2023
Congestion Management Program

ALAMEDA
County Transportation Commission

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CHAPTER 1

CONGESTION MANAGEMENT PROGRAM

Key Topics

- Background & Purpose
- Legislative Requirements
- Summary of Changes in the 2023 CMP
- Conformance and Consistency

1. CONGESTION MANAGEMENT PROGRAM

As the designated Congestion Management Agency (CMA) for Alameda County, the Alameda County Transportation Commission (Alameda CTC) is responsible for developing, updating, and implementing the county's Congestion Management Program (CMP).

BACKGROUND & PURPOSE

State legislation regarding CMPs, initially passed in 1991, aims to encourage coordination between agencies to effectively manage congestion, prioritize multimodal solutions to improve air quality and support economic objectives, and further integrate land use planning and development with the transportation system.

In order to address these objectives, the legislation established the need for every urbanized county in the state to have a CMA and required those CMAs to conduct CMP activities on a two-year cycle, culminating in adoption of the CMP itself. The CMP document articulates Alameda CTC's workplan related to CMP-required activities and defines strategies and processes that will do the following:

- Assess and monitor the performance of the county's multimodal transportation system
- Address roadway congestion and improve the performance of a multimodal system
- Integrate transportation and land use planning

Alameda County's CMP is a short-range plan that includes a variety of congestion and travel demand management (TDM) strategies, programs, and projects designed to meet, and often exceed, legislative requirements. For example, Alameda CTC monitors not only roadway congestion but also the performance of every mode of travel throughout the county, including transit, bicycle, and pedestrian activity.

The programs and strategies described in the CMP support the implementation of long-range plans such as the Countywide Transportation Plan (CTP), also conducted by Alameda CTC, and the Regional Transportation Plan (RTP), carried out by the region's transportation planning agency, the Metropolitan Transportation Commission (MTC).

LEGISLATIVE REQUIREMENTS

Current CMP legislation defers considerable authority to CMAs to develop and update CMPs, but requires that a CMP incorporate five key elements:

1. Biennial monitoring of congestion on a designated roadway network
2. A multimodal performance element
3. A travel demand management element
4. A land use analysis program
5. A capital improvement program

CMPs are required to be developed in collaboration with relevant local and regional agency partners and must be updated every other year. Many of the legislatively required elements are carried out by local jurisdictions and CMAs are responsible for ensuring local government conformance with the CMP.

CMP legislation is currently in conflict with other regulations like Senate Bill (SB) 743, the California Environmental Quality Act (CEQA), Complete Streets legislation, and current industry best practices. The metric used to measure performance is at the heart of this conflict. CMP legislation requires use of a delay-based metric, level of service (LOS), to measure roadway performance; CEQA guidelines, amended based on California Senate Bill 743 (SB 743) (adopted 2013), require vehicle-miles traveled (VMT) as the primary metric for traffic impacts. Given that state legislation for the CMP has not yet addressed this conflict, Alameda CTC continues to comply with CMP legislation.

Following the adoption of the 2023 CMP by the Alameda CTC, the Alameda CTC will submit the CMP to MTC as required in the CMP legislation. As the regional transportation planning agency in the San Francisco Bay Area, MTC is required to evaluate the CMP's consistency with the RTP and with the CMPs of the other counties in the Bay Area.

Appendix A includes the full CMP state legislation, as well as MTC's most recently adopted CMP guidelines, which apply for the 2023 CMP.

SUMMARY OF CHANGES IN THE 2023 CMP

The 2023 CMP demonstrates compliance with state and regional CMP requirements and summarizes work performed by Alameda CTC related to the major CMP elements since the last update in 2021.

Alameda CTC's 2023 CMP builds off of, and is consistent with, the program elements and methodologies established in previously adopted CMPs. During the COVID-19 pandemic, a minor update was made to the 2021 CMP; therefore, the 2023 CMP document builds upon

both the 2021 and the 2019 CMPs and updates references to polices in plans that have been adopted since 2019 (including the 2020 CTP and the current RTP, Plan Bay Area (PBA) 2050). The report structure of this update has been condensed to more efficiently present required and relevant material and it carries forward many of the elements of the CMP that have been previously adopted. Prior CMPs will remain available on Alameda CTC's website and they include more detailed documentation of many of the historical changes to Alameda County's CMP over time.

In addition to general document streamlining, the following changes have been made in the 2023 Update:

- **Biennial Monitoring (Chapter 2)**
    - Incorporates findings from the most recent monitoring cycle, the 2022 Multimodal Monitoring Report.
    - Streamlined to describe the CMP Network, LOS standards, and the associated deficiency plan process together in one chapter.
- **Multimodal Performance Element (Chapter 3)**
    - Elaborates on Alameda CTC's performance monitoring and reporting practice, clarifies the performance measures that satisfy the CMP's multimodal performance element, and notes their alignment with 2020 CTP and PBA 2050 goals.
- **Travel Demand Management Element (Chapter 4)**
    - Describes TDM programs and countywide actions undertaken since 2019, including the VMT Reduction Calculator Tool, the All Ages & Abilities Bikeways policy, and the US Department of Transportation's (DOT) Safe Systems approach.
    - Reflects the current status of Alameda CTC's ongoing TDM programs, such as the Safe Routes to School program and Bicycle Safety Education classes.
- **Land Use Analysis Program (Chapter 5)**
    - Updates the roadway network for which the LUAP review applies. Prior CMPs referenced the CMP Network in addition to the Metropolitan Transportation System (MTS) Network, which was originally created by MTC but removed from MTC's CMP guidelines in 2014. To ensure consistency with MTC guidance, this CMP removes reference to the MTS and will rely solely upon the CMP Network for LUAP review.
- **Database & Travel Demand Model (Chapter 6)**
    - Describes a substantial update to the countywide travel demand model to be consistent with MTC's new model guidelines and PBA 2050.

- **Capital Improvement Program (Chapter 7)**
    - Details funding actions through the most recently adopted agency Comprehensive Investment Plan (CIP).
    - Describes how Alameda CTC funding programs, including the CIP, implement recommendations of the 2020 CTP and PBA 2050.
- **Program Conformance (Chapter 8)**
    - Updates the frequency of conformance review. Alameda CTC previously confirmed local jurisdictions' conformance with the CMP every year. To better align with the biennial CMP adoption process, Alameda CTC will review conformance with the CMP as part of each CMP update.

CONFORMANCE AND CONSISTENCY

Local Conformance: Alameda CTC is responsible for ensuring local government conformance with the CMP. Almeda CTC ensures local government conformance with the implementation of four required elements: LOS standards on the CMP Network, travel demand management strategies including the required TDM program, the Land Use Analysis Program, and the Capital Improvement Program.

See Chapter 8 for more information on Alameda CTC's conformance process.

Regional Consistency: MTC adopts guidelines to support the legislatively required evaluation of the CMP for consistency with the RTP and compatibility of programs within the region. Once MTC finds consistency with the RTP, it will incorporate Alameda CTC's CIP, which is its CMP Capital Improvement Program, into the Regional Transportation Improvement Program (RTIP).

The most recent CMP Guidance (Resolution 3000) for consistency was adopted by MTC in January 2023 and is included in Appendix A. Table 1.1 lists MTC's 2023 consistency requirements for CMPs in the Bay Area region.

Based on the 2023 CMP updates, the CMP fulfills the spirit, purpose, and intent of the CMP legislation and MTC's consistency requirements because it does the following:

- **Contributes to maintaining or improving transportation system service levels.**
  The projects and programs contained in the CMP are a subset of the transportation investments included in the 2020 CTP. The CMP can be viewed as the short-range implementation program for the CTP.
- **Conforms to MTC's criteria for consistency with Plan Bay Area.**
  In accordance with MTC's adopted CMP Guidance to ensure consistency with the current RTP, PBA 2050, the 2023 CMP incorporates the policies, strategies, and projects in PBA 2050, references MTC's new Transit Oriented Communities (TOC) policy, and

advances a new model development process in close collaboration with MTC's regional modeling team.

- **Provides a travel model consistent with MTC's regional model.**
  The travel model is undergoing a significant update to be consistent with MTC's regional modeling. It is in the final development stages and includes the land uses, projects, and programs in the most recently adopted RTP, PBA 2050.
- **Is consistent with MTC's adopted Transportation Control Measures.**
  The transportation control measures (TCMs) in the Bay Area's RTP, which are based on federal and state air quality plans, have not changed from previously adopted CMPs.
- **Specifies a method for estimating roadway level of service consistent with state law.**
  The 2023 CMP continues to use the same methodology for monitoring roadway performance as established in previously adopted CMPs, which is consistent with legislative requirements.
- **Identifies candidate projects for the RTIP.**
  The RTIP candidates listed in the CMP CIP meet MTC's requirements for inclusion in the State Transportation Improvement Program (STIP).
- **Was developed in cooperation with jurisdictions and other interested parties.**
  Prior updates of the CMP included working with interested parties through meetings and regular mailings and through updates and notifications on the Alameda CTC website. Major elements of the CMP, such as the CIP, LUAP documents, and multimodal performance monitoring materials have been presented on an ongoing basis or at key milestones to the Alameda County Technical Advisory Committee (ACTAC), the Planning, Policy, and Legislation Committee (PPLC), and the Alameda CTC. The 2023 CMP Update will be reviewed by these same groups before being sent to MTC for review.
- **Provides a forward-looking approach to the impact of local land use decisions on transportation.**
  The LUAP allows consultation with Alameda CTC early in the land development process. The 2023 CMP retains the expanded discussion of Alameda CTC's activities identified in previously adopted CMPs to fulfill the legislative requirements of SB 375 to better integrate transportation and land use and to reduce greenhouse gas emissions by curtailing VMT.
- **Considers the benefit of greenhouse gas reductions in developing the CIP.**
  The CMP considers the benefits of greenhouse gas reductions in the LUAP and in developing the CIP. The 2023 CMP continues to highlight the importance of Priority Development Areas and options for alternative trip-generation rates to promote infill development in the LUAP. It also highlights funding allocations in the CIP that will help support the reduction of VMT and greenhouse gas emissions.

Table 1.1: Regional Consistency Requirements

RTP CONSISTENCY
Is the CMP in support of PBA 2050's vision and guiding principles?
Is the CMP in support of PBA 2050's focused growth strategy, as well as MTC's TOC Policy (MTC Resolution No. 4530)?
CMP SYSTEM
Have all state highways and principal arterials been included?
Are all state highways identified?
Has the CMA developed a clear, reasonable definition for "principal arterials" as part of its submittal plan?
Has this definition been consistently applied in the selection of arterials to include in the designated system? If not, why?
Does the CMP system connect to the CMP systems in adjacent counties?
AIR QUALITY REQUIREMENTS
Does the CMP include locally implementable federal and state TCMs, as previously documented and included in MTC's PBA, MTC Resolution 2131, and the Bay Area Air Quality Management District's (BAAQMD's) Bay Area 2017 Clean Air Plan Control Strategy?
MODELING CONSISTENCY (on completion of the current update to the countywide model)
Does the model meet all requirements described with MTC's Guidance for Model Consistency, Collaboration and Transparency?
LOS CONSISTENCY
Is LOS assessed using a methodology agreeable to MTC?
RTIP REQUIREMENTS
Are the proposed regionally significant RTIP projects consistent with the PBA 2050's Transportation Project List?
PROCESS
Has the CMP been developed in cooperation with all concerned agencies (i.e., transit agencies, applicable air quality district(s), MTC, adjacent counties, etc.?)
Has the CMP been formally adopted according to the requirements of the legislation?

CHAPTER 2

BIENNIAL MONITORING

Key Topics

- Designated CMP Network
- Auto Performance Monitoring
- Transit Performance Monitoring
- Active Transportation Monitoring
- 2022 Multimodal Monitoring Key Findings
- Deficiency Findings & Plans

2. BIENNIAL MONITORING

As the CMA for Alameda County, Alameda CTC is legislatively required to monitor performance on the county's designated roadway system every other year. This entails: designating a CMP roadway network; establishing LOS standards and monitoring the CMP Network for conformance with said standards; and adopting deficiency plans for network segments that fail to meet established LOS standards.[1]

In addition to monitoring auto congestion on CMP roadways as mandated, Alameda CTC has expanded its biennial performance monitoring to collect data that presents a comprehensive view of the county's multimodal transportation system. These additional measures contribute to a more nuanced understanding of shifting travel patterns and needs throughout the county and align with current best practices and state policies, such as SB 743,[2] that have moved away from the use of delay-based metrics such as LOS since the original CMP legislation was adopted in 1991. As a result, Alameda CTC's biennial monitoring efforts assess performance for the following:

1. **Auto:** Congestion (LOS)
    - *Subject to the legislatively mandated Conformance Process*
2. **Transit:** Bus speeds
3. **Active transportation:** Bicycle and pedestrian counts

Alameda CTC publishes detailed data and summarized findings from this effort in the biennial Multimodal Monitoring Report. Every other year, these data, in turn, inform the development of Alameda CTC's Performance Report, which is typically updated annually and presents a broad array of countywide trends at a high level.

For more information on the Multimodal Performance Element of the CMP, which includes Alameda CTC's Performance Report, see Chapter 3.

DESIGNATED CMP NETWORK

California law requires that, at a minimum, the designated roadway system for which LOS is monitored every other year includes all state highways and principal arterials. To effectively manage congestion and facilitate a deeper understanding of multimodal travel trends, Alameda CTC monitors performance on an expanded CMP Network that goes beyond legislatively designated segments to include other roadways of countywide significance.

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[1] California Government Code Section 65089(b)(1)(A)

[2] SB 743, passed in 2013 and implemented in 2018, no longer considers traffic congestion (LOS) a significant environmental impact, and instead requires that vehicle miles traveled (VMT) be used to determine impacts under the California Environmental Quality Act (CEQA).

The Tier 1 Network, which is used to make conformity findings, was adopted with the first CMP in 1991 by the Alameda County CMA. Alameda CTC adopted a supplemental Tier 2 Network in 2011, to be monitored for informational purposes only, and expanded it in 2017. Adoption of the Tier 1 and Tier 2 Networks, as well as the Tier 2 expansion, were done in collaboration with MTC and the county's local jurisdictions and transit agencies.

Tier 1 CMP Network

- Used to make conformity findings
- Roadways that have historically carried the majority of countywide VMT, including all interstates, state highways, and some principal arterials
- 232 miles of roadways, of which:
    - 134 miles (58%) are interstate freeways
    - 71 miles (31%) are state highways
    - 27 miles (11%) are principal arterials (four lanes or more)

Tier 2 CMP Network

- Monitored for informational purposes only
- City/county arterials that are of local and/or countywide significance
- 314 miles of roadways

Alameda CTC used the following guidelines to define CMP Network segments, which have been further segmented in subsequent updates[3] to reflect local congestion hot spots more accurately:

- Segments should be at least one mile and not more than five miles in length.
- Logical segment break-points include jurisdictional boundaries, points where the basic number of travel lanes change, locations where land use changes occur (e.g., commercial areas versus residential), and points where the posted speed limit changes or where the number of adjacent driveways is significantly different.

