



ADMINISTRATION, PROJECTS & PLANNING
EXECUTIVE COMMITTEE MEETING

SEPTEMBER 8, 2025
3:30 P.M.

TAM CONFERENCE ROOM
900 FIFTH AVENUE, SUITE 100
SAN RAFAEL, CALIFORNIA

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San Rafael
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Gabe Paulson

Mill Valley
Urban Carmel

Novato
Mark Milberg

Ross
Teri Dowling

San Anselmo
Steve Burdo

San Rafael
Kate Colin

Sausalito
Melissa Blaustein

Tiburon
Alice Fredericks

County of Marin
Mary Sackett
Brian Colbert
Stephanie Moulton-Peters
Dennis Rodoni
Eric Lucan

This meeting will be held in-person and via Zoom webinar.

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Webinar ID: 830 3511 3530
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How to provide public comment (limited to 2 minutes or less):

Before the meeting: Please email your comment to info@tam.ca.gov, no later than 5:00 p.m. the day before the meeting to facilitate timely distribution to Committee members. Please include the agenda item number you are addressing and your name and address. Your comments will be forwarded to the Committee members and will be placed into the public record.

During the meeting: For members of the public participating in-person, the Committee Chair will recognize persons from the audience who wish to address the Committee during public open time or on a particular agenda item at the time that item is considered by the Committee.

If watching this meeting online, click the "raise hand" feature in the webinar controls. This will notify TAM staff that you would like to comment. If participating by phone, "raise hand" by pressing *9 and wait to be called upon by the Chair or the Clerk. You will be asked to unmute your device when it is your turn to speak and your comments will become part of the public record.



Late agenda material can be inspected in TAM's office between the hours of 9:00 a.m. and 5:00 p.m.
The TAM Office is located at 900 Fifth Avenue, Suite, 100, San Rafael.

The meeting facilities are accessible to persons with disabilities. Requests for special accommodations (assisted listening device, sign language interpreters, etc.) should be directed to Jennifer Doucette, 415-226-0820 or email: jdoucette@tam.ca.gov no later than 5 days before the meeting date.

AGENDA

1. Chair's Report & Commissioner Comments (Discussion)
2. Executive Director's Report (Discussion)
3. Open time for public expression, up to two minutes per speaker, on items not on the agenda that are within the subject matter of the agency's jurisdiction. (While members of the public are welcome to address the Committee, under the Brown Act, Committee members may not deliberate or take action on items not on the agenda and generally may only listen.)
4. Approval of Meeting Minutes from July 14, 2025 (Action) – **Attachment**
5. Authorize a One-Year Contract Extension and Budget Amendment for Implementation of TAM's Study for Sea Level Rise Adaptation Planning for Marin County's Transportation System (Action) – **Attachment**
6. Authorize a One-Year Contract Extension for On-Call Travel Demand Forecasting Contract (Action) – **Attachment**
7. Receive an Update on the State of Autonomous Vehicles and Local and State Policy, Permitting, and Legislation in California (Discussion) – **Attachment**



MEETING OF THE
TRANSPORTATION AUTHORITY OF MARIN
ADMINISTRATION, PROJECTS & PLANNING
EXECUTIVE COMMITTEE

JULY 14, 2025
3:30 P.M.

TAM CONFERENCE ROOM
900 FIFTH AVENUE, SUITE 100
SAN RAFAEL, CALIFORNIA

MEETING MINUTES

Members Present: Alice Fredericks, Tiburon Town Council
Mark Milberg, Novato City Council
Teri Dowling, Ross Town Council

Members Absent: Eric Lucan, Marin County Board of Supervisors, Committee Chair
Stephanie Moulton-Peters, Marin County Board of Supervisors

Staff Members Present: Anne Richman, Executive Director
Dan Cherrier, Director of Project Delivery
David Chan, Director of Programming and Legislation
Derek McGill, Director of Planning
Jennifer Doucette, Executive Assistant/Clerk of the Board
Joanne O'Hehir, Administrative Assistant
Melanie Purcell, Director of Finance and Administration
Mikaela Hiatt, Senior Transportation Planner
Molly Graham, Public Outreach Coordinator
Scott McDonald, Principal Transportation Planner

In Chair Lucan's absence, Commissioner Fredericks served as Chair and called the meeting to order at 3:34 p.m.

Chair Fredericks welcomed everyone to the meeting and asked Executive Assistant/Clerk of the Board Jennifer Doucette to conduct a roll call to ensure a quorum. A quorum of the Administration, Projects & Planning (AP&P) Executive Committee was confirmed and detailed information about how the public may participate was provided.

1. Chair's Report & Commissioners Comments (Discussion)

Commissioner Milberg reported that the City of Novato adopted an e-bike safety ordinance in accordance with Assembly Bill (AB) 1778.

Chair Fredericks asked if any members of the public wished to speak and hearing none, closed public comment.

2. Executive Director's Report (Discussion)

Executive Director (ED) Anne Richman reported on the Marin County Signal Modernization Study, TAM's Travel Behavior Survey; and the newly activated ramp meters in southern Marin. ED Richman also provided an update on the Marin-Sonoma Narrows project; and reported on upcoming community open house events as part of the public outreach for the Marin-Sonoma Coordinated Transit Service (MASCOTS) Plan.

In response to Commissioner Dowling, ED Richman noted that the Travel Behavior Survey has been shared with agency partners and included in the TAM newsletter; and encouraged the Commissioners to further distribute the survey link through local jurisdictional outreach channels.

In response to Commissioner Milberg, ED Richman explained that the Marin County Signal Modernization Study is funded through a grant from the Metropolitan Transportation Commission (MTC) and is separate from Measure AA funding.

In response to Commissioner Fredericks, ED Richman noted that the Marin County Signal Modernization Study will also include traffic signals located on Caltrans-operated facilities.

Chair Fredericks asked if any members of the public wished to speak and hearing none, closed public comment.

3. Open Time for Public Expression

Chair Fredericks asked if any members of the public wished to speak and hearing none, closed public comment.

4. Approval of Meeting Minutes from June 9, 2025 (Action)

Chair Fredericks asked if any members of the public wished to speak, and hearing none, closed public comment and asked for a motion.

Commissioner Milberg moved to approve the Minutes of the June 9, 2025 meeting. Commissioner Dowling seconded the motion, which passed unanimously.

5. Marin-Sonoma Coordinated Transit Service (MASCOTS) Plan (Action)

Director of Planning Derek McGill and Director of Programming and Legislation David Chan presented this item, which recommends the AP&P Executive Committee reviews the commitment to allocate \$533,000 in Measure AA Category 4.6 funds and \$504,250 in Measure A/AA Interest funds to the Golden Gate Bridge, Highway and Transportation District (GGBHTD) and Marin Transit, respectively, to support the MASCOTS effort, and refers the allocation commitment to the TAM Board for adoption.

In response to Commissioner Milberg, Mr. McGill explained that Category 4.6 represents 0.5% of the approximately \$34 million collected annually from Measure AA; and that each transit service operator provides performance data, which has been incorporated into the MASCOTS analyses and planning. ED Richman added that the MASCOTS Plan is being proposed as a 3-year pilot project during which transit service changes will be monitored and analyzed to optimize ridership performance.

In response to Commissioner Dowling, Mr. McGill clarified that while no changes to ferry services are proposed, the plan does include improved coordination of transit connections to and from the ferry terminals.

Chair Fredericks asked if any members of the public wished to speak and hearing none, closed public comment.

Commissioner Milberg made a motion to refer the allocation commitment to the TAM Board for adoption. Commissioner Dowling seconded the motion, which passed unanimously.

6. Measure AA Expenditure Plan Review Update (Discussion)

Director of Programming and Legislation David Chan and Director of Planning Derek McGill presented this item for discussion.

Commissioner Milberg and Mr. McGill discussed methodologies for identifying eligible major roads projects; alignment of local and regional policies; Equity Community Investments; and incentives for jurisdictions to address policy goals.

In response to Commissioner Dowling, Mr. McGill and Mr. Chan explained that discussions with the Marin Public Works Association (MPWA) have included cost-sharing concepts.

Chair Fredericks expressed concern about potential conflicts between housing policy and transportation planning, noting the historical focus on placing housing near job centers along local corridors; and emphasized the importance of incorporating data on job locations and commuting patterns into the plan review to ensure road funding aligns with current transportation needs. ED Richman noted that the funding allocated for the Major Roads/Reimagining Roadways category would primarily cover project development costs rather than construction; and that over the next few years, this funding could support planning and environmental work to help address questions around housing developments, infrastructure needs, and future roadway potential, recognizing that project development takes time within the six-year review timeframe.

Commissioner Dowling commented on the projected increase in the population over age 60 in the coming years and highlighted the importance of ensuring that Measure AA and Measure B funding allocations continue to address the transportation needs of older adults and individuals with disabilities.

Chair Fredericks asked if any members of the public wished to speak and hearing none, closed public comment.

The meeting was adjourned at 4:37 p.m.

