors and external communication technology

Levels of Automation

- Vehicle autonomy exists on a range:

0	1	2	3	4	5
No Automation Zero autonomy, the driver performs all driving tasks.	**Driver Assistance** Vehicle is controlled by the driver, but some driving assist features may be included in the vehicle design.	**Partial Automation** Vehicle has combined automated functions, like acceleration and steering, but the driver must remain engaged with the driving task and monitor the environment at all times.	**Conditional Automation** Driver is necessity, but is not required to monitor the environment. The driver must be ready to take control of the vehicle at all times with notice.	**High Automation** The vehicle is capable of performing all driving functions under certain conditions. The driver may have the option to control the vehicle.	**Full Automation** The vehicle is capable of performing all driving functions under all conditions. The driver may have the option to control the vehicle.

Society of Automotive Engineers (SAE) Automation Levels Full Automation

Automated Vehicle Applications

- How are automated vehicles used in the real world?

PERSONAL VEHICLES	RIDE HAILING VEHICLES	TRANSIT	FREIGHT
			
Automated cars may improve safety, reduce congestion, and provide new mobility options for individuals who are unable to drive.	AV shuttles and taxis to supplement public transport and provide first and last-mile connections.	Driver assistance technologies for mass transit and autonomous first/last mile shuttles.	Automated trucking and package delivery aimed at increasing supply chain efficiency, improving safety, and reducing costs.

What Research Have We Done?

- Reviewed County Transportation Plans & Programs
- Conducted One-on-One Interviews with Cities, Agencies and Private Sector AV Operators
- Conducted In-depth Discussions with Peer Agencies

Existing Conditions Report Findings

- AV testing is happening in San Mateo County
- This is the first county program or plan to address AVs
- Learn from local, state, and federal AV policies and programs
- Focus areas include pursuing an AV pilot to address specific transportation needs
- The Existing Conditions Report is posted online at: www.smcta.com/planning-projects/SMCAVPlan

Draft - Vision Statement

- SMCTA and C/CAG will support strategic measures toward implementing automated vehicle technologies that promote equitable levels of access, safety, reliability, and sustainability in San Mateo County.

Draft - Strategic Plan Goals

- Accessibility & Equity
- Engagement
- Connectivity
- Safety
- Support Local Agencies
- Sustainability
- Workforce Development

Draft - Strategic Pillars

- Agency Readiness
- Infrastructure Readiness
- Public Outreach & Partnerships
- Policy
- Pilots & Testing

Example AV Strategy A: Shared AV Shuttles

What is it?

- Small automated transit vehicles for 6-20 passengers
- Low speed (under 25 mph)
- Typically operated by a private partner

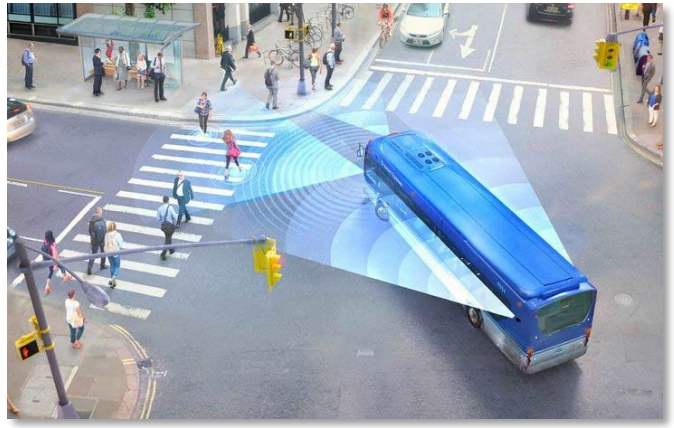
Uses & Benefits

- Provides increased mobility options to all travelers (incl. those without cars) on fixed routes or on-demand service
- Can reduce single occupancy driving and increase transit usage
- Ideal for first/last mile services and closed environments
  - Connections to transit hubs (e.g., SamTrans BART, Caltrain)
  - Campuses (e.g., universities, office parks, planned communities)

Example AV Strategy B: Advanced Driver Assistance

What is it?

- Sensors and devices for safety
  - Automatic breaking
  - Blind spot monitoring & increased camera visibility
  - Lane keeping
  - Precision docking (self-parking)



Uses & Benefits

- Can improve safety and driver awareness on public transit vehicles (e.g., SamTrans buses)
- Can reduce collisions with other vehicles, bicyclists and pedestrians

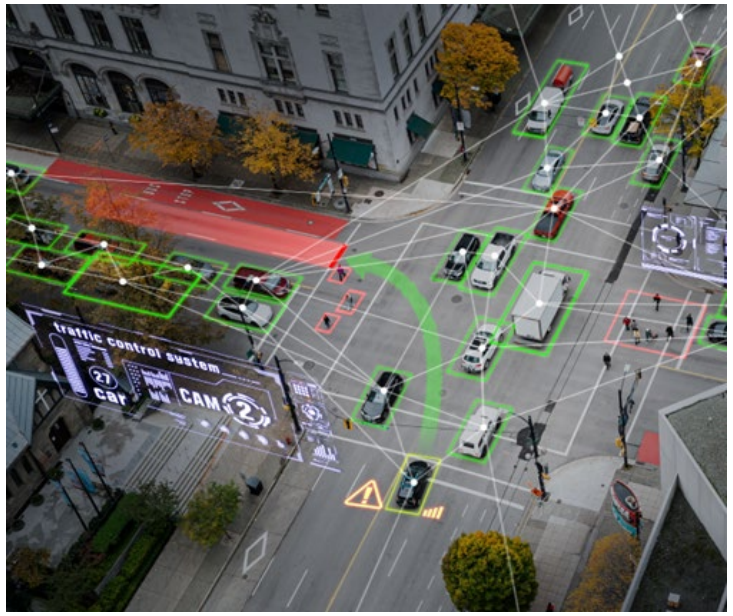
Example AV Strategy C: Data Sharing with AVs

What is it?

- Providing real-time data from agencies to improve AV safety and operations

Uses & Benefits

- Providing personal and shared AVs with:
  - ❑Active construction zones
  - ❑Lane closures
  - ❑Emergency vehicle locations & active incidents
  - ❑Curb usage data (parking restrictions, availability)
- Improves situational awareness for AVs to make them safer and more efficient



Example AV Strategy D: Automated Delivery Robots

What is it?

- Providing last-mile delivery services via local streets and sidewalks
- Low speeds (up to 25 mph), remote control capabilities if needed

Uses & Benefits

- Provides delivery of food, packages and medical deliveries
- Typically used in closed environments (Universities and colleges, Business campuses, Hospitals, etc.)
- Could be used to reach underserved communities
- Smaller delivery vehicles require less infrastructure

Project Timeline

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Next Steps

- Thank you for joining today!
- Please provide feedback on this workshop by taking the survey
- Feedback from today's session will be used to help prioritize projects and programs in the Strategic Plan
- The Countywide AV Strategic Plan and an action plan will be completed in early 2024

Questions/Feedback

Project Website/Factsheets/Draft Existing Conditions Report Available at: https://www.smcta.com/planning-projects/SMCAVPlan

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