A full description of the criteria used to define the networks, as well as a complete list of individual segments that make up the Tier 1 and Tier 2 Networks, can be found in Appendix B.

[3] Most long segments were split in 2007. In 2009, SR-84 was split into shorter segments, and in 2017 two segments were split to reflect the Hayward Loop opening. All further segmentation nests within the original CMP segments to support comparisons over time.

AUTO PERFORMANCE MONITORING

As required by CMP legislation, Alameda CTC monitors roadway congestion on the designated CMP Network using LOS, a legislatively-required quantitative metric that allows Alameda CTC to analyze the effects of land use changes on the transportation network's performance, identify congestion hot spots, and observe changing trends over time.

LOS STANDARDS

LOS is represented by letter designations, ranging from A to F. LOS A represents free-flow conditions and LOS F represents stop-and-go traffic. As directed in CMP legislation, Alameda CTC uses LOS E as the standard, except where segments performed at LOS F when originally measured in 1991 and 1992, in which case the standard is LOS F[4]. Figure 2.1 shows the LOS standards that the Tier 1 Network is subject to within Alameda County.

A list of the "grandfathered" LOS F segments in Alameda County can be found in Appendix B.

LOS standards apply only to afternoon peak period results for the Tier 1 Network, while the morning peak period and the Tier 2 Network are monitored for informational purposes only. For Tier 1 segments that fall below the adopted LOS standard during the afternoon peak period, Alameda CTC facilitates the local jurisdiction's adoption of a legislatively mandated deficiency plan, which specifies actionable steps towards improving LOS.

LOS METHODOLOGY

Alameda CTC assesses LOS based on the average speed observed along a roadway segment (link speed), which constitutes a uniform methodology adopted by the Commission that is consistent with the 1985 Highway Capacity Manual (HCM1985). Tier 1 and Tier 2 roadways utilize slightly different HCM methodologies as shown in Table 2.1.

In previous CMP updates, Alameda CTC evaluated different methodologies, including multimodal level of service (MMLOS) and methods noted within the HCM2000 and HCM2010, and found them to be prohibitively data- and resource- intensive at the countywide level. The HCM1985, which supports speed-based LOS for freeways as opposed to the density-based methodologies of later HCM updates, is used to monitor the Tier 1 Network given the data challenges of calculating density and the Tier 1 Network's reliance on methodological consistency to facilitate the legislative conformance process. LOS for the Tier 2 Network, which Alameda CTC began monitoring for informational purposes in 2012, is reported for both the HCM1985 and the HCM2000 methodologies. The HCM1985 results allow for direct comparisons

[4] California Government Code Section 65089.3

Figure 2.1: Alameda County CMP Network (Tier 1): LOS Standards

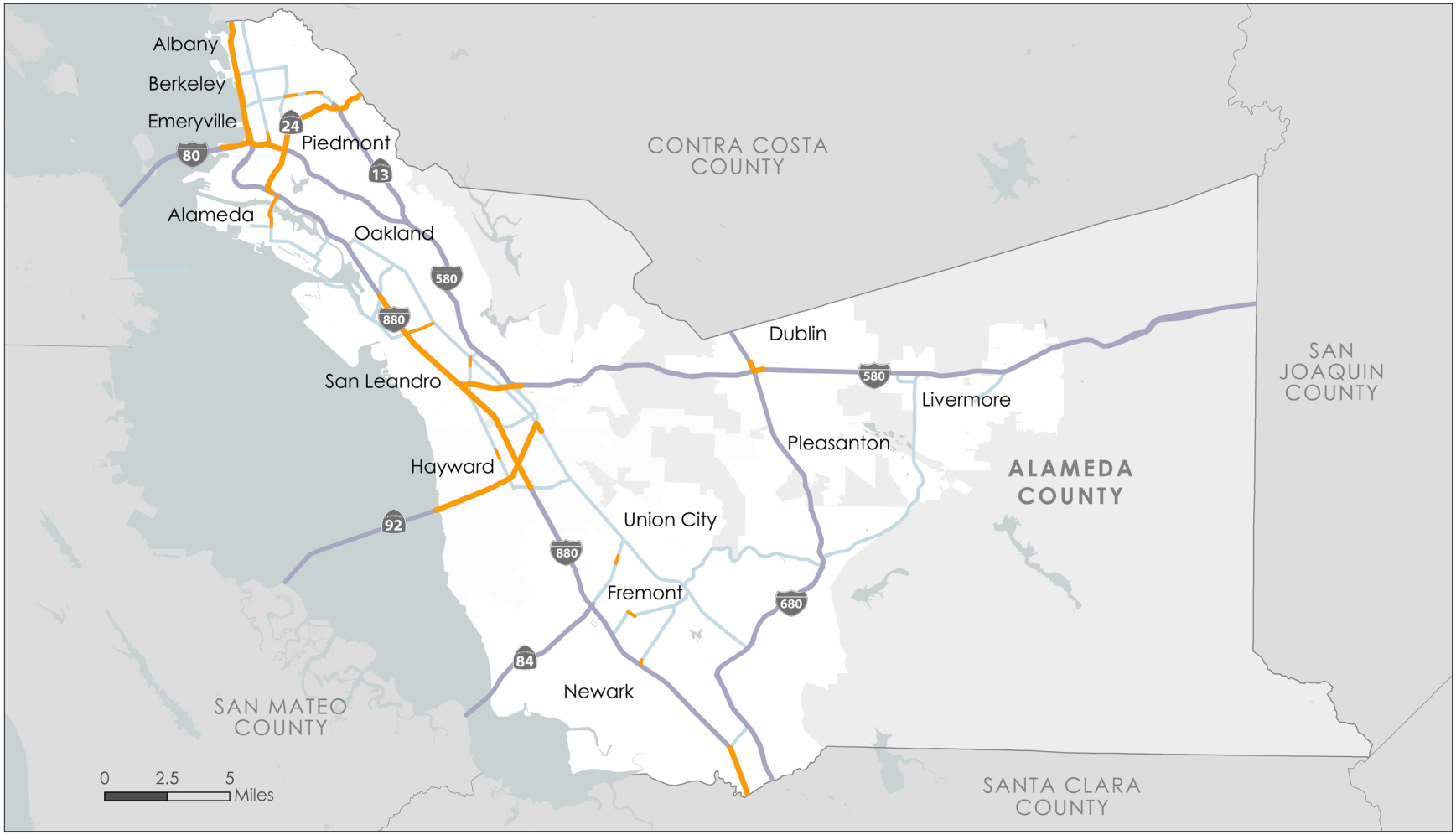


Table 2.1: Relationship Between LOS and Average Travel Speed

FREEWAYS (Source: HCM 1985)			
LEVEL OF SERVICE	**AVERAGE TRAVEL SPEED (MPH)**	**VOLUME-TO-CAPACITY RATIO**	**MAX HOURLY VOLUME** (Per Lane)
A	> 60	0.35	700
B	> 55	0.58	1000
C	> 49	0.75	1500
D	> 41	0.90	1800
E	> 30	1.00	2000
F	< 30	Variable	–

TIER 1 & TIER 2 ARTERIALS (Source: HCM 1985)			
ARTERIAL CLASS	**I**	**II**	**III**
Range of Free Flow Speed (mph)	35 to 45	30 to 35	25 to 35
Typical Free Flow Speed (mph)	40	33	27
LEVEL OF SERVICE	**AVERAGE TRAVEL SPEED (MPH)**		
A	> 35	> 30	> 25
B	> 28	> 24	> 19
C	> 22	> 18	> 13
D	> 17	> 14	> 9
E	> 13	> 10	> 7
F	< 13	< 10	< 7

TIER 2 ARTERIALS (Source: HCM 2000)				
URBAN STREET CLASS	**I**	**II**	**III**	**IV**
Range of Free Flow Speed (mph)	45 to 55	35 to 45	30 to 35	25 to 35
Typical Free Flow Speed (mph)	50	40	35	30
LEVEL OF SERVICE	**AVERAGE TRAVEL SPEED (MPH)**			
A	> 42	> 35	> 30	> 25
B	> 34-42	> 28-35	> 24-30	> 19-25
C	> 27-34	> 22-28	> 18-24	> 13-19
D	> 21-27	> 17-22	> 14-18	> 9-13
E	> 16-21	> 13-17	> 10-14	> 7-9
F	< 16	< 13	< 10	< 7

Sources: Table 12-1, Special Report 209, HCM 1985; Exhibit 15-2, HCM 2000 (U.S. Customary Units).

of Tier 2 arterials to Tier 1 state highway and principal arterial results, while the HCM2000 reflects additional arterial classifications to support more nuanced systems-level planning.

DATA COLLECTION AND REQUIREMENTS

For a given roadway segment, speed data must be collected and reported separately for each direction of travel, and reflect typical weekday conditions as best as possible. Alameda CTC uses two data sources to collect average travel speed data for autos as part of LOS monitoring:

- **Commercial Speed Data**[5]
  Third-party vendors (e.g., INRIX) provide aggregated traffic data from GPS-enabled vehicles and mobile devices, traditional road sensors, and other sources. The 2022 monitoring cycle mapped data in five-minute intervals for discrete roadway links to the county's CMP segments.
- **Floating Car Surveys**
  Floating car surveys involve a test car using GPS technology to record the travel time between the start and end of each CMP segment. Runs are performed six times in each direction across a range of days and times of day where the coverage of commercial speed data is not adequate, or results are not expected to be reliable. Two additional runs are done for segments subject to conformity that are found to be congested (LOS F) in the afternoon peak period.

The data collection process also identifies parameters for CMP Network monitoring:

- **Biennial Period**
  Monitoring is typically conducted in March, April, and May of the monitoring year. When additional floating car surveys are required, some data collection efforts can be extended into the first week of June, but must be complete before schools close for the summer. Data collection is scheduled to avoid holidays, special events, and roadway construction. Data summaries also remove data when collisions or other interruptions to typical conditions occur. This data quality management ensures that results are comparable to past monitoring cycles, as traffic patterns regularly fluctuate throughout the year and need to represent typical conditions.
- **Day of Week**
  Midweek (Tuesday – Thursday) data is used to reflect average weekday conditions. Weekend (Saturday) monitoring of Tier 1 freeways is done for informational purposes.

[5] Use of commercial speed data was approved by the Commission in 2013 based on a validation exercise carried out by Alameda CTC.

- **Time of Day**
  Alameda CTC defines peak periods as 7 – 9 AM and 4 – 6 PM. Conformance findings are based on PM peak period results for the Tier 1 Network. Supplemental weekend monitoring is conducted from 1 – 3 PM.

TRANSIT PERFORMANCE MONITORING

To better measure progress towards multimodal goals, Alameda CTC identified a supplemental Transit Monitoring Network comprised of a subset of the CMP-designated arterial roadways that correspond to the highest-ridership bus routes for both AC Transit and Livermore-Amador Valley Transit Authority (LAVTA). By incorporating transit into the biennial monitoring cycle and monitoring speeds on the same roads at the same time, Alameda CTC can make direct comparisons of transit and auto performance. Transit performance on this network was first monitored and reported in the 2018 Monitoring Report.

METHODOLOGY

Alameda CTC monitors bus speeds for trunk routes on a portion of the CMP Network using automatic vehicle location (AVL) data where available, or manually collected running time data provided by AC Transit and LAVTA. Data is cleaned to mirror the same monitoring period, days, times, and other parameters that are applied to auto speed data.

Transit Monitoring Network

- A subset of the CMP-designated arterials that support AC Transit's and LAVTA's highest-ridership bus routes
- 146 miles of surface highways and city/county arterials

More detail on the Transit Monitoring Network is in Appendix B.

PERFORMANCE MEASURES

As part of the biennial monitoring cycle, Alameda CTC summarizes a variety of transit metrics including average weekday speed during peak-periods, average weekday speed during off-peak periods, the peak-to-off-peak bus speed ratio, and average transit-to-auto speed ratio. Alameda CTC continues to collaborate with transit agencies to explore additional performance measures that can be assessed through the biennial monitoring effort.

Operational performance measures, such as transit ridership and on-time performance, are published in Alameda CTC's annual Performance Report (see Chapter 3).

ACTIVE TRANSPORTATION MONITORING

Since 2010, Alameda CTC has conducted biennial manual bicycle, pedestrian, and scooter counts throughout Alameda County to measure active transportation activity and better understand emerging trends.

METHODOLOGY

Active transportation data is typically collected at 150 intersections throughout the county using video image processing. Each location is surveyed once per monitoring cycle during a midweek afternoon peak-period (4 – 6 PM) between September and October. Additionally, some locations have data collected midday (12 – 2 PM) or after school (2 – 4 PM). Counts are conducted in a manner consistent with previous CMP data collection efforts, Alameda CTC's established Bicycle and Pedestrian Count Program, and MTC's 2020 count guidelines.

Updates to active transportation data collection methodology will be explored in the next monitoring cycle that will take place in 2024.

PERFORMANCE MEASURES

Bicycle, pedestrian, and other active transportation user (i.e., skateboarders, scooter users, rollerbladers, etc.) counts are tallied in 15-minute increments and summarized by time period. Rates of certain travel behaviors, such as helmet usage, wrong-way riding, and sidewalk riding, are also calculated. Alameda CTC is continually investigating the reliability of new active transportation data sources to augment the biennial count program.

Additional metrics on active transportation safety and mode share are published in Alameda CTC's annual Performance Report (see Chapter 3).

2022 MONITORING CYCLE KEY FINDINGS

The 2022 Multimodal Monitoring Report was finalized in early 2023 and compared results from the 2022 monitoring cycle to both early pandemic conditions (reflected by the 2020 cycle, which took place in the fall due to COVID-19 disruptions) and pre-pandemic conditions (reflected by the 2018 monitoring cycle).

The spring of 2022 saw an uptick in congestion and slower speeds on roads throughout the county as pandemic-related measures were lifted and more typical travel patterns resumed. Total auto miles traveled on Alameda County freeways increased by 16% from fall 2020, and surpassed spring 2018 travel by 4%. Despite this increase in freeway travel, drivers spent less than half as much time in freeway traffic compared to pre-pandemic. Vehicle hours of delay increased by 85% compared to fall 2020, but remained 53% below spring 2018 levels.