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DATE: September 8, 2025

TO: Transportation Authority of Marin
Administration, Projects & Planning Executive Committee

FROM: Anne Richman, Executive Director *Anne Richman*
Mikaela Hiatt, Senior Transportation Planner

SUBJECT: Authorize a One-Year Contract Extension and Budget Amendment for Implementation of TAM's Study for Sea Level Rise Adaptation Planning for Marin County's Transportation System (Action), Agenda Item No. 5

RECOMMENDATION

Staff recommends the Administration, Projects & Planning (AP&P) Executive Committee recommend the TAM Board authorize the Executive Director (ED) to negotiate and execute the first of two one-year contract extensions with ARUP for Implementation of TAM's Study for Sea Level Rise Adaptation Planning for Marin County's Transportation System, including a contract budget increase of \$175,000.

BACKGROUND

TAM has been coordinating with partner agencies and stakeholders in Marin County and the region to advance adaptation planning for sea level rise as it relates to Marin's Transportation system. With the passage of the voter approved Measure AA ½-Cent Transportation Sales Tax Expenditure Plan, 1% of the transportation sales tax is dedicated under "Category 2.3: Develop projects to address transportation impacts from sea level rise (SLR)". The expenditure plan states:

"This funding would be utilized to support protecting and adapting Marin's roadways and related infrastructure to the effects of sea level rise and flooding. These funds can be used to serve as seed money to find solutions, attract matching grants and leverage private investments to meet the challenges and vulnerabilities identified in numerous planning efforts including those of Bay Wave, and CSMART."

In order to advance adaptation planning needs, on April 27, 2023, the TAM Board approved a contract with ARUP, the consultant to this planning effort. The total contract value approved by the Board was \$550,000. The contract was executed on June 1, 2023 for a three year term with two additional one-year optional contract extensions included. There have been no amendments or extensions executed on the contract to date.

At the June 26, 2025 TAM Board meeting, the Board accepted the Sea Level Rise Adaptation Planning Study for Marin County's Transportation System, including implementation actions for future TAM Board decisions.

DISCUSSION/ANALYSIS

Included in the Sea Level Rise Adaptation Planning Study for Marin County's Transportation System are implementation items, including coordinating with the local jurisdictions on a Voluntary Adaptation Policy (VAP), developing technical assistance resources, and developing countywide Climate Resilient Transportation Design Principles. To help guide the implementation and coordination of the Sea Level Rise program, staff recommend developing the countywide Climate Resilient Design Principles, which will support subsequent implementation tasks such as the VAP and technical assistance resources.

The Design Principles will also allow TAM to continue conversations with partners around adaptation of the transportation system to sea level rise and provide further detail to the "Complete, Green, and Elevated Streets" adaptation solution included in the TAM Sea Level Rise Study. The following tasks will support the development of the design principles:

- Agency and Partner Engagement
 - Working with local, state, and regional partners to ensure that research and resulting design principles reflect local agency and key partner priorities, interests, and needs
- Best Practices Report on Resilient Transportation Design Guidance
 - Development of a report of the current state of best practice for resilient transportation design guidance and relevant application through literature and case study review locally to internationally
- Draft and Final Design Principles
 - Development of a set of climate resilient design principles or guidelines in a toolkit for local jurisdictions to reference when designing transportation infrastructure

The work on the Design Principles is expected to be complete by late fall 2026. As such, TAM staff is recommending that in addition to the budget change to the contract, the first of two extension years in the contract also be executed to cover the duration of the work.

RELATIONSHIP TO COUNTYWIDE TRANSPORTATION PLAN (CTP)

The TAM Sea Level Rise Adaptation Planning for the Marin County Transportation System Study is included as an implementation action and in the "adaptation to climate change" Strategy from the recently adopted CTP. The CTP goal of sustainable transportation is at the core of this effort, particularly in the "Strategies" sections where "Adaptation to Climate Change" is identified under the System Management Strategies. The SLR study also incorporates equity by containing MTC Equity Priority Communities data in the focus area analysis.

FISCAL CONSIDERATION

Funds are available in the program and are included in the current year's budget. No budget amendment is expected. Future fiscal year funds will be included as a part of the program budget for FY2026-27 as needed. The total amount of the contract amendment is \$175,000 and if approved the contract will be extended for the first of two extension years. The total not to exceed value of the contract will be \$725,000 and the contract will terminate May 31, 2027.

NEXT STEPS

Upon approval from the Executive Committee, staff will bring the item to the TAM Board to authorize the Executive Director to negotiate and execute the contract extension and amendment and commence work. Staff will return to the Board with a comprehensive program update in the coming months.

ATTACHMENTS

None.

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DATE: September 8, 2025

TO: Transportation Authority of Marin
Administration, Projects & Planning Executive Committee

FROM: Anne Richman, Executive Director *Anne Richman*
Derek McGill, Director of Planning

SUBJECT: Authorize a One-Year Contract Extension for On-Call Travel Demand Forecasting Contract (Action), Agenda Item No. 6

RECOMMENDATION

The Administration, Projects & Planning (AP&P) Executive Committee review and recommend to the TAM Board that the Executive Director (ED) execute the second of two single-year contract extensions for an on-call travel demand forecasting contract with Fehr & Peers.

BACKGROUND

Travel models are planning tools, used to develop traffic analysis for development projects, transportation projects and various land use and transportation plans. In 2019, TAM adopted its current activity-based model, the TAM Demand Model, as a focused model of the Metropolitan Transportation Commission's (MTC) Travel Model 2. County travel models are subject to a consistency review with MTC's Plan Bay Area, and MTC provides guidance to ensure that county forecasts are based on a common set of planning assumptions.

Historically, TAM has used on-call support services for development, maintenance, and operations of its travel demand forecasting for county projects. In September 2021, the TAM Board authorized a three-year (with two one-year optional extensions) contract with Fehr & Peers to conduct on-call modeling and forecast services, with a not-to-exceed amount of \$500,000 following a competitive procurement process. The first single year contract extension was authorized in June 2024, with a \$400,000 increase in the contract not-to exceed amount to support increased work activities related to traffic forecasting. Staff are now seeking the final single year contract extension with no change to the current not-to-exceed total of \$900,000.

DISCUSSION/ANALYSIS

With MTC's approval of Plan Bay Area 2050 in October 2021, staff have been underway with a variety of tasks related to modeling and traffic analysis in the county. In addition, staff have been leading an update to the TAM demand model in alignment with MTC's consistency guidance, including:

- Updates to the model base year (2022) to reflect post-pandemic travel conditions,
- Development of an updated 2040 scenario to reflect Regional Housing Needs Allocation (RHNA) housing element sites and forecasts, as well as modifications to the forecasted jobs in Marin County based on Department of Finance jobs forecasts,
- Development of a 2050 land use scenario to reflect PBA 2050 Housing forecasts,
- Model operational changes to support local land use and development use,
- Modeling support for local projects and plans as needed, and
- Development of a new traffic monitoring program.

Work associated with the model development is substantially complete. The current model is complete, with associated tasks underway to develop the MTC model consistency report, development report and model user guide. There are expected to be upcoming support tasks related to model implementation activities including Vehicle Miles Traveled (VMT) support for local jurisdictions, and traffic analysis and forecasting support for local plans and projects. Currently, sufficient budget is available for all authorized task orders and task orders are only issued when sufficient budget is available.

The current status of all authorized contract tasks and billings are shown below:

TO	Task Order Description	Total Budget	Total Billings as of FY25/26 Start
1	TAMDM General Administration	\$ 25,000	\$ 24,576
2	Modeling Support	\$ 50,000	\$ 43,611
3	Cube Assignment Trip Table Script	\$ 5,000	\$ 4,432
4	TAMDM PBA 2050 Model Update	\$ 408,000	\$ 401,449
5	TAM Data Strategic Plan	\$ 50,000	\$ 45,828
6	US 101 HOV Lane Analysis	\$ 169,925	\$ 159,900
7	US 101 HOV Data Collection	\$ 10,000	\$ 3,841
	<i>Total Authorized</i>	\$ 717,925	\$ 683,638
	Contract Value	\$ 900,000	\$ 900,000
	Remaining Authorization	\$ 182,075	

RELATIONSHIP TO COUNTYWIDE TRANSPORTATION PLAN (CTP)

The TAM Demand Model is an example project identified in the CTP 2050 Transportation Data and System Management Strategy. The Model supports local transportation projects and land use plans and other areas of implementation of the CTP.

FISCAL CONSIDERATION

This action would extend the contract schedule with no change in contract amount. Funding for all anticipated work is included in the current year’s budget.

NEXT STEPS

Upon TAM Board approval, the Executive Director will execute the contract amendment with Fehr & Peers.