Figure 2.2: Changes in Congestion (PM Peak Period)

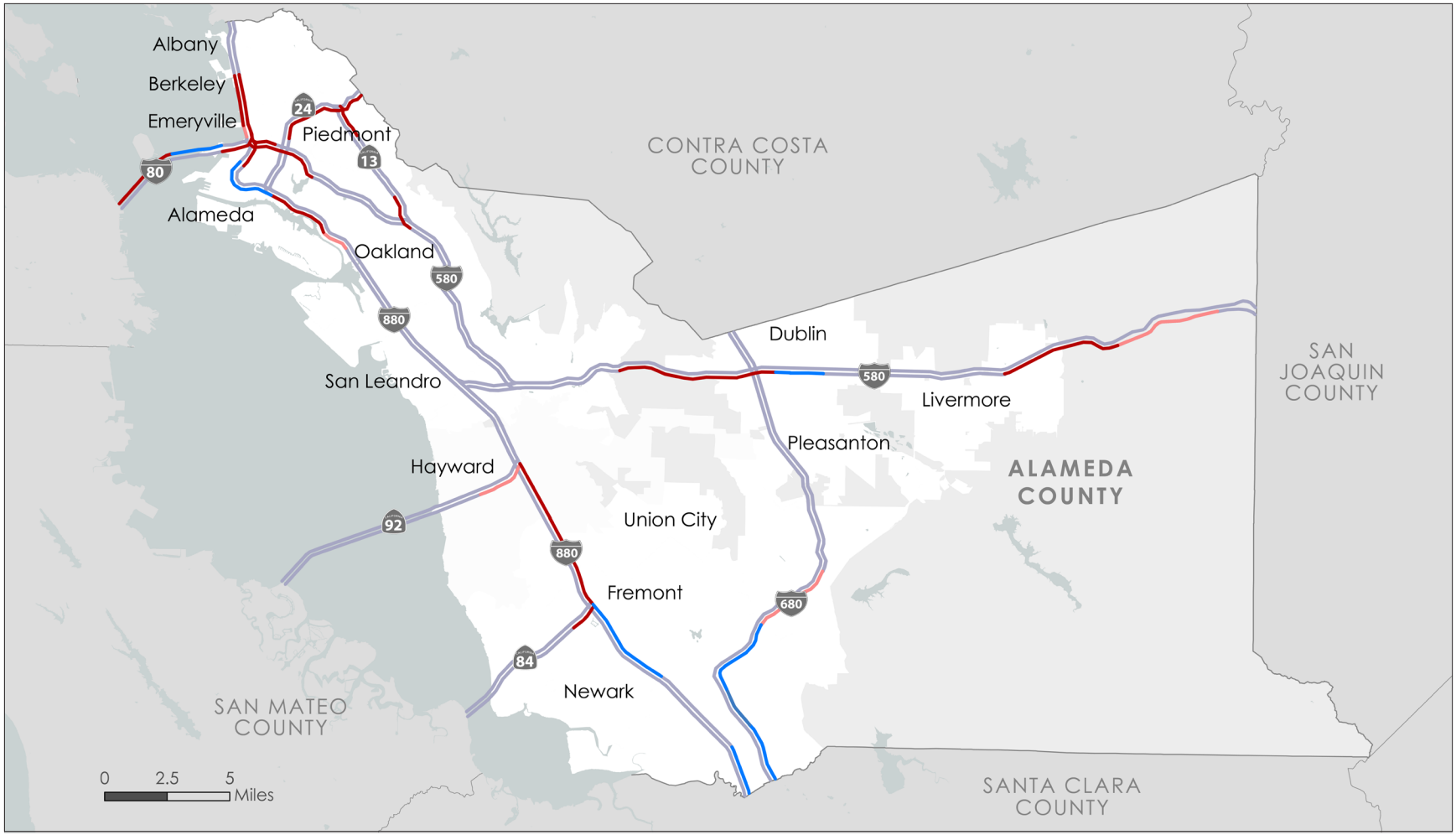
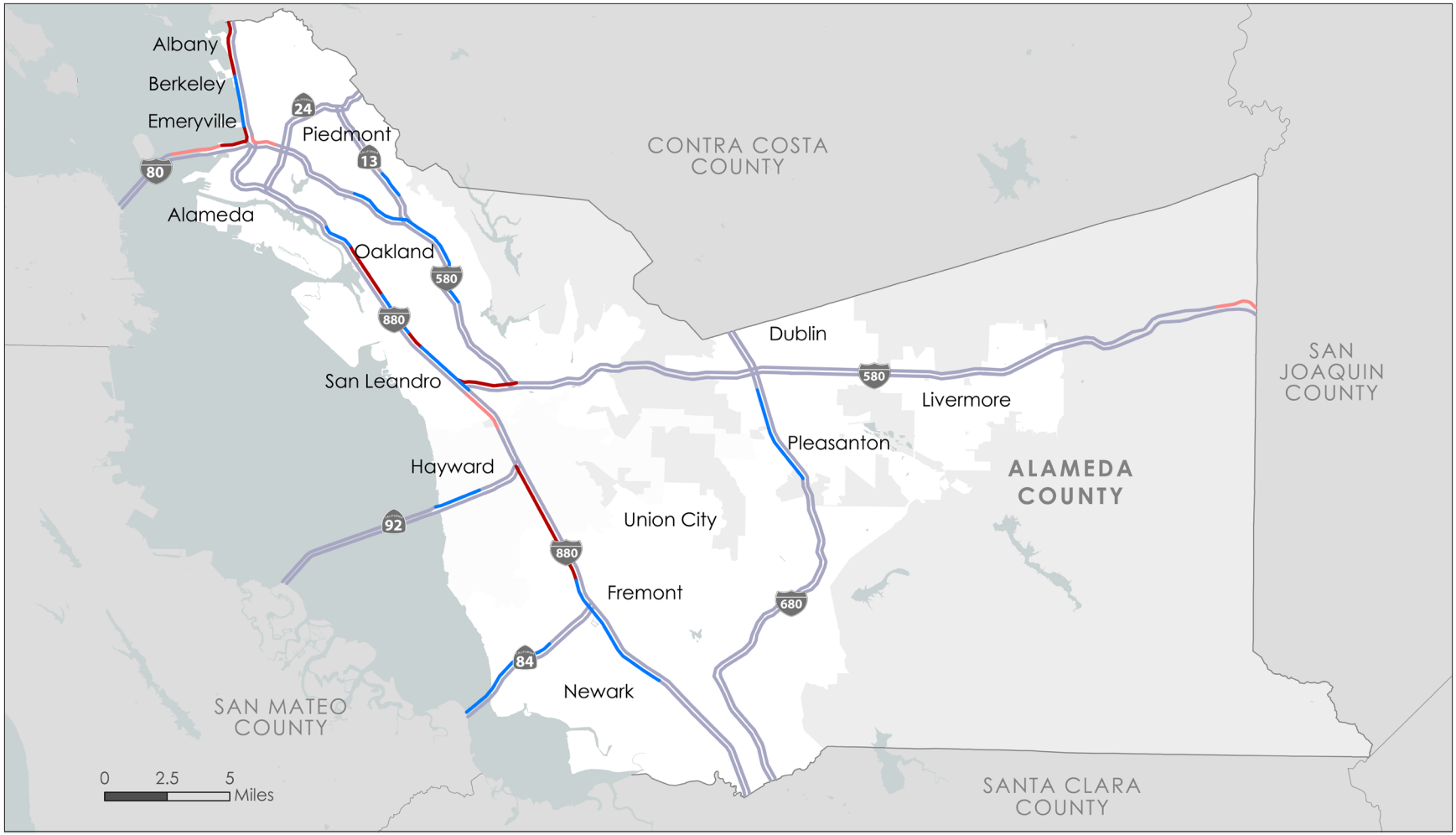


Figure 2.3: Changes in Congestion (AM Peak Period)



While periods of congestion were shorter and less intense than pre-pandemic, auto congestion increased significantly from 2020, primarily returning to locations and times of day that were congested previously, as can be seen in Figures 2.2 and 2.3. Conclusions on transit performance are limited due to major schedule and service changes made by both operators; however, bus speeds closely mirrored auto trends, remaining just 2% faster than 2018 speeds.

Active transportation volumes—which were measured primarily in commercial areas that were more significantly impacted by pandemic-related travel changes—continued to rebound from pandemic lows. In the afternoon peak period, scooter counts increased to 80% of their 2018 levels, while pedestrian activity increased to 60% of 2018 levels. Although bicycle counts continued to decline slightly in 2022, they remained closest to pre-pandemic levels at just below 90%.

The 2022 monitoring cycle reflected a transitional period for travel demand and commute patterns in the county, no longer reflecting the most extreme effects of the COVID-19 pandemic but continuing to change throughout the year as businesses resumed in-office activities. As the economy and life in Alameda County continues to transition from the most acute travel effects of the COVID-19 pandemic, Alameda CTC will continue to monitor roadway, transit, and active transportation performance. The next monitoring cycle will take place in 2024.

Detailed auto and bus speed results from current and past monitoring cycles are visualized on Alameda CTC's interactive congestion webmap: https://alamedactc-congestion.org/

DEFICIENCY FINDINGS & PLANS

CMP Network segments that fall below the adopted LOS standard threshold are deemed "deficient." Deficient segments are identified through Alameda CTC's biennial monitoring of auto performance on the Tier 1 Network after allowable exemptions are made. Per CMP legislation, the lead jurisdiction responsible for the deficient segment may choose to appeal the monitoring results or prepare and adopt a deficiency plan within 12 months of notification.

CMP legislation lists factors that should be excluded as causes of deficiency. Before making deficiency findings and publishing monitoring results, Alameda CTC screens deficient CMP segments for the following exemptions:

- Grandfathered LOS F Status[6]
- Segments in Infill Opportunity Zones (IOZs)[7]

[6] California Government Code Section 65089.3

[7] No jurisdictions in Alameda County established IOZs by SB1636's sunset period of December 2009

- High degree of inter-regional travel[8]
- Results impacted by construction, rehabilitation, or facility maintenance
- Segments with freeway ramp metering
- Segments with traffic signal coordination by the state or multi-jurisdictional agencies
- Traffic generated by the provision of low-income housing, or the provision of high-density residential development or mixed-use developments within ¼ mile of a fixed passenger rail station[9]

DEFICIENCY PLANS

Alameda CTC's deficiency plan guidelines, last updated in 2017, describe the approval process, timelines, and acceptable methodologies for jurisdictions to use in development and approval of deficiency plans. Alameda CTC encourages local jurisdictions to connect the actions of their deficiency plans with the overall countywide transportation planning process utilize the multimodal performance measures described in Chapter 3 to inform the selection of improvement strategies, and ensure the plan's action items are consistent with the goals of CMP legislation and the current CTP to support transit, carpooling, TDM measures, bicycling, and walking as ways to improve air quality and reduce congestion.

Appendix B describes the multiple types of deficiency plans and Alameda CTC's deficiency plan process.

Deficiency plans are required to analyze the causes of congestion and determine whether localized improvements can address them or if it would be best to employ broader measures that will improve overall system efficiency and air quality. At a minimum, a deficiency plan must include the following:

- Identification and analysis of the causes of the deficiency
- A list of improvements necessary for the deficient segment or intersection to maintain the minimum LOS required and the estimated costs of the improvements
- A list of improvements, programs, or actions (and estimates of their costs) that will measurably improve multimodal performance of the system and contribute to significant improvements in air quality
- An action plan of the most effective implementation strategies, which includes a specific implementation schedule and a description of funding and implementation strategies

[8] Alameda CTC uses a threshold of 20% to screen out segments with a significant share of interregional trips.
[9] California Government Code Section 65089.4(f) defines "high density" and "mixed use development"

COMPLETED & IN-PROGRESS DEFICIENCY PLANS

Tables 2.2 and 2.3 show the status and progress of the most recent deficiency plans. Table 2.2 shows the roadway or ramp segments that have completed implementation of the required deficiency plans. Table 2.3 shows the roadway segments with deficiency plans being implemented.

The 2022 Multimodal Monitoring cycle did not identify any new deficient segments.

Table 2.2: Complete Deficiency Plans

SEGMENT	JURISDICTION	YEAR REQUIRED/ APPROVAL	IMPLEMENTATION STATUS
Westbound I-580, from Center Street to I-238	Alamed County (participant jurisdictions: Dublin, Livermore, Oakland, Pleasanton, San Leandro)	2000/2001	Deficiency plan has been implemented, LOS standard restored.
Northbound San Pablo Avenue, from Allston Way to University Avenue	Berkeley(participant jurisdictions: Albany, Emeryville, Oakland)	1998/1999	Deficiency plan has been implemented, LOS standard restored.
Southbound University Avenue, from San Pablo Avenue to 6th Street	Berkeley	1998/1999	Deficiency plan has been implemented, LOS standard restored.
Eastbound Mowry Avenue, from Peralta Boulevard to SR-238/ Mission Boulevard	Fremont (paticipating jurisdiction: Newark)	2000/2001	Deficiency plan has been implemented, LOS standard restored.

Table 2.3: Active Deficiency Plans

SEGMENT	JURISDICTION	YEAR REQUIRED/ APPROVAL	IMPLEMENTATION STATUS
The freeway connection between SR-260 Eastbound (Posey Tube) and Northbound I-880	Oakland (participant jurisdictions: Alameda, Berkeley)	1998/1999	Deficiency plan is being implemented.
Northbound SR-185 (14th Street) between 46th and 42nd Avenues	Oakland (participant jurisdictions: Alameda)	2008/2009	Deficiency plan is being implemented.

CONFORMANCE PROCESS

Alameda CTC is responsible for monitoring local jurisdictions' conformance with the adopted CMP on at least a biennial basis.[10] Among other requirements, jurisdictions must adopt a deficiency plan for any new, non-exempt local roadway segment that has fallen below the established LOS standard, or report on the progress made towards implementing active deficiency plans in order to be found compliant with the CMP.

The detailed process for findings of non-conformance and the resulting withholding of Proposition 111 funds is described in Chapter 8.

[10] California Government Code Section 65089.3

CHAPTER 3

MULTIMODAL PERFORMANCE ELEMENT

Key Topics

- Performance Process & Measures

3. MULTIMODAL PERFORMANCE ELEMENT

State law requires CMAs to evaluate transportation system performance for the movement of people and goods.[11] Specifically, CMAs must develop performance measures that reflect roadway system performance and the frequency, routing, and coordination of transit services, and support mobility, air quality, land use, and economic objectives. CMP legislation requires performance measure use in three applications:

1. Prioritizing projects and programs in the development of the capital improvement plan (see Chapter 7)
2. Identifying system deficiencies to inform the development of Deficiency Plans (see Chapter 2)
3. Analyzing transportation impacts in the implementation of the Land Use Analysis Program (see Chapter 5)

Alameda CTC applies the CMP performance measures, and others, to monitor progress on the goals established in the 2020 CTP:

1. **Accessible, Affordable & Equitable**
   Improve and expand connected multimodal choices that are available for people of all abilities, affordable to all income levels, and are equitable.
2. **Safe, Healthy & Sustainable**
   Create safe multimodal facilities to walk, bike, and access public transportation to promote healthy outcomes and support strategies that reduce reliance on single-occupant vehicles and minimize impacts of pollutants and greenhouse gas emissions.
3. **High Quality & Modern Infrastructure**
   Deliver a transportation system that is of high quality, is well-maintained and resilient, and maximizes the benefits of new technologies for the public.
4. **Economic Vitality**
   Support the growth of Alameda County's economy and vibrant local communities through a transportation system that is safe, reliable, efficient, cost-effective, high-capacity, and integrated with sustainable transit-oriented development that facilitates multimodal local, regional, and interregional travel.

[11] California Government Code Section 65089(b)(2)

These goals are aligned not only with the CMP's direction, but also the guiding principles adopted by MTC in Plan Bay Area 2050, the region's long-range transportation plan, which established a shared vision for advancing equity and increasing resilience in the Bay Area.

PERFORMANCE PROCESS & MEASURES

Alameda CTC publishes an annual Performance Report to summarize countywide multimodal trends and performance at a high level. The annual nature of the Performance Report allows Alameda CTC to draw on the most current data available to understand trends as they unfold and investigate a wide range of topics that impact the transportation system in order to contextualize the performance measures within broader regional, state, and national trends.

Since 2018, Alameda CTC has published the Performance Report as a consolidated set of fact sheets that highlight key trends for better readability and absorption. During the pandemic, performance reporting was scaled back to more agile summary reports due to the rapid pace of change. In 2022, Alameda CTC returned to more detailed reporting of performance measures and introduced a Performance Data Compendium to streamline the presentation of current and historical data associated with the Performance Report.

Alameda CTC monitors the following performance measures, grouped by reporting mechanism, to satisfy the multimodal performance element of the CMP. Every other year, the Performance Report incorporates key findings identified through the Multimodal Monitoring Report.

See Chapter 2 for more information on the biennial Multimodal Monitoring Report.

MULTIMODAL PERFORMANCE MEASURES

Performance Data Compendium (Annual)

Transit

- Vehicle Revenue Hours (VRH) & Vehicle Revenue Miles (VRM)
- Ridership
    - Annual & Average Weekday Boardings
    - Boardings per VRH and VRM
- Operating Costs
    - Costs per Boarding
    - Costs per VRH and VRM
- On-Time Performance
- Mean Time/Distance Between Service Delays

Roadways

- Pavement Condition Index

Multimodal Monitoring Report (Biennial)

Roadways & Highways

- Average auto speeds (freeways)
- Average auto speeds (arterials)
- Level of service

Transit

- Average bus speeds
- Peak-to-Off-Peak Bus Speed Ratio
- Bus-to-Auto Speed Ratio

Active Transportation

- Bicycle counts
- Pedestrian counts
- Other active transportation user counts

Alameda CTC applies these performance measures, and others, to the development of the CIP, the identification of deficient CMP segments, and the LUAP review process, to support progress towards CMP and CTP goals. The Performance Report for the 2022 cycle was presented to the Commission during spring 2023. The report and fact sheets are available on the Congestion Management Program webpage.

Transit metrics on systemwide service, demand, and operations, as well as performance on the Transit Monitoring Network, are reported by operator. In addition to continued analysis of transit performance measures, Alameda CTC closely monitors transit agency staff reports for current trends, as well as regional, state, and federal guidance on transit performance. Alameda CTC supports MTC's Transit Transformation Action Plan, which identifies near-term actions in five key areas (fares & payment, customer information, transit network, accessibility, and funding), and is monitoring transit service planning initiatives underway within Alameda County and the larger region.

Alameda CTC's process for evaluating transit performance on the county's Transit Monitoring Network is detailed in Chapter 2.

CMP legislation explicitly calls out metrics related to "the frequency and routing of public transit, and for the coordination of transit service provided by separate operators." Due to the rapidly changing transit service landscape and active local and regional transit planning underway in light of the COVID-19 pandemic, the information on transit frequency and routing standards included in this CMP reflects pre-pandemic conditions.

Transit frequencies and routing standards for transit agencies in Alameda County from the 2019 CMP are presented in Appendix C.

CHAPTER 4

TRAVEL DEMAND MANAGEMENT ELEMENT

Key Topics

- TDM in Alameda County

4. TRAVEL DEMAND MANAGEMENT ELEMENT

Travel Demand Management (TDM) strategies are designed to manage and increase efficiency of the existing transportation system capacity by using incentives, disincentives, education, and encouragement to reduce single-occupant vehicle travel and influence travel choice. These strategies aim to reduce peak-period vehicle trips and total vehicle miles traveled, and increase transit use, walking, and biking. Related benefits include reducing congestion and carbon emissions, improving public health, and increasing transportation options.

State law requires that, at a minimum, the TDM element of the Congestion Management Program[12] accomplish the following:

- Promote alternatives to single-occupant vehicle travel (e.g., carpools, vanpools, transit, bicycles, and park-and-ride lots)
- Promote improvements in the jobs-housing balance and transit-oriented developments
- Promote other strategies, including flexible work hours, telecommuting, and parking management programs
- Consider parking "cash-out" programs (paying employees who do not use parking)

Over the years, Alameda CTC and its predecessor agencies have developed a balanced TDM element that requires actions that local jurisdictions, Alameda CTC, the Bay Area Air Quality Management District (BAAQMD), Caltrans, MTC, and local transit agencies undertake. Cities and other local jurisdictions may establish their own TDM programs that go beyond Alameda CTC's countywide program.

As the COVID-19 pandemic has changed commuting patterns in the region and county, Alameda CTC is evaluating its TDM program to accommodate changes derived from the effects of the pandemic and is currently evaluating strategies to increase program participation and use of sustainable modes of transportation in Alameda County. Any changes to the TDM program will be incorporated into future updates of the CMP.

[12] California Government Code Section 65089(b) (3).

TDM IN ALAMEDA COUNTY

TDM in Alameda County is a collaborative and cooperative effort across a variety of levels of government and within private companies. Specific strategies are appropriate for the region as a whole, the county and local jurisdictions, and for individual employers or trip generators. Alameda CTC works to coordinate the activities of these types of organizations with the other elements of the CMP, so that capital investment, system management, and demand management work together to provide diverse transportation choices, manage congestion, and improve air quality.

REGIONAL ACTIONS

The Regional TDM Program includes actions that MTC, BAAQMD, and Caltrans take to support TDM programs throughout the San Francisco Bay Area.

- **511 SF Bay** is managed by a partnership of public agencies led by MTC, the California Highway Patrol (CHP), and Caltrans, and was developed with the mission to provide comprehensive, accurate, reliable, and useful multimodal travel information to meet the needs of Bay Area travelers. 511 SF Bay provides the following services, including throughout Alameda County:
    - **Bay Area Commuter Benefits Program**
      This program requires Bay Area employers with 50 or more full-time employees within the BAAQMD geographic boundaries to register and offer commuter benefits to their employees to comply with Air District Regulation 14, Rule 1. Employers must offer at least one of five commuter benefit options to their employees, each intended to reduce VMT and employee commute costs.
    - **Regional Carpool and Vanpool Programs**
      The 511 Regional Carpool Program uses different online applications (e.g., apps) to assist commuters in finding ride matching services, carpool locations, and parking for carpools at different BART stations. MTC has partnered with Enterprise to create a program called Commute with Enterprise and offers $500 per month to qualifying vanpool groups who rent from this program. MTC is currently piloting a smartphone app called RideFlag to see how well the app works to verify carpools in the MTC Express Lane network. MTC's rideshare program includes information on a network of free park-and-ride lots where carpoolers can meet.
    - **511 Regional Bicycling and Transit Trip Planners**
      This 511 program offers a bicycling trip planner with a regional bike mapper tool that provides turn-by-turn biking directions along the shortest and/or flattest route. The 511 Bicycling pages provide information on safety, Bike to Work Day, taking bikes on transit, bicycle access on bridges, and bicycle parking options. The 511 program also offers a transit trip planner that provides point-to-point transit

directions and real-time arrival information for all the Bay Area's transit agencies. The 511 Transit pages provide resources, important transit alerts, and other critical information for transit riders.

- **BAAQMD Spare the Air Resource Program** engages the public through education and promotions to encourage changes in behavior that will reduce air pollution. BAAQMD provides "Spare the Air Alerts" when air quality is forecast to be unhealthy and to encourage people to alter their behavior on these days to prevent unhealthy air quality.

COUNTYWIDE ACTIONS

In addition to significant funding that is programmed to multimodal investments each funding cycle throughout Alameda County, Alameda CTC also supports mode shift and commute options through a variety of efforts. These efforts, detailed below, include creation of planning tools, development of multimodal policy, administration of schools-based programs that encourage mode shift, provision of a Guaranteed Ride Home program, and development of a variety of education and outreach programs.

- **VMT Reduction Calculator Tool**
  Alameda CTC developed a VMT Reduction Estimator Tool to help member agencies comply with the requirements of SB 743, in effect since July 1, 2020. These requirements changed the metric used to evaluate transportation impacts of certain land use projects under CEQA from LOS to a metric that evaluates the length and amount of travel produced by a project, or VMT. The VMT Reduction Estimator Tool is accessible on the Alameda CTC website and includes a set of TDM strategies that have been tested to reduce VMT when implemented in different land use projects and contexts.
- **All Ages and Abilities (AAA) Bikeways**
  In 2022, the Alameda CTC adopted the AAA Bikeways policy, which establishes that countywide bikeways facilities should incorporate AAA design principles defined in the National Association of City Transportation Officials (NACTO) Contextual Guidance for Selecting All Ages and Abilities Bikeways, with the purpose of supporting safety and bicycle activity for all users of the roads in Alameda County.
- **Safe Systems and Vision Zero**
  Alameda CTC embraces the Safe Systems approach developed by the US Department of Transportation in 2021. Improving the overall safety of the transportation system was a core need and priority coming out of the 2020 CTP. Alameda CTC provides online resources on safety best practices, and led a training and information exchange with members of the ACTAC. The Alameda CTC website includes resources on the Safe System Approach and Vision Zero implementation, including documents and video examples of implementation, which will be updated as new resources become available.

- **Guaranteed Ride Home (GRH)**
  The Alameda County GRH program, administered by Alameda CTC with funding from BAAQMD, gives commuters who use a sustainable form of transportation to work (e.g. vanpools, carpools, transit) an "insurance policy" against being stranded at work if they need to make an unscheduled return trip home or are asked to work later. By providing the assurance that commuters using non-drive-alone modes can get home in an emergency, GRH removes one of the greatest barriers to choosing an alternative to driving alone, addressing concerns such as, "What if I need to get home because my child is sick, or I have unscheduled overtime and miss my carpool ride home?" For employees, the availability of guaranteed rides home is an incentive to find an alternative to driving alone to work that avoids contributing to traffic congestion. The Alameda County GRH program has been in operation since April 1998.
- **Commute Choices webpage**
  Alameda CTC maintains the Commute Choices webpage that inventories the full range of TDM programs available in Alameda County and provides guidance to employers, individual residents, employees, and other agencies and organizations so they can better understand the range of available transportation programs and options.
- **Safe Routes to Schools**
  Alameda CTC operates a Safe Routes to Schools (SR2S) program serving 290 schools throughout the county. The program aims to increase multimodal safety around schools and along popular routes to school to encourage more students to use active or shared modes of transportation to school. The program includes educational activities, such as teaching students how to safely ride a bike, facilitating trainings on the rules of the road, and providing several demonstration activities that encourage safe riding and cycling for the trip to school. The SR2S program includes assessments of the physical environment around schools, conducted by a team of transportation professionals, parents, students, and city and school officials, with the goal of identifying potential safety improvements for active modes of transportation around schools.
- **Promotional programs and campaigns**
  Alameda CTC funds and promotes sustainable modes of transportation through public outreach, earned and paid media, and advertising. Alameda CTC funds an advertising campaign with Transportation Fund for Clean Air (TFCA) in partnership with Bike East Bay around Bike Month. The campaign encourages people to ride bikes for health, fun, transportation, and recreation. These ads can be seen in all parts of Alameda County on buses, bus shelters, and Capital Corridor trains throughout April and May leading up to and throughout Bike Month.
- **Bicycle Safety Education classes**
  The Alameda County Bicycle Safety Education program offers free classes, clinics, and regular training on bicycle safety, all of which are conducted in Alameda County. The program includes a variety of class types that cater to different audiences, including

classroom and on-road instruction; classes oriented towards adults, teenagers, children, and families; and classes in English, Spanish, and Chinese for new and experienced bicyclists. With the goal of improving equity in the Bicycle Safety Education Program, Alameda CTC has partnered with four Community Based Organizations (CBOs) to provide training and bike education services in Equity Priority Communities since 2021.

- **Student Transit Pass Program**
  The Student Transit Pass Program (STPP) provides free youth Clipper cards to eligible middle and high school students in Alameda County, which can be used for unlimited free bus rides on AC Transit, LAVTA, and Union City Transit; for a 50% discount on BART trips; and for youth discounts on other transit systems. The program makes it easier to travel to and from school and school-related programs, jobs, and other activities by expanding transit access for Alameda County's middle and high school students.
- **E-Bike Incentive Program**
  East Bay Community Energy (EBCE) is launching a three-year, $10 million Ride Electric program, with funding provided in part by Alameda CTC, to encourage mode shift towards sustainable modes of transportation like E-Bikes. The program will provide short-term E-Bike loans to encourage residents to try out a new mode of transportation, and offer discounts to purchase standard, cargo, and adaptive E-Bikes, with the goal of dedicating 40% of funds to directly benefit low-income customers. The program is expected to launch in 2024.

LOCAL ACTIONS

The TDM element of the CMP requires local governments to undertake certain TDM actions, known collectively as the Required Program, since at least the 2001 CMP. Alameda CTC encourages and supports local governments to undertake TDM efforts above and beyond these requirements, and periodically reviews the status of TDM programs across the county.

The Required Program consists of two basic elements:

1. **Adopt design guidelines or comparable policies:** The CMP requires local jurisdictions to adopt and implement guidelines for site design that enhance transit, pedestrian, and bicycle access. To meet this requirement, local jurisdictions must carry out one of the following actions:
   - Adopt and implement design strategies that encourage alternatives to single-occupant automobile use through local development review
   - Adopt and implement design guidelines that meet the individual needs of the local jurisdiction and maintain the intent of the TDM element to reduce the dependence on single-occupant vehicles
   - Demonstrate that existing policies meet the intent of the TDM element to reduce the dependence on single-occupant vehicles

2. **Implement capital improvements:** Local jurisdictions are required to implement capital improvements that contribute to congestion management and emissions and greenhouse gas reduction. This requirement can be satisfied by participating in the regional Transportation Fund for Clean Air program, the federal Surface Transportation Program, and the Congestion Mitigation and Air Quality Improvement Program.

To be found in conformance with the CMP, local jurisdictions must certify to Alameda CTC that they are in compliance with the Required Program. To support compliance and ensure consistency among all jurisdictions, Alameda CTC developed a TDM Checklist that identifies components of a design strategy that should be included in a local program to meet the minimum CMP requirements.

The conformance process is described more in Chapter 8. The TDM Checklist can be found in Appendix C.