ATTACHMENTS

Attachment A – Staff Presentation



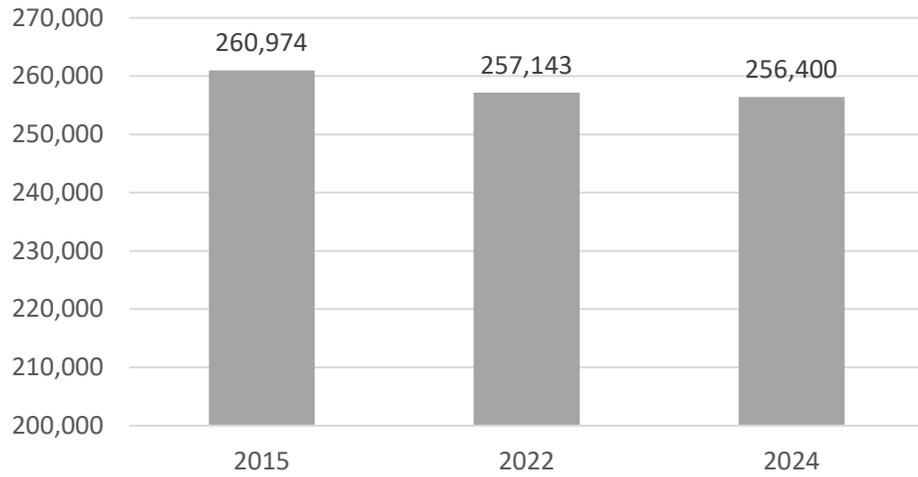
On Call Model Contract – Data Examples

Transportation Authority of Marin
Administration, Planning & Projects Executive Committee

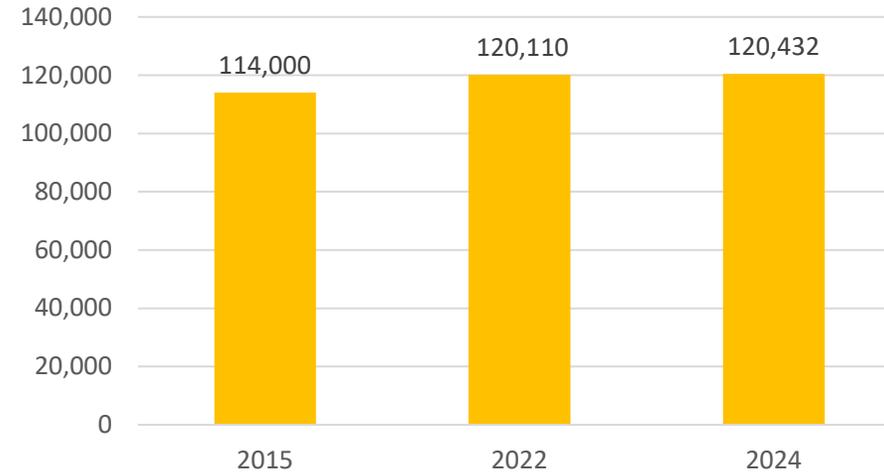
September 8, 2025

Recent Trends

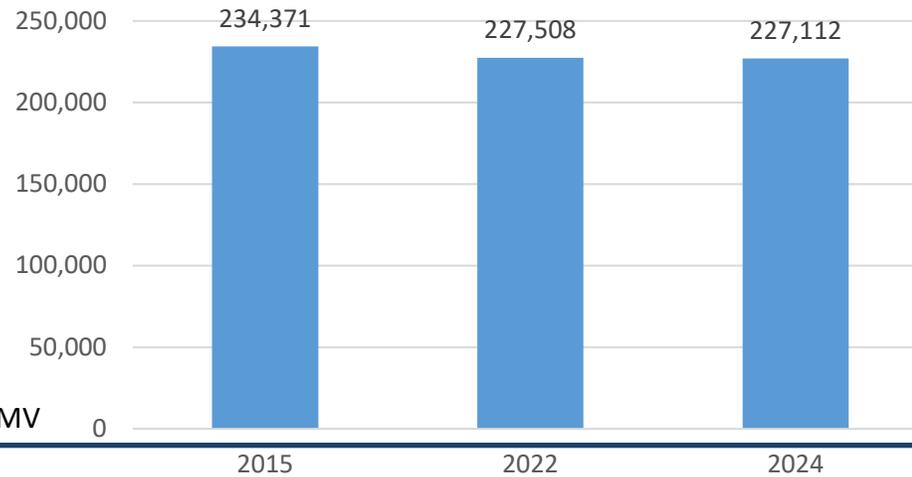
Population



Employed Population



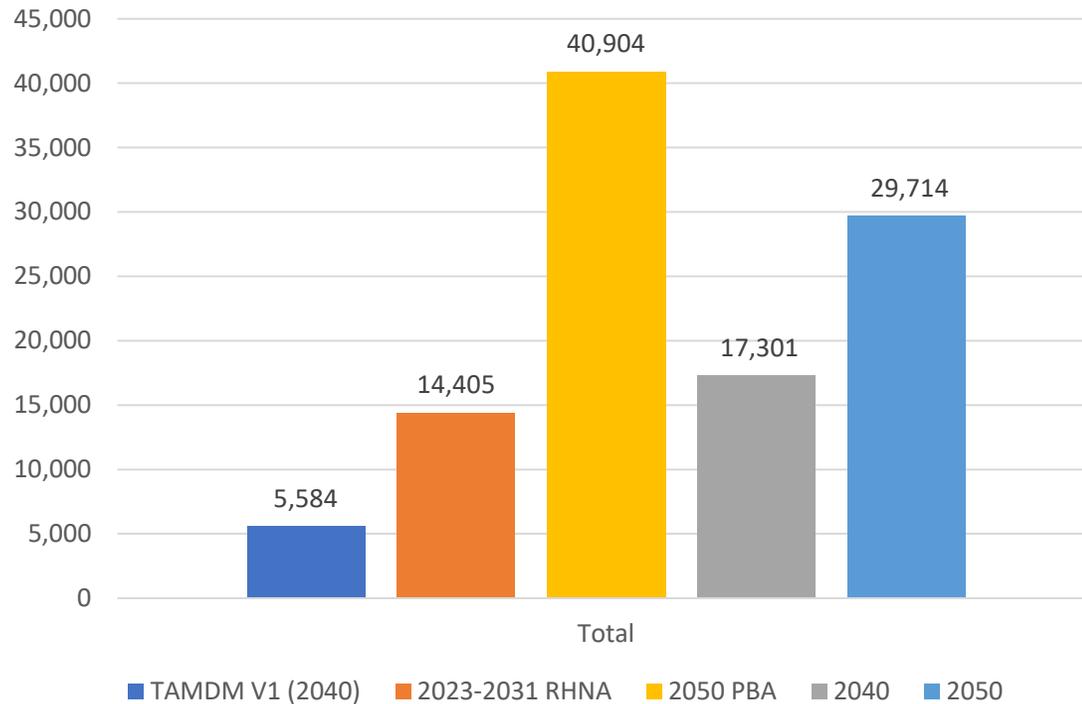
All Vehicles



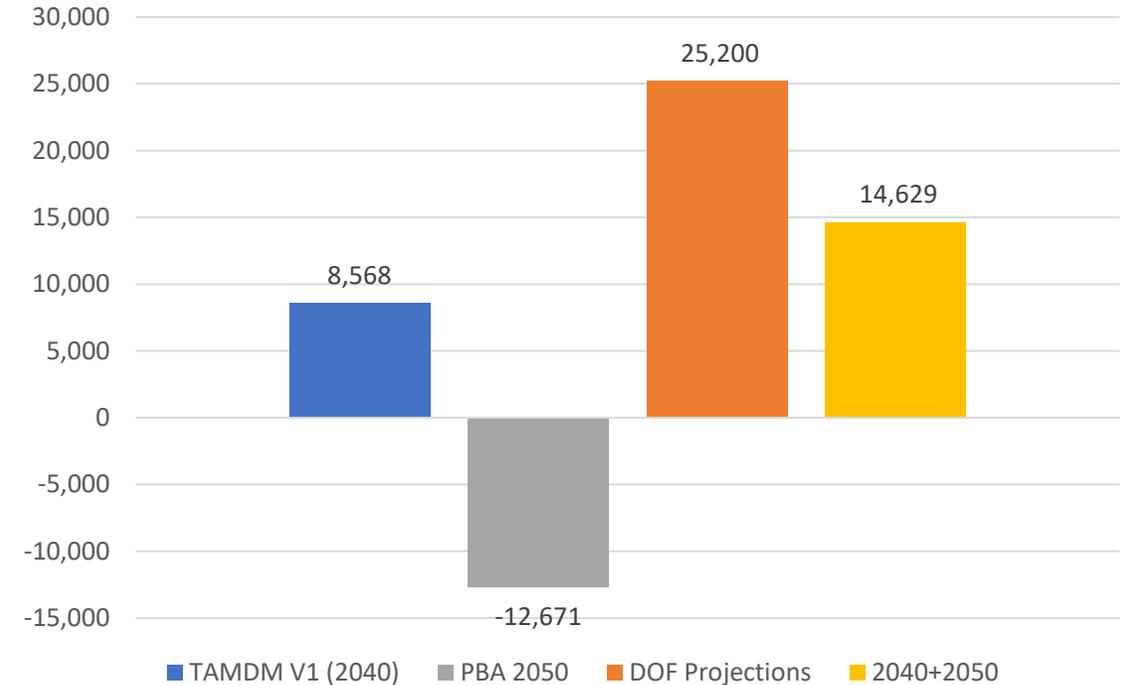
Data sources: ACS, St Louis Fed, DMV

Housing and Jobs Forecasts

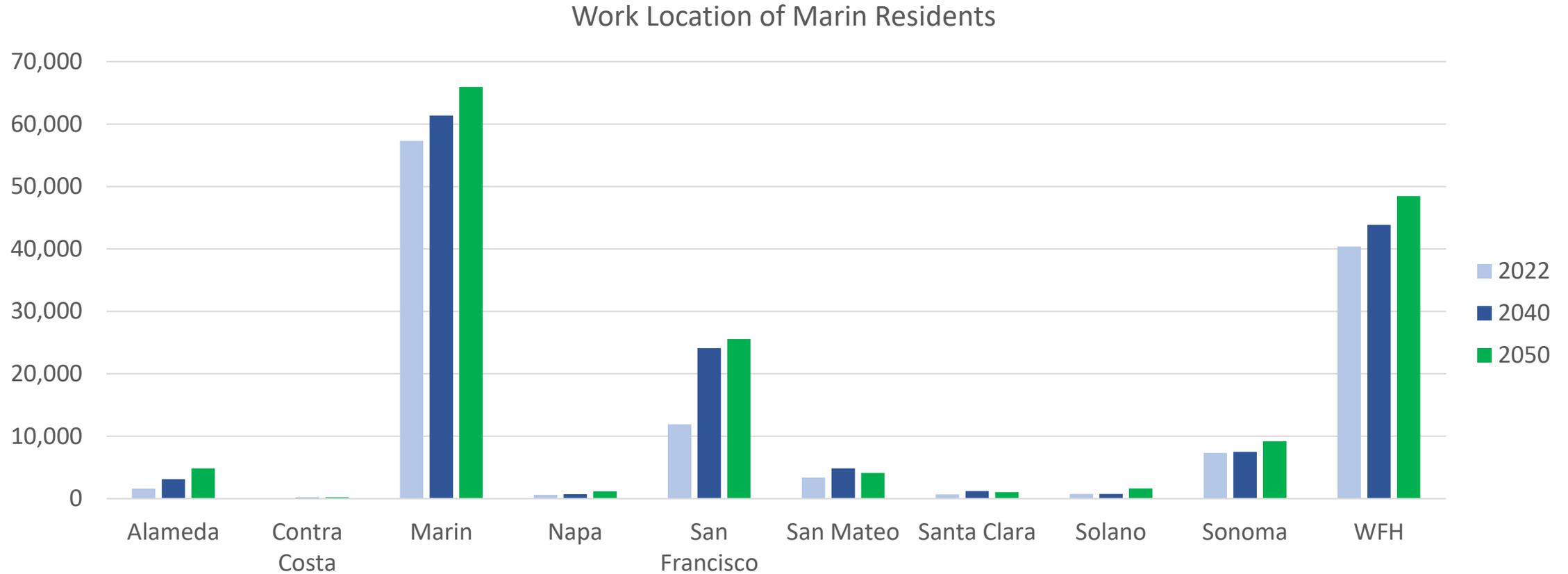
Marin County Household Growth Forecasts (2015 Baseline)



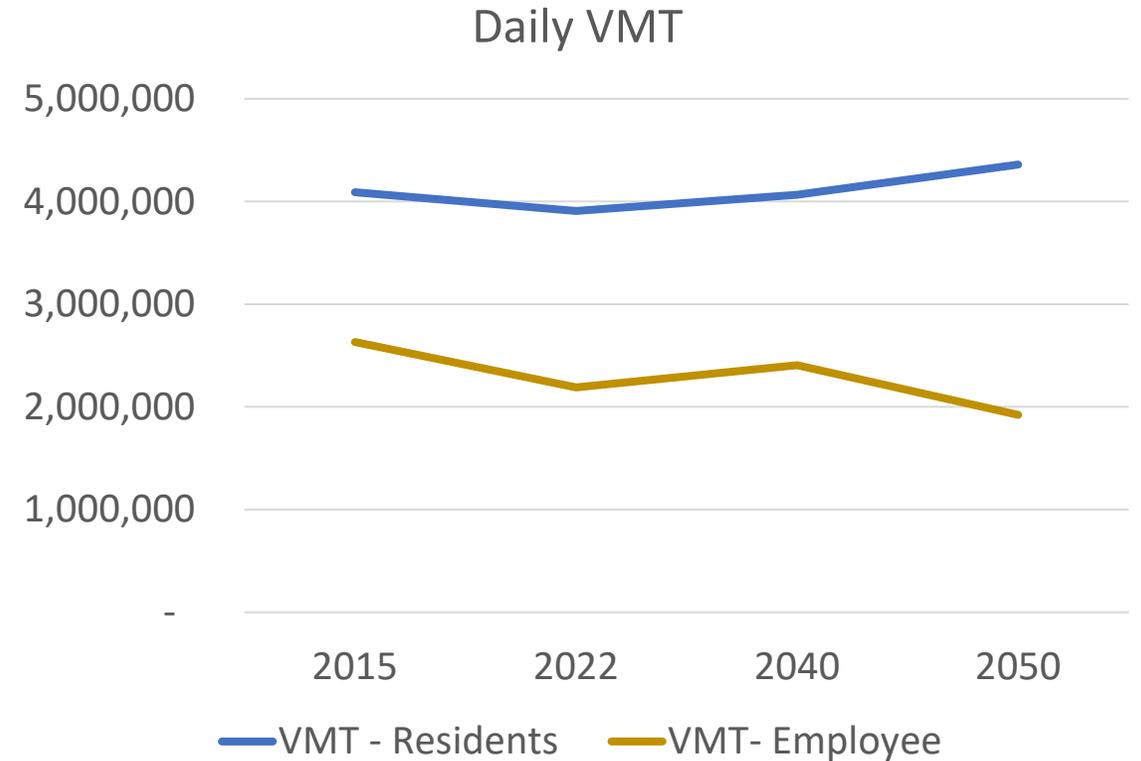
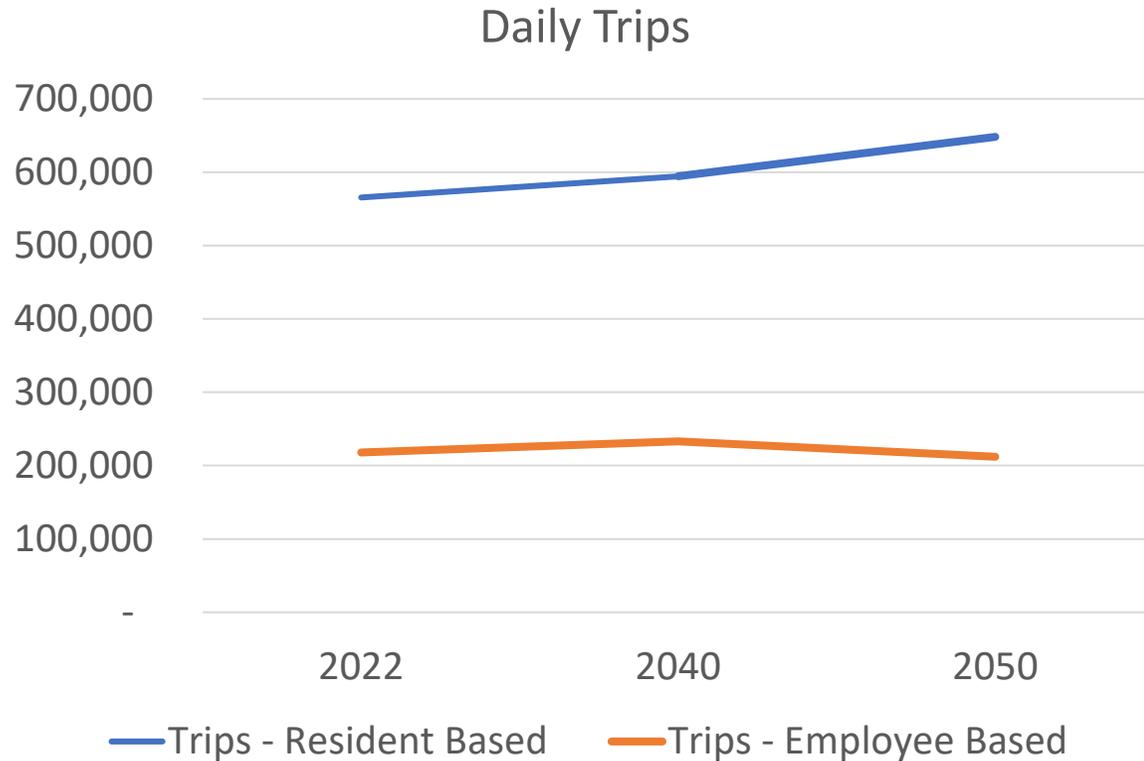
Marin County Job Growth Forecasts (2015 Baseline)