MENU OF TDM MEASURES

Alameda CTC also encourages local jurisdictions to undertake TDM efforts above and beyond the Required Program, many of which are part of the regional, county, and local programs described in this chapter. To support broader adoption across the county, Alameda CTC has developed a "menu" of TDM measures and the context in which each program is likely to be most effective. The menu includes strategies that can be implemented on a voluntary basis by public agencies or private sector organizations in each of the following categories:

- Trip-Reduction Programs
- Parking Management (e.g., Parking Cash-Out Programs)
- Safety Net (e.g., Guaranteed Ride Home)
- Urban Form and Land Use
- Multimodal Infrastructure
- Financial Incentives for Transit

The full menu of TDM measures can be found in Appendix C. TDM elements related to integrating land use and transportation, reducing the jobs-housing imbalance, and parking management strategies included in MTC's TOC Policy, are described in Chapter 5.

CHAPTER 5

LAND USE ANALYSIS PROGRAM

Key Topics

- Review of Land Use Actions
- Review of Land Use Projections
- Fostering Transportation Land Use Connection
- Local Government Responsibilities and Conformance

5. LAND USE ANALYSIS PROGRAM

As part of the CMP, Alameda CTC must develop a program to analyze the impacts of land use decisions made by local jurisdictions on the regional transportation system. The program must generally be able to assess the resources needed to mitigate said impacts, and may take account both public and private efforts to improve the regional transportation system.

The CMP statute does not change the role of local jurisdictions in making land use decisions or in determining the responsibilities of project proponents to mitigate possible negative effects of projects. However, Alameda CTC has the ability to apply certain sanctions, as described in Chapter 8, if the local agency does not comply with the requirements of the CMP law.

CEQA guidelines related to transportation impact analysis, amended in 2018 to align with SB 743, changed the significance metric from the delay-based LOS to VMT. This new metric became mandatory on July 1, 2020. Since CMP legislation requires that LOS is used as the primary performance metric, it is in direct conflict with SB 743. There were efforts to amend the CMP legislation, prior to the CEQA guidelines update, to align with the intent of SB 743 but those efforts did not advance. In June 2020, this Land Use Analysis Program (LUAP) chapter was amended to address the conflict between existing CMP legislation and the implementation of SB 743. The edits made in 2020 to this chapter are carried forward in this update to the CMP.

The intent of the LUAP is to do the following:

- Coordinate local land use and regional transportation investment decisions
- Assess the impacts of development in one community on another community
- Promote information sharing between local governments when the decisions made by one jurisdiction will impact another

While Alameda CTC's LUAP was initially conceived as a program to meet the CMP legislative mandate, the growing focus at all levels of government on improved coordination between land use and transportation planning has resulted in the program's evolution. The program now also serves as an opportunity for strategic thinking about how to plan for development that efficiently uses the transportation system, while ensuring that the mobility and access needs of residents and workers in Alameda County are fulfilled. In this context, the program includes the following:

- Legislatively required review of land use actions of local jurisdictions by Alameda CTC to ensure that impacts on the regional transportation system are disclosed and mitigation measures are identified

- Land use projections from the Regional Planning Agency for use in a countywide model database by local jurisdictions
- Planning initiatives and programs that foster transportation and land use connections

REVIEW OF LAND USE ACTIONS

A major component of the Alameda CTC LUAP is the legislatively required review of land use development projects. The review of development projects allows Alameda CTC to assess impacts of individual development actions on the regional transportation system and ensures that significant impacts are appropriately mitigated.

Alameda CTC reviews two types of land use actions if the proposed land use development exceeds the adopted trip-generation threshold:[13]

- **Projects requiring General Plan Amendments**
  These projects require a change to the text or map of a city or unincorporated planning area's General Plan. General Plan Amendments (GPAs) can be performed in conjunction with a General Plan update, a specific plan, or an area plan. GPAs can also be adopted for an individual development project that is not consistent with current land use designations and therefore requires a GPA.
- **Projects consistent with General Plan**
  These plans or projects do not require any modification of the General Plan text or map.

Alameda CTC limits the scope of its review of land use actions to those plans and projects with the potential to cause countywide or regional-scale impacts. Projects are reviewed if they will cause a net increase of 100 or more PM peak-hour vehicle trips.[14] In practice, this means Alameda CTC reviews all large development projects for which a city or Alameda County is the lead agency.[15] Alameda CTC may also review large development projects from institutions, federal agencies, or neighboring counties if these are likely to impact the regional transportation system in Alameda County.

[13] Previous versions of Alameda CTC CMPs referred to Plans and Development Projects as Tier 1A and Tier 1B. The "Tier" nomenclature has been discontinued to avoid confusion with the Tiers of the CMP Network arterials.

[14] Alameda CTC uses the PM peak period because it generally experiences the highest daily travel demands.

[15] For purposes of compliance with the Land Use Analysis Program, the Port of Oakland is considered a governmental subdivision of the City of Oakland. Therefore, the Port is required to submit environmental documents to Alameda CTC for review and comment.

The trip-generation threshold for review is applied differently, depending on whether a project requires a GPA or is consistent with an existing General Plan. Mitigated Negative Declarations (MNDs) are also considered differently, depending on whether or not a GPA is required. Table 5.1 summarizes the application of the 100 PM peak-hour trip threshold and consideration of MNDs.

Table 5.1: CMP Land Use Analysis Project Review

	PROJECT REQUIRING GENERAL PLAN AMENDMENT	PROJECT CONSISTENT WITH GENERAL PLAN
100 PM PEAK-HOUR TRIP THRESHOLD ASSESSED RELATIVE TO:	Existing General Plan land use designation(s)	Existing use(s) at project site
MITIGATED NEGATIVE DECLARATIONS	Considered (if trip generation threshold exceeded)	Not considered

Alameda CTC performs project trip generation calculations to determine whether CMP LUAP review is required. Project trip generation is computed using an approved trip generation methodology. The threshold for CMP review is based on net change in vehicle trips, meaning that trips from reclassified uses or existing buildings being redeveloped are subtracted out of the total.

If needed, Alameda CTC could serve an interjurisdictional facilitation role were disputes to arise between two agencies as a result of the potential impacts of a land use project. Alameda CTC may act as a mediator, if requested by one of the parties involved.

REVIEW PROCESS

Once Alameda CTC receives notice of a GPA or Notice of Preparation (NOP) of a Draft Environmental Impact Report (DEIR) and it exceeds the peak-hour vehicle trip threshold, it issues a response within the 30-day local review period and provides comments on the scope of analysis to be performed in the DEIR to satisfy CMP requirements. Once Alameda CTC receives notice of a non-exempt DEIR, it issues a response within the 45-day local review period either indicating that the analysis contained within the DEIR adequately addresses CMP requirements or providing comments on changes or additional analysis needed to adequately address CMP requirements.

Trip generation estimates

Alameda CTC conducts a trip-generation calculation to estimate how many new trips will be on the transportation network due to a development project or plan. Project trip generation is used to determine whether a project meets the threshold for CMP review and to assess impacts on the transportation system.

The Institute of Transportation Engineers Trip Generation Manual is an acceptable method for estimating project trip generation. This methodology, which works by relating a variable describing the size of the project (e.g., square feet, number of units, number of gas pumps, etc.) to trips generated, is an established methodology widely used for CMP and other purposes in the transportation industry.

In addition, three trip generation methodologies designed to capture trip-making characteristics in dense or transit-rich areas, such as infill development sites, are acceptable to apply in Alameda County for CMP analyses. Project sponsors have the option of using one of the following adopted alternative trip generation methodologies (or others, if the Environmental Impact Report (EIR) justifies why it is being used):

- EPA's Mixed-use Development (MXD) model
- Caltrans/UC Davis Smart Growth Trip Generation rates
- MTC's Station Area Residents Study (STARS) mode-share adjustment method (household travel survey-based adjustments)

Projects in areas with TDM programs may also experience lower vehicle trip generation, as these programs provide information, incentives/disincentives, and other mechanisms to shift auto trips to other modes, times of day, or closer destinations. Project sponsors may adjust trip-generation estimates to reflect the presence of TDM programs. The TDM element of the Alameda CTC CMP contains a menu of TDM programs with research-based expected ranges of trip reduction benefits that project analysts may use to adjust trip-generation estimates. Assumptions should be clearly documented and justified.

See Appendix C for the menu of TDM measures. See Appendix E for guidance on how to apply rate adjustments.

USE OF THE ALAMEDA COUNTYWIDE TRAVEL DEMAND MODEL

Jurisdictions are required to use the most current version of the Alameda Countywide Travel Demand Model or an approved subarea model to satisfy the CMP LUAP. Alameda CTC amended the CMP requirements in 1998 so that local jurisdictions are responsible for applying the travel model. All local jurisdictions have signed Master Use Agreements with Alameda CTC that outline the procedure for requesting the model for a specific application. Per the CMP statute, jurisdictions may also use an approved subarea travel demand model.

See Chapter 6 for more information on the development and use of travel demand models.

Methodologies and Standards

Project sponsors should use the following methodologies and standards when conducting transportation impact analyses for the CMP LUAP. Guidance on methodologies and standards may also be given as part of Alameda CTC's GPA or NOP response to the particular project.

The CMP statute requires analysis of impacts of land use actions on regional transportation systems. For Alameda CTC's CMP analyses, "regional transportation systems" is interpreted as follows:

- **Autos:** Study impacts to roadway segments on the CMP Network[16]
- **Transit:** Study impacts to major transit operators (ACE, AC Transit, BART, Capitol Corridor, LAVTA, Union City Transit, and WETA)
- **Bicycles:** Study the potential impacts of the project to people biking in and near the project area, especially nearby roads included in the countywide high-injury network and countywide bikeways network as well as major barriers identified in the Countywide Active Transportation Plan
- **Pedestrians:** Study the potential impacts of the project to people walking in and near the project area, especially nearby roads included in the countywide high-injury network and countywide pedestrian network as well as major barriers identified in the Countywide Active Transportation Plan

[16] Alameda County's CMP Network includes the vast majority of the MTS Network, which was used by MTC to monitor CMP implementation prior to 2014. Alameda CTC expanded the CMP Network in 2017 to include additional arterials of countywide significance, including some segments from the MTS Network. Given that MTC no longer uses the MTS Network, Alameda CTC's LUAP requires analysis of impacts to the CMP Network alone, which is monitored for congestion over time and better aligns with the goals of CMP legislation.

Types of impacts and impact assessment methodologies

Project sponsors should utilize a variety of performance measures, including those described in Chapter 3, to consider impacts to all modes as described below.

- **Autos:** Vehicle delay using the HCM2010 methodology (or HCM2000 methodology, if required for consistency with local requirements) and consistency with adopted plans. Since automobile delay cannot be deemed a significant environmental impact under current CEQA guidelines, the required LOS analysis, which can be limited to the CMP roadway network, may be included in an EIR appendix or a separate document provided to Alameda CTC;
- **Transit:** Effects of vehicle traffic on mixed-flow transit, transit capacity, transit access/ egress, need for future transit service, consistency with adopted plans, and Circulation Element needs;
- **Bicycles:** Effects of vehicle traffic on bicyclists conditions, site development, and roadway improvements, and consistency with adopted plans;
- **Pedestrians:** Effects of vehicle traffic on pedestrian conditions, site development, and roadway improvements, and consistency with adopted plans; and

Appendix F provides full information on impact types and impact assessment methodologies.

Thresholds of significance

Alameda CTC has not adopted thresholds of significance for CMP land use analysis purposes.[17] Project sponsors should use professional judgment to 1) define a threshold that is appropriate for the project context; and 2) use this threshold to determine if segments are impacted.

Mitigation measures

Roles of Alameda CTC vs. local jurisdictions

The CMP statute requires that a LUAP be able to assess the full repercussion to the regional transportation system from local land use decisions. This authority must be balanced with the responsibility that local governments hold in the development review process under CEQA. Local governments have lead agency responsibility for preparing EIRs, including transportation impact analysis. In addition, the decision of whether to implement a mitigation measure or to adopt a statement of overriding considerations is a local decision.

[17] Note that the LOS E threshold used to determine deficiency as part of the LOS monitoring CMP element does not apply to the Land Use Analysis Program. This threshold is used for biennial monitoring, not to determine whether impacts will be caused over the long term by an individual land use action.

Alameda CTC's role is to provide comments through the EIR process on the adequacy of analysis. Alameda CTC has authority under the CMP statute to require disclosure of impacts and mitigation measures. The CMP statute does not grant Alameda CTC authority to require implementation of a mitigation measure.

Adequacy of mitigation measures

Inadequate and/or underfunded transportation mitigation measures may have significant implications for the regional transportation system. Either might result in failure to meet LOS standards, triggering potential non-conformance with the CMP and the need for a Deficiency Plan, which requires jurisdictions to develop an implementation plan and cost estimates for additional mitigation measures until the transportation system is in conformance with established standards once more. Furthermore, an environmental document may rely on state or federal funding of mitigation measures. Such funding may not be consistent with Alameda CTC's project funding priorities.

Alameda CTC's policy regarding mitigation measures is that to be considered adequate they must be:

- Sufficient to sustain CMP transit service standards and/or reduce VMT below the applicable level of significance;
- Fully funded; and
- Consistent with project funding priorities established in the CIP, CTP, and RTP, or the federal Transportation Improvement Program, if the agency relies on state or federal funds programmed by Alameda CTC.

As a result of SB 743, and to assist its member agencies comply with the new state requirements for the analysis of traffic impacts under CEQA, Alameda CTC developed a VMT Reduction Calculator Tool, which lists mobility management strategies for application on certain land uses to mitigate VMT. This tool is available on the CMP website and on a webpage describing tools and resources related to implementing SB 743.

See Chapter 2 and Appendix B for more information on deficiency plans.

Types of mitigations

A project can propose mitigation measures of several types to address CMP impacts, including but not limited to the following:

- **Transportation demand management** measures and programs including amenities, information, incentives, and disincentives designed to influence demand for peak-hour auto trip-making. The TDM element of the Alameda County CMP contains a menu of TDM programs with research-based expected ranges of trip reduction benefits that project analysts may use to estimate the effectiveness of TDM mitigation measures

- **Multimodal infrastructure** including protected walking and bicycle facilities, build out of the Countywide Bikeways Network to the standard of the All Ages and Abilities policy, better connections to transit including bus stop amenities and safe access to transit from the new development.
- **In lieu mitigations** including implementing a part of an Areawide Deficiency Plan or paying into a Transportation Impact Fee program.

Transportation network changes, including changes to roadway geometry (e.g., adding lanes, adding turn pockets, adding mid-block crossings) and intersection control (e.g., adding stop control or signalizing an intersection), should be explored after TDM and multimodal opportunities have been exhausted. Since automobile delay can no longer be deemed a significant environmental impact due to SB 743, these types of changes are unlikely to be imposed as CEQA mitigation measures, but may still be included as part of a required deficiency plan under current CMP legislation or be required by local jurisdictions as part of project approval.

See Appendix C for the menu of TDM measures.

Multimodal tradeoffs

In certain settings, mitigation measures or project features designed to resolve an impact to one mode may cause undesirable secondary impacts to other modes. These secondary impacts may be contrary to adopted policy objectives. A typical example is adding a turn pocket at an intersection to address an auto circulation impact in a downtown or infill development area, which may increase crossing distances and exposure to vehicles for cyclists, pedestrians, and transit riders.