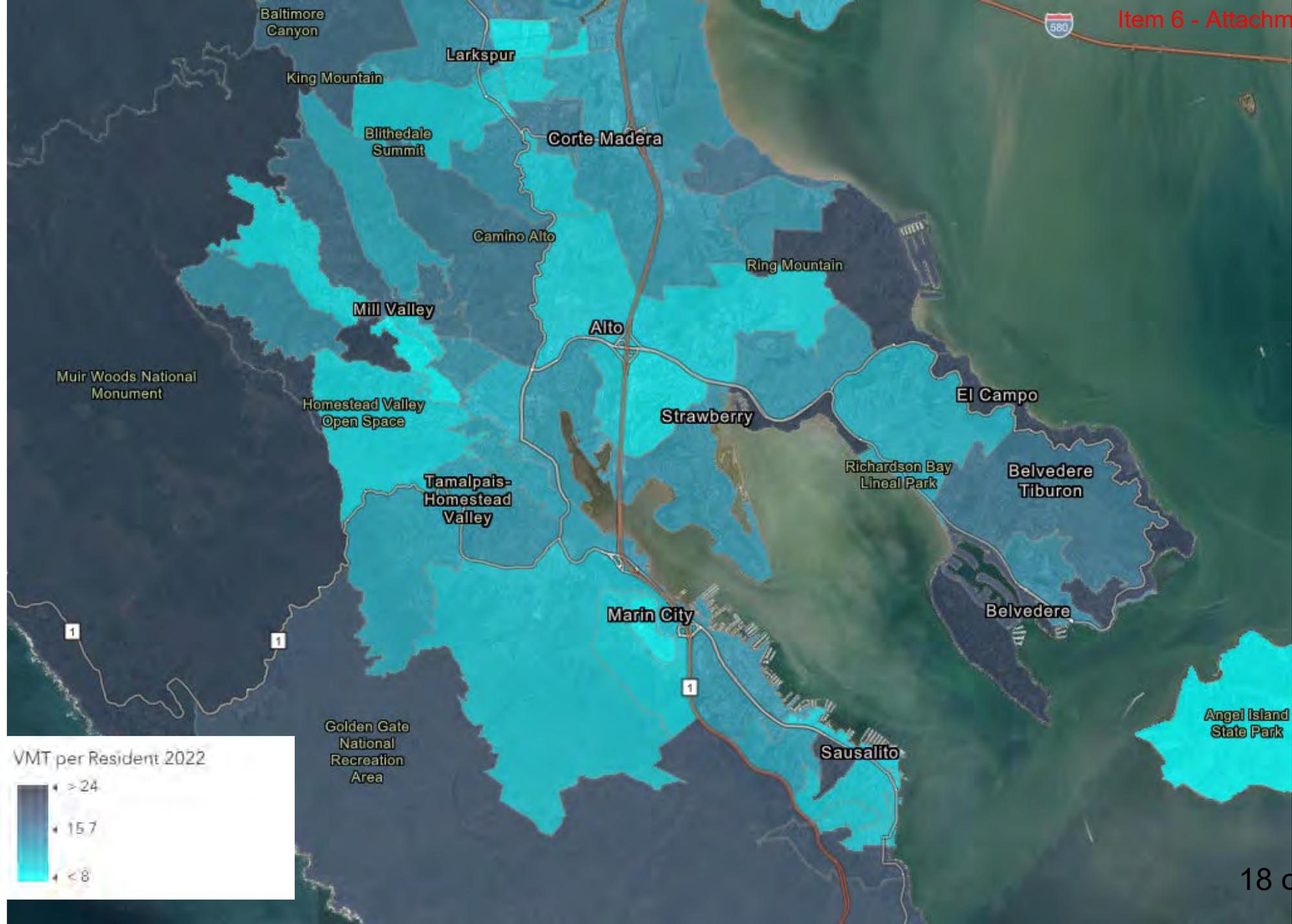


Forecasted Work Location of Marin Residents



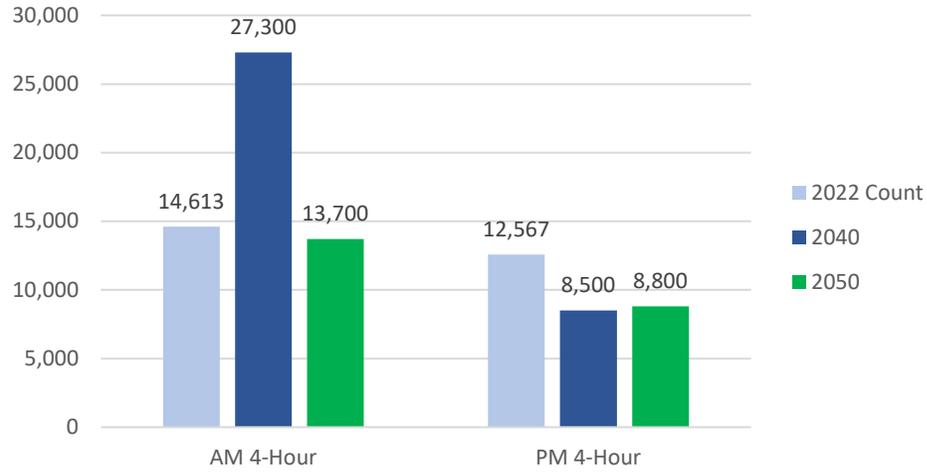
Daily Trips and Vehicle Miles Traveled



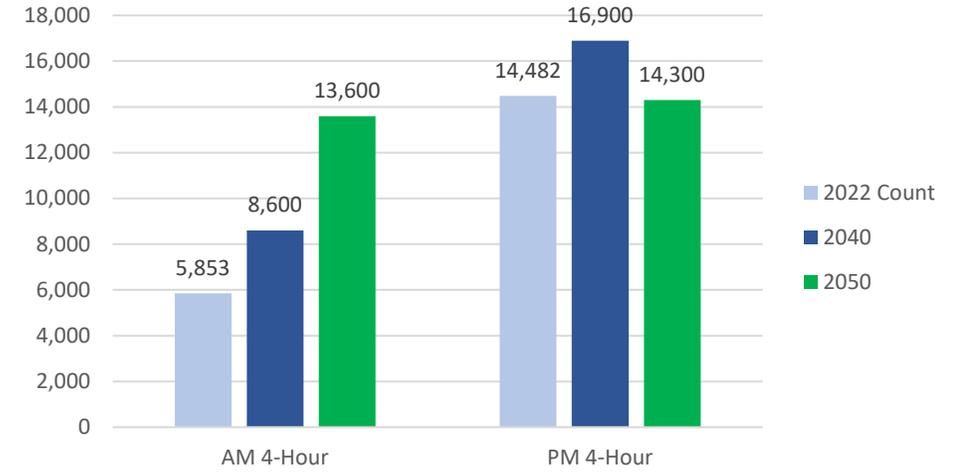


Highway Volumes

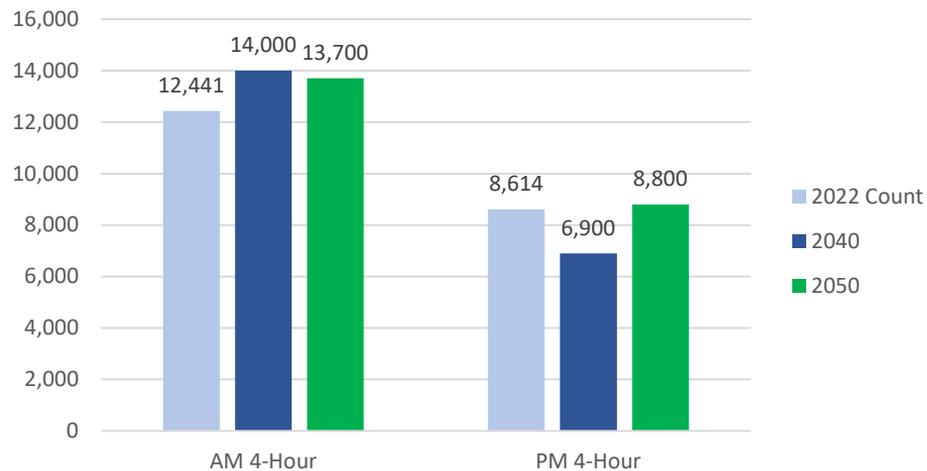
US 101 SB San Francisco/Marin County Line



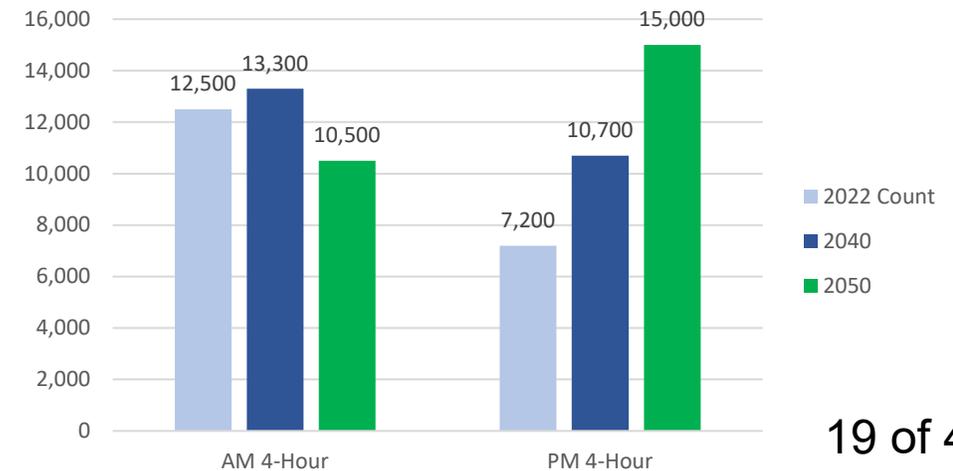
I-580 EB at Contra Costa/Marin County Line