Jurisdictions are encouraged to discuss multimodal tradeoffs associated with mitigation measures that involve changes in roadway geometry, intersection control, or other changes of the transportation network. This analysis should identify whether the mitigation will result in an improvement, degradation, or no change in conditions for automobiles, transit, bicyclists, and pedestrians. The HCM2010 multimodal level of service methodology is encouraged as a tool to evaluate these tradeoffs, but project sponsors may use other methodologies as appropriate for particular contexts or types of mitigations.

REVIEW OF LAND USE PROJECTIONS[18]

Alameda CTC has responsibility for developing a database of housing and job growth projections utilized in the Alameda Countywide Travel Demand Model. The CMP statute prescribes that this land use database must be consistent with the regional land use database and assumptions of the regional travel demand model. The Association of Bay Area Governments (ABAG) develops the regional land use database for the nine-county Bay Area. This database, included in the Sustainable Communities Strategy (formerly referred to as the Projections series) part of the Plan Bay Area series, includes numbers of households and jobs by sector for existing and future planning horizon years. Alameda CTC works with local jurisdictions to develop the countywide database by allocating ABAG's housing and job projections to a refined-scale zone system for countywide model traffic analysis. For this reallocation to be deemed "consistent" in the sense of the CMP statute, the aggregated totals must follow MTC's adopted guidelines.

Alameda CTC's land use database development process typically happens as part of a Countywide Travel Demand Model update that occurs after each RTP and Sustainable Communities Strategy (SCS) is adopted. The most recently completed land use database is consistent with Plan Bay Area 2050.

More detail on the countywide model is available in Chapter 6.

FOSTERING TRANSPORTATION LAND USE CONNECTION

Alameda CTC oversees a variety of programs and planning activities that strengthen connections between transportation and land use.

PDA INVESTMENT AND GROWTH STRATEGY

Plan Bay Area, the region's combined transportation plan and sustainable communities strategy, identifies growth geographies to focus housing and jobs over the next 30 years. Priority Development Areas (PDAs) provide a regional growth framework for concentrating future housing and jobs around high-quality transit in an effort to decrease the need for driving and reduce greenhouse gas emissions. Cities and counties locally nominate areas that meet at least one of the following two criteria:

1. **Transit-Rich:** have high quality transportation infrastructure in place that can support additional growth

[18] The review of housing and job projections was referred to as Tier 2 review in previous versions of the Alameda CTC CMP. This nomenclature has been eliminated to avoid confusion with the tiers of the CMP arterial network.

2. **Connected Community:** offer basic transit services and have adopted policies that support increased mobility options while reducing automobile travel

Alameda County jurisdictions have supported the PDA growth framework since its inception. As of 2021, there are 48 locally nominated PDAs in Alameda County. These have been adopted as part of PBA 2050.

Alameda CTC's most recently adopted transportation plan, the 2020 CTP, identifies a range of recommendations and strategies, including a set of projects and programs, that will address current transportation needs throughout Alameda County and will be prioritized over the first 10 years of the plan. Given the prominence of connecting land use and transportation in Alameda County, approximately 90% of the projects in this 10-year prioirty list are within or provide access to PDAs.

PDAs are particularly important for the county's progress toward regional emissions reduction, mode shift, and housing production goals. The vast majority (83%) of the county's PDAs are considered transit-rich, due to the extensive network of high-quality transit operated in the county. Mode share in Alameda County's PDAs is significantly more multimodal than in the county's non-PDAs, driven in part by lower rates of driving.

More detail on the transportation investments associated with each of the county's PDAs, as well as a summary of permitted units by PDA, is included in the PDA Investment and Growth Strategy, last updated in 2021.

AREAWIDE TRANSPORTATION IMPACT MITIGATION FEES

An areawide transportation impact fee and/or revenue measure such as establishing an assessment district could generate funds necessary to plan and implement transportation mitigation measures related to land development. Transportation impact fees are addressed in the CMP statute as a proactive method of addressing transportation needs arising from land development.

At present, Alameda CTC and most local jurisdictions in Alameda County review development projects and determine required mitigation measures on a project-by-project basis. If found to be feasible, a transportation impact fee could be designed to supplement the current project-by-project review, in which case the fee would raise additional revenue to fund multi-jurisdictional mitigations. Another option is that a transportation impact fee could be designed to replace the project-by-project review. In this case, the fee would be designed to generate revenues to fund both localized and multi-jurisdictional mitigations.

Alameda CTC conducted feasibility studies in 1997 and 2007 for a countywide traffic mitigation fee. These feasibility studies investigated a fee that would supplement the project review and mitigations required by local jurisdictions. These previous studies recommended that Alameda CTC not proceed with an areawide traffic impact fee due to concerns about discouraging development, particularly in urban areas where redevelopment projects already face higher costs than in suburban areas.

MTC'S TOC POLICY

Transit-oriented communities, or TOCs, are places where people of all ages, abilities, income levels, and racial and diverse ethnic backgrounds can live, work, and thrive. MTC's TOC Policy, adopted under MTC Resolution 4530 on September, 28, 2022, replaced the original TOD Policy, first adopted by the Commission in 2005 and applies specifically to areas within a half-mile of BART, Caltrain, SMART, Capitol Corridor, and ACE stations; Muni and VTA light-rail stations; Muni and AC Transit bus rapid transit stops; and ferry terminals.

The TOC Policy is rooted in PBA 2050 and includes four elements: 1) minimum residential and commercial office densities for new development; 2) affordable housing production, preservation, and protection, and stabilizing businesses to prevent displacement; 3) parking management; and 4) transit station access and circulation.

In March 2023, MTC released draft procedural guidance for implementing the TOC Policy, which provides more details on how local jurisdictions can comply with the policy. MTC plans to assist local jurisdictions with making any necessary planning, zoning, or policy changes that may be needed to comply with the TOC Policy during the first four years after September 28, 2022, its adoption date. As of March 31, 2023, there are 87 jurisdiction-specifc stop/station areas subject to the TOC policy in Alameda County. These include separate accountings of areas of the same stop/station that are in different jurisdictions. For example, the Dublin/Pleasantation BART station is counted twice, once for the area in the city of Dublin and once for the area in the city of Pleasanton.

Alameda CTC will work in coordination with MTC to support jurisdictions on making these policy changes to comply with the TOC Policy requirements. Future updates to the CMP will consider incorporating elements of the TOC Policy as appropriate and as jurisdictions become more familiar with applying the policy.

LOCAL GOVERNMENT RESPONSIBILITIES AND CONFORMANCE

Local jurisdictions have the following specific responsibilities under the Alameda CTC LUAP.

Throughout the year:

- Forward to Alameda CTC all notices of preparation, draft, and final Environmental Impact Reports and Environmental Impact Statements, and final dispositions of General Plan amendment and development requests. To supplement this task, Alameda CTC staff regularly checks online to see if there are new DEIRs or notices to proceed with an environmental review in Alameda County jurisdictions.
- Analyze large development projects according to the guidelines in this chapter, including the use of the Alameda Countywide Travel Model or an approved subarea model and disclosure of impacts to the CMP Network, if Alameda CTC determines the project exceeds the threshold for which CMP review is required.
- Work with Alameda CTC on the mitigation of development impacts on the regional transportation system.
- Determine whether additional mitigation measures are necessary. In some cases, Alameda CTC may find that additional mitigation measures are necessary to prevent certain segments of the CMP Network from deteriorating below the established LOS standards.

During conformity findings process:

- Demonstrate to Alameda CTC that the LUAP is being carried out.
- Provide Alameda CTC with a list of land use development projects approved during the previous fiscal year.

As needed according to countywide travel model development schedule:

- Review allocations of regional land use projections to local land use zones for use in the countywide travel model.

CHAPTER 6

DATABASE AND TRAVEL DEMAND MODEL

Key Topics

- 2023 Model Update

6. DATABASE AND TRAVEL DEMAND MODEL

The CMP legislation requires every CMA, in consultation with the regional transportation planning agency (the MTC in the Bay Area), cities, and the county, to develop a uniform database on traffic impacts for use in a countywide travel demand model.[19] Further, the legislation mandates the countywide model to be consistent with the assumptions of the regional travel model developed and maintained by MTC and the most current land use and socioeconomic database adopted by ABAG for Alameda County.

Jurisdictions are required to use the most current version of the Alameda Countywide Travel Model for the CMP LUAP as described in Chapter 4. Alameda CTC amended the CMP requirements in 1998 so that local jurisdictions are responsible for applying the travel model. All local jurisdictions have signed Master Use Agreements with Alameda CTC that outline the procedure for requesting the model for a specific application. This process enables local consultants to request model files for application on projects as directed by Alameda County jurisdiction staff. In its role as the CMA, Alameda CTC must approve computer models used for subareas, including models used by local jurisdictions for land use impact analysis.

See Chapter 5 for more information on the LUAP. See Appendix E for guidelines on subarea travel model use.

Over the years, the countywide model has been used on a variety of planning and project efforts, including traffic impact analysis for environmental review of major transportation infrastructure, land use development, and general plans, among others. The Alameda Countywide Travel Model is typically used to determine traffic volumes, transit ridership, and other information for future years. As the model has historically included San Joaquin County while the regional model has not, sponsors of transportation projects that span the two regions have often used the countywide model as a basis for their project-specific forecasts.

[19] California Government Code Section 65089(c)

2023 MODEL UPDATE

Roughly every four years, Alameda CTC undertakes an update to the Countywide Travel Model to be consistent with transportation and land use databases in the most recently adopted RTP/SCS. The existing model was last updated in 2018 to be consistent with Plan Bay Area 2040. Alameda CTC is currently finalizing a major update to the model, which began in 2021, to be consistent with Plan Bay Area 2050.

Per CMP legislation, MTC must set guidelines for determining if county models are consistent with the regional plan and associated databases. The guidelines require that county model forecasts be updated every four years with a horizon year the same as the adopted regional plan.

As stated in MTC's Guidelines for Model Consistency, Collaboration, and Transparency, last updated in 2022, MTC's modeling consistency goal is to ensure travel forecasting model systems for application by MTC and county agencies are consistent at a regional level or transparent regarding their differences. The guidelines further describe the various versions of regional models:

> *In 2010/2011, MTC implemented Travel Model One – an "Activity-Based" Model (ABM) – to replace the previous trip-based modeling tool (BAYCAST-90) that had been in place for two decades. Travel Model One (TM1) has seen incremental improvements and updates since its original implementation. In 2021, MTC completed work on TM1.5 that was used in support of Plan Bay Area 2050. Additionally, MTC has been developing the next generation of its activity-based model called Travel Model Two (TM2).*

For the current update to the travel demand model, Alameda CTC staff has partnered with the Contra Costa County Transportation Authority (CCTA) on a significant update to the model that is consistent in structure to MTC's activity-based model. Using MTC's model as the base model structure provides a platform completely consistent with the region's RTP/SCS and the regional forecasts. Having one model for both counties improves project and planning coordination on larger projects that affect travel across the boundaries of Alameda and Contra Costa counties.

The new model represents a significant departure from the most recent models used by both the Alameda CTC and the CCTA, known as trip-based models. The most fundamental difference is that the unit of trip-making in activity-based models are simulated people generated from a synthetic population. The activities, or trip-making decisions, of each person are simulated throughout the course of a typical weekday. Travel activities conducted during the simulated day are then associated with each simulated person and household. This provides a significant level of detail beyond what trip-based models provide, which are more aggregate in nature, and allows for calculations of outputs such as calculating VMT per person (per capita) within each household and by different income levels.

NEW MODEL DEVELOPMENT

The new model is currently under development with an anticipated completion by the end of 2023. From the start of model development, Alameda CTC and CCTA staff, led by technical consultants, have collaborated closely with MTC modeling staff on all elements of the new model. Milestones have also been shared with a technical working group, comprised of jurisdiction and transit agency staff of both counties. Furthermore, developing the land use database required a jurisdiction review of and corrections to regional forecasts for housing and jobs that have been translated at the local level.

As of this CMP, land use forecasts for 2035 and 2050 have been reviewed by Alameda and Contra Costa jurisdictions and meet the requirements of MTC for consistency with Plan Bay Area 2050 and conformity for the CMP.

The new model builds upon the modeling system maintained by MTC, called Travel Model 1.5 or TM1.5. In particular, it uses the same procedures and underlying equations for simulating the Bay Area's population, the same equations and procedures that represent how Bay Area residents travel, and the same base year for calibration and regional validation. The key difference is that the county model has much more detail in the input transportation network and land use database than the current regional model, enabling higher resolutions of estimates and more accurate validation at the local level. The county model has an additional validation year that focuses on local roadways and transit lines. The county model also utilizes a different set of equations for estimating how commercial vehicles travel, which was borrowed from Alameda CTC's legacy model.

While the transportation network and land use database for the county model network are more detailed than TM1.5, they were designed to tier off of the network and land use framework of TM2.0, which will be MTC's next generation of activity-based models. The county model's transportation network was originally provided by MTC and has the same structure of the network that will be deployed in TM2.0. The county model has also incorporated the same method that MTC uses for updating the network. In this way, the agencies hope to more easily share updates to networks and collaborate with MTC staff on project updates for regional plan updates. The land use database conforms to MTC's micro-analysis zones, with additional detail where needed for local analysis. The land use projections also conform to MTC's projections at the super district level. These projections are an outcome of the modeling done with each RTP/SCS.

NEW MODEL FEATURES

Once complete, the new county model will include the following key features:

- It will use Java code and Cube software and be an activity-based model.
- It will estimate travel in a typical weekday, similar to the previous model, using a four-hour block for the two peak periods. The time periods consist of Early AM (3 – 6 AM), AM Peak (6 – 10 AM), Mid-Day (10 AM – 3 PM), PM Peak (3 – 7 PM), and Evening (7 PM – 3 AM).
- It will have a base year of 2015; the model will have an additional validation year of 2019/early 2020 to represent pre-pandemic travel, and the future years will be 2035 and 2050 per Plan Bay Area 2050.
- It will simulate travel in 10 counties including the 9 Bay Area counties and San Joaquin County.
- It will have a refined traffic analysis zone (TAZ) system in Alameda and Contra Costa counties compared to the regional model. The model will also have more zones in the remaining seven Bay Area counties than MTC's regional TAZ system used in TM1.5.
- Its "off the shelf" version will assume all projects, strategies, and baseline assumptions included in the 2050 horizon year of Plan Bay Area 2050. It will forecast high level metrics, such as VMT and mode shares, that are consistent with MTC's forecasts for years 2035 and 2050.
- It will have a consistent socioeconomic database with Plan Bay Area 2050. Data at the MTC zone level in Alameda and Contra Costa counties were allocated to the smaller model zones using local land use development patterns, working within the constraint of 1% deviation from the regional plan control totals for super-districts, which are groups of several jurisdictions. The new model has also incorporated the updated San Joaquin County land use dataset developed as a part of the San Joaquin Council of Governments Transportation Regional Plan 2022.