US 101 SB at Marin/Sonoma Line

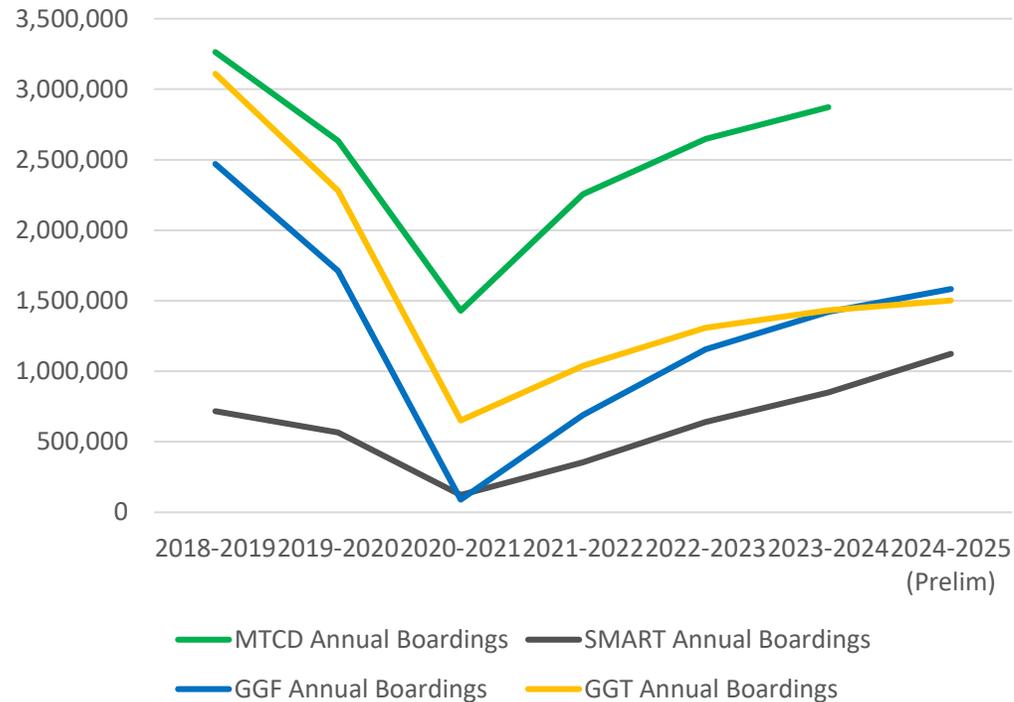


I-580 WB at Contra Costa/Marin County Line



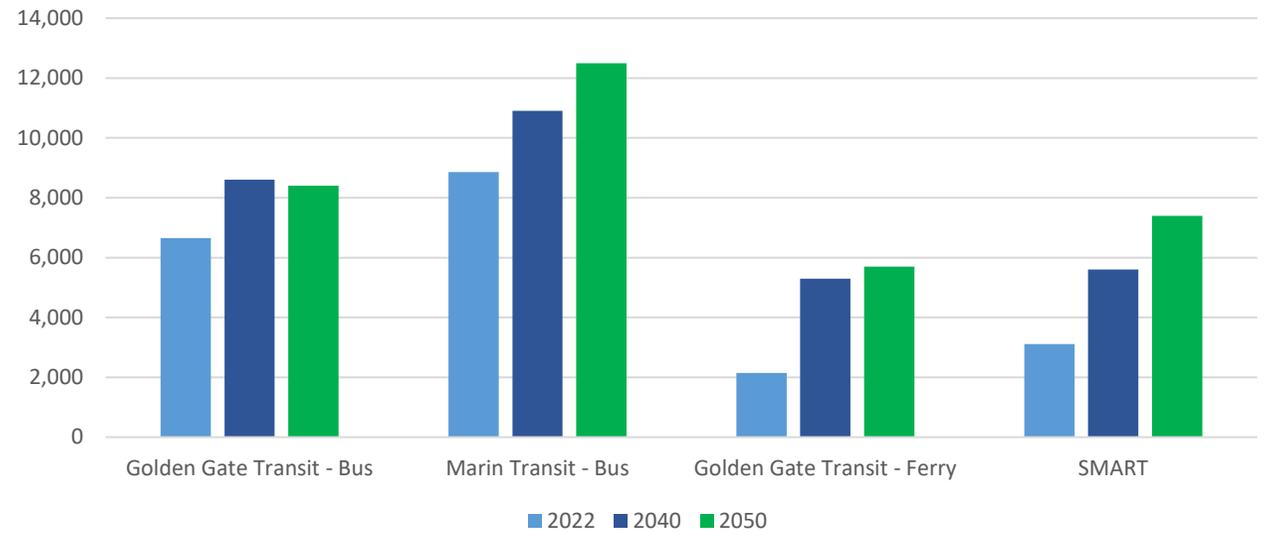
Transit Volumes (Recent and Forecast)

Transit Ridership - Annual



Data sources: Transit Operators, FTA NTD

DRAFT - Total Daily Boardings



Emerging Trends

- Population has declined but growth is forecasted as housing production comes online
- Employment has grown, and TAM forecasts show continued growth
- Increasing local population is expected to reduce overall VMT (and associated GHG emissions) but will grow the number of shorter trips on local roads
- With limited new capital projects, highway and roadway operations will increase in focus
- Transit Markets have shifted:
 - Transit ridership is predominately *local*, and is forecasted to grow
 - Ferries have surpassed regional bus service
 - SMART ridership growth particularly strong
 - Transit is already focusing on local needs
- TAM Model develops significant local and regional travel data and will be a key tool for TAM Data Management program – Visualization tool will support its usefulness

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DATE: September 8, 2025

TO: Transportation Authority of Marin
Administration, Projects & Planning Executive Committee

FROM: Anne Richman, Executive Director *Anne Richman*
Derek McGill, Director of Planning
Mikaela Hiatt, Senior Transportation Planner

SUBJECT: Receive an Update on the State of Autonomous Vehicles and Local and State Policy, Permitting, and Legislation in California (Discussion), Agenda Item No. 7

RECOMMENDATION

The Administration, Projects & Planning (AP&P) Executive Committee receive an update on the State of Autonomous Vehicles and Local and State Policy, Permitting, and Legislation in California.

BACKGROUND

On July 25, 2025, Tesla announced the launch of its robotaxi service in San Francisco and nearby counties, including Marin, for the following weekend. This prompted many discussions locally and nationally over autonomous vehicles and the status of the regulatory environment for launching these services.

An autonomous vehicle (AV) is a car, truck, or other vehicle that can operate without direct human control, using a combination of sensors, cameras, artificial intelligence, and software to perceive its surroundings, make driving decisions, and navigate to a destination. Currently, AVs are fully deployed in several cities across the country, including San Francisco and Los Angeles in California.

DISCUSSION/ANALYSIS

In response to the potential deployment of AVs in Marin County, TAM staff conducted research on the current state of AVs in California, including the regulatory framework, responses from deployments on local roads, and the current status of relevant legislation.

Federal AV regulations currently consist of voluntary guidelines and limited exemptions, with the National Highway Traffic Safety Administration (NHTSA) serving as the primary federal body, with a focus on vehicle design and safety. While there are no comprehensive federal mandates for automated driving systems (ADS), NHTSA is working on a new regulatory framework to streamline safety standards, update the Autonomous Vehicle Exemption Program (AVEP), and revise crash reporting requirements.

AVs are regulated at the state level, with both the Department of Motor Vehicles (DMV) and the California Public Utilities Commission (CPUC) requiring AV companies to obtain permits in order to operate. There are different levels in each of the respective permit processes before AVs are allowed to carry passengers without a driver. The DMV issues testing permits to AV companies seeking to operate on public roads in one of the following three categories:

1. Testing with driver
2. Driverless testing
3. Deployment (for commercial non-passenger, specifically)

As a part of the permit application process, the DMV requires AV companies to comply with the following:

1. Complete a series of applications, checklists, and fee payments.
2. Submit insurance and proof of Operational Design Domain (ODD) which outlines the specific conditions under which an automated driving system (ADS) is designed to operate safely and effectively, outlining the boundaries where the ADS can reliably perform its functions.
3. Submit a Law Enforcement Interaction Plan which shows law enforcement and first responders how the company has programmed the AVs to respond and interact in emergency or traffic enforcement situations.

Following approval from the DMV, the CPUC also requires that AV companies obtain a permit in order to commercially operate on public roads. The CPUC issues permits in one of the following categories:

1. Drivered AV Passenger Service
 - a. Drivered Pilot
 - b. Drivered Deployment
2. Driverless Pilot
 - a. Driverless Pilot
 - b. Driverless Deployment

Similar to the DMV, the CPUC also requires companies to comply with a series of safety measures including:

1. Passenger Safety Plan
2. Ongoing incident reporting
3. The respective AV company's data privacy protocols

Within its online portal, the CPUC maintains an inventory of the status of different AV passenger services. The information in the portal includes what the AV companies have recently submitted to the CPUC as a part of the companies' request to deploy.

In cities such as San Francisco and Los Angeles, where AVs are actively deployed and carrying passengers, TAM staff researched and conducted interviews to learn more about existing city policies and regulations to manage how AVs are allowed to operate within the public right of way. Both San Francisco and Los Angeles have undertaken efforts such as monitoring AV deployments, advocating for further control and oversight of how AVs are deployed throughout the cities, and building relationships with the AV companies that are actively operating in the cities' right of way.

Currently, local jurisdictions and transportation authorities, such as TAM, have no regulatory authority over AVs, similar to recent rulings regarding Transportation Network Companies (TNCs) like Uber and Lyft. However, legislation has been introduced to allow local jurisdictions limited control over AVs, ensuring that safety measures, including operational interactions with first responders are followed in accordance with city policy. Most notably, Assembly Member Ting introduced (Assembly Bill) AB 1777, which establishes operational requirements and performance standards for AV – emergency responder interactions and a mechanism to document AV traffic violations; this bill was

signed into law in 2024. Local jurisdictions continue to monitor legislation across the state advocating for more local control and influence over AVs and further collaboration and partnership with the companies.

TAM staff prepared a brief fact sheet on Autonomous Vehicles (Attachment B), which is reflective of the current state of AVs in California, specifically the Bay Area, and how TAM and local jurisdictions can continue to monitor and respond to AVs potentially coming to Marin County.

RELATIONSHIP TO COUNTYWIDE TRANSPORTATION PLAN (CTP)

The update on the state of Autonomous Vehicles aligns with the CTP's System Management goal and the Transportation Data and System Management strategy. The strategy recommends TAM support management of new technologies, including the introduction of connected and autonomous vehicles.

FISCAL CONSIDERATION

None.

NEXT STEPS

Following the discussion with the Executive Committee, TAM staff will bring an update on Autonomous Vehicles to the TAM Board at the Innovation Workshop on October 23, 2025.

ATTACHMENTS

Attachment A – Autonomous Vehicles Update Presentation
Attachment B – Autonomous Vehicles Fact Sheet

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Autonomous Vehicles Update

Transportation Authority of Marin

Administration, Planning & Projects Executive Committee

September 8, 2025

What are Autonomous Vehicles?



Definition

- An autonomous vehicle (AV) is a car, truck, or other vehicle that can operate without direct human control, using a combination of sensors, cameras, artificial intelligence, and software to perceive its surroundings, make driving decisions, and navigate to a destination.

Key Characteristics

- Perception Systems
 - Use lidar, radar, and cameras to detect other vehicles
- Decision Making AI
 - Algorithms use sensor data to plan routes, respond to changing conditions, and handle complex scenarios
- Levels of Autonomy: Level 0 to 5
 - 0=no automation, 5=full automation in all conditions
 - Most AVs currently operating are at Level 2-4

Federal Regulatory Environment

- NHTSA established, monitors, and enforces vehicle safety standards
- Issues permits for AV use
- Requires AV crash reports
- NHTSA requires certain vehicles obtain permits
 - Waymo: Uses Jaguar vehicle so no NHTSA approval is required
 - Zoox: Custom, proprietary vehicle that required NHTSA permit approval



State Permits: Who Oversees AV Deployment?

DMV Permit Process:

- First permit threshold to operate on public roads
- Three testing categories:
 - Testing with driver
 - Driverless Testing
 - Deployment (Commercial)
- Requirements for the Permit:
 - Applications, Checklists, and Fees
 - Insurance/Operational Design Domain
 - Law Enforcement Interaction Plan

CPUC Permit Process (table on the right):

- Issued following DMV Permit for Passenger Carrying AVs
- Requires a series of safety measures:
 - Passenger Safety Plan
 - Incident Reporting
 - Data Privacy Information
- AV Passenger Service program
 - Monitors status of AVs

Required Document(s)	Pilot		Phase I Deployment	
	Drivered	Driverless	Drivered	Driverless
<u>Tier 3 Advice Letter</u>				✓
<u>Attestation of compliance with relevant DMV regulations</u>	✓	✓	✓	✓
DMV AV Testing Permit	✓			
DMV AV Testing Permit, Driverless Vehicles		✓		
DMV AV Deployment Permit			✓	✓
<u>DMV driver/remote operator documents</u>				
• DMV permits issued to drivers/remote operators	✓	✓	✓	✓
• Remote operator/driver training documents				
<u>Attestation of 30 days of operation on CA roads post receipt of DMV permit</u>	✓	✓	✓	✓
<u>Statement and map of Operational Design Domain</u>	✓	✓	✓	✓
<u>DMV-required documents</u>				
• Process in the event of a collision		✓	✓	✓
• Law enforcement interaction plan		✓	✓	✓
• Disclosure to passengers regarding collection and use of personal information	✓	✓	✓	✓
<u>Passenger Notice and Consent Plan</u>	✓	✓	✓	✓
<u>Passenger Safety Plan</u>		✓		✓
<u>Supplement to Projected Profit or Loss Statement</u> (optional)	✓	✓	✓	✓
<u>Request(s) for exemption(s) to General Order 157-E</u> (optional)	✓	✓	✓	✓

State Permit Process and Timeline

DMV Reviews and Authorizes Permits to AV Companies (valid for 2 years)

- Testing with driver
- Driverless Testing
- Deployment (Commercial)

CPUC Reviews and Authorizes Permits to AV Companies

- Drivered AV Passenger Service
 - Drivered Pilot
 - Drivered Deployment
- Driverless Pilot:
 - Driverless Pilot
 - Driverless Deployment

DMV Permit Renewal (2 years)

AV Companies must renew their DMV and CPUC permits depending on the permit type

CPUC Transportation Charter Party (TCP) Permit Renewal (3 years)



2024 Regulatory Initiatives

CPUC New Data Reporting Requirements (Adopted 11/7)

- **Expands and align collision & incident reporting** requirements at both testing and deployment stage
- **New reporting for “stoppage events”**

DMV Preliminary Draft of Regulations (Pre-Regulatory Process)

- Would establish **graduated permitting process** with progression based on success
- Would **expand reporting and clarify tools for DMV response** to poor permittee performance
- Would increase requirements for **remote support** operations
- Would provide process for **permitting AV trucking**

Source: SFCTA November 19, 2024 Staff Presentation sfcta.org/policies/autonomous-vehicle-technology

Legislative Initiatives

Bill	Content	Outcome
AB-1777, Ting	Establishes operational requirements and performance standards for AV-emergency responder interactions & mechanism to document AV traffic violations	Signed into law
AB-3061, Haney	Addressed critical gaps in data reporting and data transparency requirements	Vetoed by Governor Newsom
SB-915, Cortese	Authorized cities of >250K citizens to enact local ordinance for AV ops in their jurisdiction	Pulled by author after Assembly Transportation presented major amendments

Source: SFCTA November 19, 2024 Staff Presentation sfcta.org/policies/autonomous-vehicle-technology

Companies Currently Operating in CA*

Name	Permits	Operation Location	Type of Tech
Waymo (Alphabet)	DMV Driverless Testing & Deployment (CA); CPUC Driverless Phase I Deployment (fare-charging). CPUC approved Waymo's PSP/ODD expansion in May 2025 (AL-0003).	San Francisco, Los Angeles, and other out of state locations in Arizona, Texas, and Georgia	Lidar + Radar + Cameras
Zoox (Amazon)	DMV Drivered + Driverless Testing; CPUC Drivered + Driverless Pilot (no fare-charging). CPUC confirmed driverless pilot permit and TCP renewal (2024–2025).	Foster City	Lidar + Radar + Cameras
Tesla	DMV testing with driver; no DMV driverless or Deployment permit; CPUC authority limited to non-autonomous charter operations (no driverless passenger service).	N/A	Cameras

**More companies than those listed have obtained permits to operate or drive in California. The three highlighted above are more relevant to Marin and the Bay Area. A comprehensive list of permit holders are available on the DMV and CPUC websites.*

Challenges with AVs to Date



- ADA Accessibility
 - Wheelchair access
- Equity Concerns
- Emergency Response and Transit Operation Conflicts
- Incident Reporting
- Access to Data
 - Congestion/VMT Data
 - Safety/Incident Data
 - Routing/Detour

Local Oversight and City Actions

San Francisco

- City does not have the authority to issue vehicle permits
- SFMTA and SFCTA manage curb and lane use, staging areas, and protocols for first responders
- Tension between safety and transit advocates and push from Mayor's office to allow Waymo to access car-free Market Street in the city
- Closely watched and supported AB 1777 and AB 3061
 - Requirements around interactions with first responders and about data and data reporting to the DMV and CPUC
- Consistent updates to the SFCTA Board

Los Angeles

- Council resolution to enhance monitoring of driverless vehicle activity, seek improved access to AV operational data, and support state legislation giving local governments stronger regulatory tools
- Closely watched and coordinated on AB 1777
 - Established clearer requirements for how AVs must interact with police and fire and mandated hotline for incident reporting

Next Steps

- Continue to monitor SF response to AVs
 - Update expected in September
- Board Workshop on Innovation – October 23rd
- TAM staff continue to monitor and bring updates to the Executive Committee and Board
 - Update the Fact Sheet as new information becomes available



Questions & Discussion

Thank you!