Documentation of specific features and assumptions for various components of the 2023 model, as well as detailed calibration and validation results will be made available on the agency's Congestion Management Program website as they become available.

CHAPTER 7

CAPITAL IMPROVEMENT PROGRAM

Key Topics

- Relationship of CIP to Regional and County Plans
- Implementing the Plans: Alameda CTC's CIP

7. CAPITAL IMPROVEMENT PROGRAM

As part of the CMP, Alameda CTC must develop a capital improvement program to identify projects intended to maintain or improve the performance of the multimodal transportation system in Alameda County, to move people and goods, and to mitigate regional transportation impacts identified through the LUAP.[20] Projects identified in the program must conform to the RTP, the CTP, and air quality mitigation measures[21] for transportation-related vehicle emissions.

MTC is responsible for developing regional project priorities for the RTIP for the nine counties of the Bay Area. As part of the CMP, Alameda CTC must also include the list of projects proposed for Alameda County's share of STIP funding. MTC incorporates the list of Alameda County's proposed STIP projects into the RTIP. MTC then submits the RTIP to the California Transportation Commission for inclusion in the STIP.

Alameda CTC's Comprehensive Investment Plan (CIP) is a near-term strategic programming document through which fund sources administered by Alameda CTC (such as Measure B, Measure BB, Vehicle Registration Fee, TFCA, federal One Bay Area Grant Program) are programmed, allocated, and documented through a single programming cycle. The CIP translates long-range plans into a short-range investment strategy by establishing a list of near-term priority improvements to enhance and maintain Alameda County's multimodal transportation system. The first CIP was adopted in June 2015 and the most recent CIP (2024 CIP), adopted in May 2023 covers fiscal years 2023-24 through 2027-28.

Alameda CTC's CIP serves as the CMP capital improvement program, and has three primary objectives:

1. Translate long-range plans into short-range implementation
2. Serve as Alameda CTC's Strategic Plan
3. Establish a consolidated programming and allocation plan

[20] California Government Code Section 65089(b)(5)

[21] The Air Quality Mitigation Measures are contained in the BAAQMD's 2017 Bay Area Clean Air Plan.

RELATIONSHIP OF CIP TO REGIONAL AND COUNTY PLANS

Projects included in the CIP must be consistent with the RTP and the CTP. To identify transportation needs and improvements to include in Alameda CTC's CIP, Alameda CTC relies on long-range planning processes at the regional and countywide levels. Both the regional plan and the countywide plan themselves involve significant data analysis and engagement, both with communities and across agencies, to determine needs and priorities. The adopted recommendations from the regional plan and countywide plan are summarized below. The full process for the regional plan, PBA 2050, is described here. The full process for Almeda CTC's most recent countywide plan, the 2020 CTP, is described here. Alameda CTC's funding program, the CIP, implements the recommendations from these plans.

REGIONAL TRANSPORTATION PLAN

Plan Bay Area 2050, adopted in 2021, along with its predecessors – Plan Bay Area and Plan Bay Area 2040 – grew out of SB 375 and serves as the Bay Area's Metropolitan Transportation Plan (MTP) and RTP/SCS. Plan Bay Area 2050 integrates the region's SCS into the RTP. Plan Bay Area 2050 was prepared by MTC in partnership with ABAG and in collaboration with BAAQMD, San Francisco Bay Conservation and Development Commission (BCDC), Caltrans, the nine county-level CMAs or substitute agencies, over two dozen Bay Area transit operators, and numerous transportation stakeholders and the public. Plan Bay Area 2050 achieves and exceeds the Bay Area's regional greenhouse gas reduction targets set forth by California Air Resources Board (CARB), and was prepared in compliance with the CTC's RTP Guidelines.

Plan Bay Area 2050 incorporates 12 transportation strategies. The transportation strategies are organized into three themes: 1) maintain and optimize the existing transportation system; 2) create healthy and safe streets; and 3) build a next-generation transit network.

To ensure that a CMP is in line with Plan Bay Area 2050, MTC will verify whether the CMP's capital improvement program is consistent with the Plan Bay Area 2050's transportation strategies and project list. The scope, schedule, and cost estimates of regionally significant projects must be consistent with Plan Bay Area 2050's project list, and non-regionally significant projects must align with a programmatic category in Plan Bay Area 2050's project list. The strategies included in Plan Bay Area 2050 are listed in Table 7.1.

COUNTYWIDE TRANSPORTATION PLAN

The CTP establishes near-term priorities, guides long-term decision-making for Alameda CTC, and creates a vision for the county's complex transportation system that supports vibrant and livable communities. The CTP is updated every four to six years and serves as a key input into Plan Bay Area. The 2020 CTP covers transportation projects, policies, and programs out to the year

Table 7.1: Plan Bay Area 2050 Transportation Strategies

THEME	STRATEGY
Maintain and Optimize the Existing System	T1. Restore, operate and maintain the existing system.
	T2. Support community-led transportation enhancements in Equity Priority Communities.
	T3. Enable a seamless mobility experience.
	T4. Reform regional transit fare policy.
	T5. Implement per-mile tolling on congested freeways with transit alternatives.
	T6. Improve interchanges and address highway bottlenecks.
	T7. Advance other regional programs and local priorities.
Create Healthy and Safe Streets	T8. Build a Complete Streets network.
	T9. Advance regional Vision Zero policy through street design and reduced speeds.
Build a Next-Generation Transit Network	T10. Enhance local transit frequency, capacity and reliability.
	T11. Expand and modernize the regional rail network
	T12. Build an integrated regional express lane s and express bus network.

2050 for Alameda County. The Commission adopted the most recent CTP for Alameda County in November 2020 that resulted from a comprehensive effort and coordination with various regional and local agencies.

Alameda CTC coordinated development of the 2020 CTP with MTC's development of PBA 2050. Related to CMP goals, this CTP identifies projects that meet long-term transportation needs and better integrate land use and transportation to reduce greenhouse gas emissions in Alameda County.

Although the CTP is a long-range plan, the core recommendations of the plan include a set of priority transportation projects and programs to advance in the next 10 years and a set of complementary strategies and actions to help implement the vision and goals. The core recommendations will guide Alameda CTC decision-making in the coming years:

- **10-Year Priority Projects and Programs:** A set of projects and programs that will address current transportation needs throughout Alameda County and work towards the countywide vision and goals. This list also includes programs that represent long-standing agency commitments.
- **Strategies and Near-Term Actions:** A set of strategies based on guiding principles, industry best practices, and an analysis of gaps in the project list that will complement the 10-Year Priority Projects and Programs. These can inform funding, advocacy, policy, planning, technical assistance, and project implementation. The adopted set of CTP strategies are listed out in Table 7.2.

Table 7.2: 2020 CTP Strategies

2020 CTP STRATEGIES
ADVANCE EQUITY (OVERARCHING)
SAFE SYSTEMS APPROACH
• Improve Safety on the High-Injury Network, with an Eye Towards Community Disparities. • Support Context-Appropriate Speed Limit Setting and Automated Speed Enforcement Policies. • Modernize Interchanges for Safer Multimodal Travel, including Addressing Pedestrian Experience at Underpasses. • Enhance Safety at At-Grade Rail Crossings.
COMPLETE CORRIDORS
• Improve Bus Service Frequency, Reliability, Quality and Travel Time. • Manage the Curb to Balance Needs of Multiple Users. • Build the Low-Stress Walking and Biking Network, including Low-Stress Facilities on Arterials and/or Alternative Routes. • Plan and Deliver Urban Greenways and Trails. • Coordinate with Caltrans for Faster Project Advancement and Innovation. • Support Modern Traffic Signals that Operate Seamlessly Across Jurisdictions and Deliver Robust Transit Signal Priority. • Address Navigation Apps Directing Regional Travelers to Local Streets. • Support Placemaking and Economic Development Through Street Design. • Manage Truck Parking and Congestion.
TRANSIT ACCESSIBILITY AND TDM
• Use incentives to Reduce Drive-Alone Trips and Vehicle-Miles Traveled. • Improve Fare Integration and Explore Affordable Fare Options. • Expand First/Last-Mile Options and Improve Access to Major Transit Hubs. • Explore Innovative, Agile Solutions to Supplement Transit, e.g. in Low Density Settings or to Serve Older Adults; Consider Potential Impacts of Innovative Strategies. • Support Necessary Transit Operations & Maintenance facilities.
PARTNERSHIPS TO ADDRESS REGIONAL AND MEGAREGIONAL ISSUES
• Enhance Interregional Rail Service. • Provide Seamless Transit Connections. • Improve Priority Freight Routes and Shift More Freight to Rail. • Proactively Plan for and Support Climate Resiliency Efforts. • Create a Continuous Managed Lane Network. • Provide Express Bus Service and Bus Prioritization on Freeways and Approaches.
NEW MOBILITY AND AN AUTOMATED, LOW-EMISSION AND SHARED FUTURE

• Advance the initiatives of the New Mobility Roadmap:
  ○ Transit Integration
  ○ Coordinated Information Technology Services (ITS)
  ○ Transportation Demand Management (TDM)
  ○ Electric and Low-Emission Mobility
  ○ Equity and Accessibility
  ○ Mobility Coordination and Innovation
  ○ Data and Automation

All of the transportation projects in the 2020 CTP are incorporated in some way in PBA 2050. The 2020 CTP strategies closely relate to PBA 2050 strategies and further articulate regional policy at the local level. Likewise, the comprehensive nature of the CTP strategies directly speaks to goals of the CMP legislation by doing the following for Alameda County:

- Articulates comprehensive approaches to congestion management that offer improvement options to a larger multimodal network and supports travel choices through policy, projects, and travel demand management.
- Recommends strategies that would allow each community within the county to demonstrate how the community's share of cumulative/regional transportation impacts could be mitigated through cooperative planning and investment. This is especially true for the strategies under the Complete Corridors category.
- Supports coordination among all levels of government and between transit agencies and jurisdictions as well as among transit agencies.
- Supports multimodal development in the county's PDAs and aims to coordinate transportation projects and programs with the county's land use patterns.

AIR QUALITY ATTAINMENT PLANS

Transportation control measures (TCMs) are identified in the federal and state air quality plans to achieve and maintain the respective standards for ozone and carbon monoxide. The statutes require that the capital improvement program conform to transportation-related vehicle emission air quality mitigation measures.

The CMP capital improvement program is closely related to federal and state air quality attainment plans regarding transportation-related vehicle emission air quality measures. Because the Bay Area failed to attain national ambient air quality standards before the 1977 Federal Clean Air Act Amendments' 1987 deadline, a revised State Implementation Plan (SIP) was developed. The purpose of this plan is to show the measures to be taken to reduce air pollution and maintain compliance with federal requirements for annual emission reductions. The RTP is required by federal law to conform to the SIP.

State air quality legislation, specifically the California Clean Air Act of 1988, requires the BAAQMD to prepare a Clean Air Plan designed to bring the Bay region's air basin into compliance with state air quality standards by the earliest practicable date. The Clean Air Plan must include transportation control measures as well as stationary (e.g., oil refinery) source controls to achieve and maintain the respective standards for ozone and carbon monoxide. Other legislation established a joint process between the MTC and BAAQMD for preparing the transportation

control measures plan as part of the State Clean Air Plan.[22] BAAQMD adopted the most recent Clean Air Plan in 2017.[23]

To respond to air quality and climate protection challenges in the years ahead with a comprehensive planning approach, BAAQMD developed the 2017 Clean Air Plan to be a dual plan—to include the required update to the Bay Area's State Ozone Plan as well as to serve as a multi-pollutant action plan, consistent with the GHG reduction targets adopted by the State of California, to protect public health and the climate. The 2017 Clean Air Plan Control Strategy component builds on a solid foundation established by the 2010 Clean Air Plan Control Strategy, the 2005 Ozone Strategy, and previous ozone plans prepared in the 1991-2005 period. It includes updated and new measures in the following control measure categories: Stationary Source, Transportation Sector, Buildings Sector, Energy Sector, Agricultural Sector, Natural and Working Lands Sector, Waste Sector, Water Sector, and Super-GHG Pollutants. Out of the total 85 control measures in the 2017 Clean Air Plan, 23 are Transportation Sector measures.

Relevant federal and state TCMs from the variety of air quality plans affecting the Bay Area are included in Appendix D. Many of Alameda CTC's planning and funding priorities directly implement the TCMs, especially from the Bay Area's Clean Air Plan.

IMPLEMENTING THE PLANS: ALAMEDA CTC'S CIP

Alameda CTC's CIP brings the long-range and countywide plans into the near term by focusing on investments over a five-year programming and allocation window. The CIP identifies a list of near-term priority transportation improvements to enhance and maintain Alameda County's transportation system in accordance with the objectives established in the CTP. The CIP identifies anticipated transportation funding over a five-year horizon and strategically matches the funding sources to targeted investments in Alameda County's transportation system. The programming and allocation recommendations included in the CIP establish funding commitments under Alameda CTC's purview to projects and programs that maintain and enhance the countywide transportation system.

The Alameda CTC's CIP is updated annually, at a minimum, to incorporate any off-cycle programming actions into the CIP document. Approximately every two years, Alameda CTC comprehensively updates the CIP to review existing CIP projects and to open a nomination window for new projects. The biennial update occurs on odd number fiscal years and represents a shift of the programming window to add the next two fiscal years. As part of this update, Alameda CTC opens a nomination window to consider new projects for additional capacity

[22] Assembly Bill 3971 (Cortese)

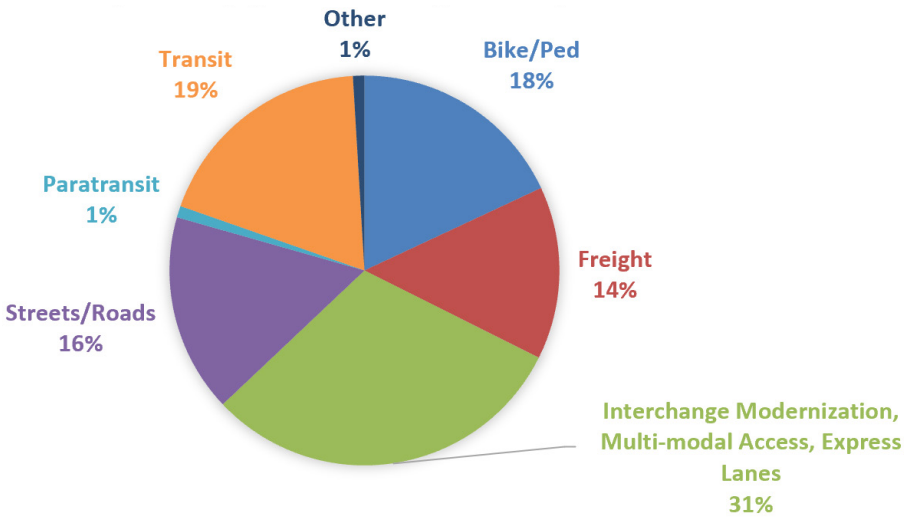
[23] 2017 Bay Area Clean Air Plan adopted by BAAQMD in April 2017.

created with the two-year shift of the programming horizon. Projects submitted during the nomination window that meet the Commission-adopted screening criteria are evaluated and prioritized for funding consideration.