Fact Sheet: Autonomous Vehicles

Permits, Operators, and Local Oversight

September 2025

What are Autonomous Vehicles?

An autonomous vehicle (AV) is a car, truck, or other vehicle that can operate without direct human control, using a combination of sensors, cameras, artificial intelligence, and software to perceive its surroundings, make driving decisions, and navigate to a destination.

Key Characteristics

- Perception Systems: AVs use advanced detection and communication systems such as lidar, radar, and cameras to detect other vehicles, pedestrians, cyclists, road markings, and traffic signals.
- Decision-Making AI: Advanced algorithms interpret sensor data to plan routes, respond to changing conditions, and handle complex scenarios like merging or avoiding hazards.
- Levels of Autonomy: Overseen by the SAE (Society of Automotive Engineers)
 - Level 0 (no automation) to Level 5 (full automation in all conditions, no human needed)
 - Currently, most AVs operate at Level 2–4, requiring some human oversight in certain conditions.

Permits: Who Oversees AV Deployment?

NHTSA permit process:

National Highway Traffic Safety Administration (NHTSA) establishes, monitors, and enforces vehicle safety standards across the country. As a part of this, NHTSA issues permits for AV use and requires AV crash reports within one day of collision as a condition of the permit. Depending on the vehicle, an AV company may be exempt from the approval process. For instance, Waymo uses a Jaguar vehicle so they are exempt from the approval process, whereas Zoox's custom and proprietary vehicle requires NHTSA approval in order to operate.

DMV permit process:

The DMV serves as the first permit threshold for driverless vehicles operating on public roads. They issue permits through programs in 3 different categories: Testing (with driver), Driverless Testing, Deployment (commercial). Through a series of deployment applications & checklists, fees, insurance/Operational Design Domain (ODD), law enforcement interaction plan & safety requirements found [here](#), the DMV provides oversight of vehicle and driver systems. A list of the current testing permit holders (with driver) and driverless testing lists is posted here: [current permit holders](#).

CPUC permit process:

Once a company has been issued a driverless permit from the DMV, if they intend to carry passengers, they need to obtain a CPUC permit. CPUC permits are not required for commercial exclusive (non-passenger carrying) operators. The CPUC requires submission of a Passenger Safety Plan (PSP), reporting of incidents, and information on data privacy. The CPUC monitors Drivered/Driverless Pilots and Phase 1 Deployments (fare charging) ([California Public Utilities Commission](#)). As a part of monitoring the list of applicants, the CPUC posts letters of advice on whether the company should be approved for Driverless deployment and maintains a running advice-letter status page for Driverless Phase I deployment and expansions (e.g., service-area changes) [here](#). The CPUC permit allows companies to be able to charge fares to passengers to ride in the vehicles, but no restrictions are placed on how the rides are charged.

Companies Currently Operating in California (passenger & goods)

Note that this is not a comprehensive list of all companies operating in California but includes information on several key operators in the Bay Area and companies relevant to Marin County. A list of the current companies that have obtained DMV and CPUC permits is available [here on the CPUC website](#).

Waymo (Alphabet) — passenger robotaxi

- **Permits:** DMV Driverless Testing & Deployment (CA); CPUC Driverless Phase I Deployment (fare-charging). CPUC approved Waymo's PSP/ODD expansion in May 2025 (AL-0003). ([California Public Utilities Commission](#))
- **Where operating:** San Francisco & Los Angeles (plus out-of-state markets). ([California Public Utilities Commission](#))
- **Tech:** Level-4 stack with lidar + radar + cameras.

Zoox (Amazon) — passenger pilots

- **Permits:** DMV Drivered + Driverless Testing; CPUC Drivered + Driverless Pilot (no fare-charging). CPUC confirmed driverless pilot permit and TCP renewal (2024–2025). ([California Public Utilities Commission](#))
- **Where operating:** Limited geofences (e.g., Foster City); speed-limited operations.
- **Tech:** Purpose-built bi-directional EV; lidar + radar + cameras.

Tesla — “robotaxi” branding; CA operations require human driver/monitor

- **Permits (CA):** DMV testing with driver; no DMV driverless or Deployment permit; CPUC authority limited to non-autonomous charter operations (no driverless passenger service). ([Politico](#), [WIRED](#), [Chron](#))
- **Tech: Vision-only** (camera-based); no lidar/radar.

Local Oversight & City Responses to AV Deployment

San Francisco

San Francisco Municipal Transportation Agency (SFMTA) and the San Francisco County Transportation Authority (SFCTA) manage curb and lane use, staging areas, and establish protocols for first responders. These agencies also serve as advocates on safe operations and ensuring AVs support city goals of vision zero, transit first, and countywide transportation goals. These actions include providing formal input to state regulators, including detailed comments to the CPUC on permit applications. Other city departments, including the Mayor’s Office, coordinate on AV related topics and responses.

Los Angeles

Similar to SFCTA and SFMTA, Los Angeles has sought to increase local regulation of these services. In June 2024, the Council voted to enhance monitoring of driverless vehicle activity, to seek improved access to AV operational data, and to support state-level legislation that would give local governments stronger regulatory tools among other legislative policy.

State Legislation

Bill	Content	Outcome
AB 1777 – Ting	Establishes operational requirements and performance standards for AV-emergency responder interactions & mechanism to document AV traffic violations	Signed into law
AB 3061 – Haney	Addressed critical gaps in data reporting and data transparency requirements	Vetoed by Governor Newsom
SB 915 – Cortese	Authorized cities of >250K citizens to enact local ordinance for AV ops in their jurisdiction	Pulled by author after Assembly Transportation presented major amendments

Safety Regulation and Oversight

NHTSA is the agency responsible for monitoring the safety aspects of autonomous vehicle technology. Currently, NHTSA is investigating several incidents related to AV companies including Waymo and Zoox for both collisions with objects as well as vehicle system errors.

The CPUC also implements safety oversight through a series of reporting requirements, including:

- New Stoppage Event Reporting (reporting when AVs get stuck during operations)
- Enhanced Incident Reporting (reporting on trip-level incidents including citations and stoppage events)
- Streamlined Collision Reporting (reporting, jointly with NHTSA, on any collision within one day)

Data reported through NHTSA, the DMV, and the CPUC show that there are a series of incidents that AVs are involved in, but the rate of serious injury is generally very low. Further information is provided through incident reporting, but this information is not readily available to local agencies or the public.

ADA Requirements

NHTSA, the DMV, and the CPUC presently do not require vehicles to be fully ADA accessible to those who require wheelchair access or assistance. Though there is continual discussion about how to better integrate ADA accessibility for better physical access, several accessibility gaps still exist that need to be addressed:

- Physical access: There are existing ADA guidelines for public transportation, but these may not be suitable for the design of smaller AV fleets. Standards are needed for features such as wide doors, flat floors, and wheelchair restraints.
- Communication systems: Vehicles must have accessible communication interfaces for passengers with sensory disabilities. This includes redundant systems (e.g., voice activation, text, and Braille) for navigation, emergency reporting, and communications with remote operators.
- Wayfinding: For passengers with vision impairments, AVs need to incorporate orientation information, such as audible cues for arrival and navigation.
- Equitable service: Though not a uniform requirement, to ensure that accessible AVs are available and affordable for people with disabilities, states may need to consider subsidies or incentives. There are also concerns that AV service may be limited to certain geographic areas, leaving out rural communities.

Helpful Links

- DMV – Autonomous Vehicles (program hub + lists): testing permit holders, driverless testing, deployment program & forms. ([California DMV](#))
- CPUC – AV Programs (policies and prerequisite note): overview + guidance. ([California Public Utilities Commission](#))
- CPUC – AV Program Permits Issued (live table of permit holders): ([California Public Utilities Commission](#))
- CPUC – Driverless Phase I Deployment Advice-Letter Status (expansions): ([California Public Utilities Commission](#))
- Waymo CPUC approval (May 19, 2025 disposition): ([California Public Utilities Commission](#))
- Zoox CPUC letters (driverless pilot granted; TCP renewals): ([California Public Utilities Commission](#))
- San Francisco AV regulation links: ([The Guardian](#), [SFMTA](#)) ([SFGATE](#), [Local News Matters](#))
- Los Angeles AV regulation links: ([CBS News](#), [NBC Los Angeles](#)) ([LegiScan](#), [Digital Democracy | CalMatters](#), [ABC7 San Francisco](#)) ([The Verge](#), [LegiScan](#)) ([Reuters](#))