All projects and investments in the CIP are consistent with each CTP and RTP since the CIP was first initiated in 2015. Over this time, approximately $1.6 billion in locally administered funds have been programmed and subsequently allocated. As shown in Figure 7.1, Alameda CTC has programmed 37% for transit, walking, and biking; 31% to modernize interchanges and express lanes; 16% to local streets and roads, which often includes complete streets elements; and 14% to supporting goods movement via freight investments. Across these investments, 78% has been for the construction, right of way, and final design phases, ensuring that Alameda CTC programming leads directly to delivery of the priorities in the county CTP and Plan Bay Area. In particular, these investments advance PBA 2050 strategies for Operate and Maintain Existing System (T1), Improve Interchanges (T6), building out a Complete Streets Network (T8), Improving Regional Rail (T10), Enhancing Local Transit (T11), and Completing the Express Lanes Network (T12).

Figure 7.1: Total CIP Programming by Mode (2016 CIP through 2024 CIP)

Note: Funding covered by this chart is approximately $1.6 billion



2024 CIP

Alameda CTC's most recently adopted CIP is the 2024 CIP. On May 10, 2022, Alameda CTC released the 2024 CIP Notice of Funding Opportunity which included an estimated $150.8 million of combined federal One Bay Area Grant Program Cycle 3 (OBAG 3) funding and Alameda CTC-administered discretionary local funding sources, including Measure B and BB, Vehicle Registration Fee (VRF), and Transportation Fund for Clean Air (TFCA). The 2024 CIP application period closed on June 30, 2022. Alameda CTC received a total of 52 applications requesting approximately $262.6 million.

The 2024 CIP was adopted in May 2023 and includes a five-year programming cycle of approximately $207 million, with $191 million allocated over the first two fiscal years. The 2024 CIP includes approximately $180 million in new programming, $12 million in off-cycle approvals, $11 million in allocations and technical adjustments. For a full listing of 2024 CIP investments, see the May Commission agenda item.

Aligned with goals of both Plan Bay Area and the CTP, the 2024 CIP prioritizes funding in areas slated for focused growth, for safety, and to benefit the county's diverse equity communities. In particular, the 2024 CIP programs funding for these areas approximately as follows:

- 95% directly within/connect to a Priority Development Area
- 80% directly benefit the Countywide Bicycle/Pedestrian High-Injury Network
- 80% directly benefit Equity Priority Communities

2024 STIP

Alameda CTC also nominates projects for Alameda County's portion of the STIP, which is administered by the California Transportation Commission (CTC) and specifically mentioned in the CMP legislation. The projects identified for STIP funding are consistent with the CTP and RTP. Since the last CMP update, which included the 2020 STIP project list, the CTC has adopted an additional $6.308 million of federal COVID relief funding programmed through the STIP (2020 STIP Augmentation) and $21.984 million of 2022 STIP funds (Table 7.3).

The revenue estimate for Alameda County's share of the 2024 STIP is approximately $64.2 million. In early September 2023, a call for projects is scheduled to be released, and in late October 2023 the Alameda CTC is scheduled to approve a draft list of 2024 STIP projects. In December 2023, MTC will consider these projects for incorporation in the regional 2024 STIP project list (2024 RTIP). In March 2024, the CTC is scheduled to adopt the 2024 STIP.

The Alameda CTC-adopted 2024 STIP project list will be added to Table 7.4 after Alameda CTC adoption later in 2023.

Table 7.3: Projects approved for 2020 STIP Augmentation and 2022 STIP ($ x 1,000)

INDEX #	PROJECT	APPROVED 2020 STIP AUGMENTATION AND 2022 STIP ($ X 1,000)
1	Southbound HOV/Express Lane, Rt 84-Alcosta Blvd	9,912
2	Rt 880 I/Cs, Whipple Rd/Ind. Pkwy SW & Ind. Pkwy West	50
3	Rt 80, Ashby Interchange Improvements	50
4	Rt 880 I/Cs, Winton Avenue & A Street	50
5	Oakland Alameda Access Project	11,920
6	I-880/Decoto Road Interchange Modernization Project	3,000
7	Downtown Berkeley BART Station Elevator Modernization	1,000
8	STIP Administration - Alameda CTC portion	1,456
9	STIP Administration - MTC portion	854
	Total	**28,292**

Table 7.4: Projects Recommended for 2024 STIP Funding ($ x 1,000)

INDEX #	PROJECT	PROPOSED FOR 2024 STIP ($ X 1,000)
1	Will be updated with adopted 2024 STIP by the end of 2023	64,200 (Est.)

CHAPTER 8

PROGRAM CONFORMANCE

Key Topics

- Conformance Monitoring

8. PROGRAM CONFORMANCE

Alameda CTC is responsible for ensuring local government conformance with the adopted CMP[24] as well as for ensuring that the CMP follows requirements from the regional planning agency as described in the CMP legislation. MTC, as the regional planning agency, adopts CMP requirements that further describe actions required of county CMPs including consistency with the RTP. Conformance with the CMP requires jurisdictions provide adequate monitoring information, develop deficiency plan development, and follow through with the program requirements related to level of service standards, site design guidelines, capital improvements, and land use analysis. In addition to these requirements, each city and the county must contribute its apportioned share of Alameda CTC's administrative costs as membership dues.

Monitoring conformance also offers Alameda CTC an opportunity to update TDM measures, LOS and transit standards, and other performance measures, and to determine how well transportation investments are being coordinated with new development and demands for improved access, mobility, and congestion management.

CONFORMANCE MONITORING

Per state legislation and regional requirements, Alameda CTC is responsible for ensuring local government conformance with the CMP on a biennial basis. Conformance is determined when the below is met for each CMP cycle:

- **LOS standards and Deficiency Plans**
    - Alameda CTC monitors LOS biennially (in even years) as part of the Multimodal Monitoring cycle.
    - Alameda CTC solicits Deficiency Plan status reports from local jurisdictions biennially (in odd years).
- **Multimodal Performance element**
    - Transit agencies submit available transportation performance measurement data to Alameda CTC for use in the Performance Report.
    - Alameda CTC produces a Performance Report.
- **Travel Demand Management (TDM) element**
    - Local jurisdictions self-certify adoption and implementation of site design guidelines that aim to enhance transit/pedestrian/bicycle access biennially (odd years).

[24] California Government Code Section 65089.3

- Each jurisdiction participates in the Transportation Fund for Clean Air (TFCA), Surface Transportation Program, Congestion Mitigation and Air Quality Program, and/or other funding programs and is to submit projects that support bicycle, pedestrian, transit, or carpool use.
- Alameda CTC administers a countywide TDM program to supplement regional and local actions that is likewise funded by a combination of TFCA and local funds.

- **Land Use Analysis Program (LUAP) element**
  - Local jurisdictions notify Alameda CTC of all development projects, land-use decisions, and environmental approvals that pass the established trip threshold.
  - Alameda CTC comments on projects subject to the LUAP and requests confirmation of the full list of projects from local jurisdictions on a biennial basis (in odd years).
- **Travel Demand Model & Associated Database**
  - Alameda CTC develops and maintains a travel demand model for the county and uniform database of traffic impacts and land use inputs for use in the model, which is consistent with MTC's guidance and regional travel model assumptions.
  - Jurisdictions utilize the countywide travel model to estimate transportation impacts of local development projects where appropriate, and review regional projections, the transportation network, land use allocations, and other inputs (such as the regional Sustainable Communities Strategy land use database) as requested to support model development and ongoing updates.
- **Capital Improvement Program**
  - Local jurisdictions and agencies respond to calls for projects for each funding cycle of the Comprehensive Investment Plan, which is considered the Capital Improvement Program for purposes of the CMP, with projects intended to address performance of the multimodal transportation system.
  - Alameda CTC responds to calls for projects and Notices of Funding Opportunities for funding projects on its capital project delivery work program.

NON-CONFORMANCE FINDINGS

If Alameda CTC finds a local jurisdiction out of conformance with the CMP, it will notify the local jurisdiction, which then has 90 days to remedy the area(s) of non-conformance. If the local jurisdiction fails to provide a remedy within the stipulated time, Alameda CTC will notify the state controller of the reasons for the finding and evidence that Alameda CTC correctly followed procedures for making the determination. The state controller would then withhold the non-conforming jurisdiction's increment of subventions from the fuel tax made available by Proposition 111, and the jurisdiction will not be eligible to receive funding for projects through the

federal Surface Transportation Program, the Congestion Mitigation and Air Quality Program, or the State Transportation Improvement Program.[25]

If, over the next 12 months, Alameda CTC determines that the jurisdiction is in conformance, the withheld Proposition 111 funds will be released to the jurisdiction. However, if, after the 12-month period, the city or county has not conformed with the CMP requirements, the withheld Proposition 111 funds will be released to Alameda CTC for other projects of regional significance in Alameda County and included in the CMP or deficiency plans.

CONSISTENCY WITH THE REGIONAL TRANSPORTATION PLAN

The CMP statute creates direct responsibilities for the regional planning agency, which in the Bay Area is MTC. After each cycle of the RTP/SCS, MTC adopts CMP Guidelines to facilitate CMP consistency with the RTP/SCS and other programs relevant to the CMP legislation within the region. MTC evaluates consistency of the CMP every two years with the RTP that is in effect when the CMP is submitted; for the 2023 CMP the RTP in effect will be Plan Bay Area 2050.

Per MTC Resolution no. 3000, MTC will make a finding of consistency based on three areas:

- Consistency with Plan Bay Area 2050's vision and guiding principles, growth geographies, and strategy (including the Transit-Oriented Communities Policy); and transportation strategies and project list
- Consistency with the MTC Travel Demand Modeling Databases and Methodologies
- Consistency with pertinent Air Quality Plans

The 2023 CMP is consistent with MTC's CMP Guidelines, Plan Bay Area 2050, and the 2020 Countywide Transportation Plan adopted by Alameda CTC.

Specific consistency requirements are identified in the following chapters:

- ***Chapter 2 describes the CMP Network and LOS methodology conformance with CMP legislation***
- ***Chapter 3 lists the multimodal performance measures that inform the Performance Report***
- ***Chapter 4 identifies TDM strategies and corresponding guidelines***
- ***Chapter 5 establishes the trip threshold that determines the scope of Alameda CTC's review***
- ***Chapter 6 discusses travel demand model approach and consistency***
- ***Chapter 7 details the CIP process, and demonstrates consistency with BAAQMD's Air Quality Plans' Transportation Control Measures as well as regional programming policies and principles***

[25] California Government Code Section 65089.5

APPENDIX A

CONGESTION MANAGEMENT PROGRAM LEGISLATION

Congestion Management Program Legislation

Government Code Section 65088—65089.10

65088

The Legislature finds and declares all of the following:

(a) Although California's economy is critically dependent upon transportation, its current transportation system relies primarily upon a street and highway system designed to accommodate far fewer vehicles than are currently using the system.

(b) California's transportation system is characterized by fragmented planning, both among jurisdictions involved and among the means of available transport.

(c) The lack of an integrated system and the increase in the number of vehicles are causing traffic congestion that each day results in 400,000 hours lost in traffic, 200 tons of pollutants released into the air we breathe, and three million one hundred thousand dollars ($3,100,000) added costs to the motoring public.

(d) To keep California moving, all methods and means of transport between major destinations must be coordinated to connect our vital economic and population centers.

(e) In order to develop the California economy to its full potential, it is intended that federal, state, and local agencies join with transit districts, business, private and environmental interests to develop and implement comprehensive strategies needed to develop appropriate responses to transportation needs.

(f) In addition to solving California's traffic congestion crisis, rebuilding California's cities and suburbs, particularly with affordable housing and more walkable neighborhoods, is an important part of accommodating future increases in the state's population because homeownership is only now available to most Californians who are on the fringes of metropolitan areas and far from employment centers.

(g) The Legislature intends to do everything within its power to remove regulatory barriers around the development of infill housing, transit-oriented development, and mixed use commercial development in order to reduce regional traffic congestion and provide more housing choices for all Californians.

(h) The removal of regulatory barriers to promote infill housing, transit-oriented development, or mixed use commercial development does not preclude a city or county from holding a public hearing nor finding that an individual infill project would be adversely impacted by the surrounding environment or transportation patterns.

(Amended by Statutes 2002, Ch. 505, Sec. 1. Effective January 1, 2003.)

65088.1.

As used in this chapter the following terms have the following meanings:

(a) Unless the context requires otherwise, "agency" means the agency responsible for the preparation and adoption of the congestion management program.

(b) "Bus rapid transit corridor" means a bus service that includes at least four of the following attributes:

(1) Coordination with land use planning.

(2) Exclusive right-of-way.

(3) Improved passenger boarding facilities.

(4) Limited stops.

(5) Passenger boarding at the same height as the bus.

(6) Prepaid fares.

(7) Real-time passenger information.

(8) Traffic priority at intersections.

(9) Signal priority.

(10)Unique vehicles.

(c) "Commission" means the California Transportation Commission.

(d) "Department" means the Department of Transportation.

(e) "Infill opportunity zone" means a specific area designated by a city or county, pursuant to subdivision (c) of Section 65088.4, that is within one-half mile of a major transit stop or high-quality transit corridor included in a regional transportation plan. A major transit stop is as defined in Section 21064.3 of the Public Resources Code, except that, for purposes of this section, it also includes major transit stops that are included in the applicable regional transportation plan. For purposes of this section, a high-quality transit corridor means a corridor with fixed route bus service with service intervals no longer than 15 minutes during peak commute hours.

(f) "Interregional travel" means any trips that originate outside the boundary of the agency. A "trip" means a one-direction vehicle movement. The origin of any trip is the starting point of that trip. A roundtrip consists of two individual trips.

(g) "Level of service standard" is a threshold that defines a deficiency on the congestion management program highway and roadway system which requires the preparation of a deficiency plan. It is the intent of the Legislature that the agency shall use all elements of the program to implement strategies and actions that avoid the creation of deficiencies and to improve multimodal mobility.

(h) "Local jurisdiction" means a city, a county, or a city and county.

(i) "Multimodal" means the utilization of all available modes of travel that enhance the movement of people and goods, including, but not limited to, highway, transit, nonmotorized, and demand management strategies including, but not limited to, telecommuting. The availability and practicality of specific multimodal systems, projects, and strategies may vary by county and region in accordance with the size and complexity of different urbanized areas.

(j) (1) "Parking cash-out program" means an employer-funded program under which an employer offers to provide a cash allowance to an employee equivalent to the parking subsidy that the employer would otherwise pay to provide the employee with a parking space. "Parking subsidy" means the difference between the out-of-pocket amount paid by an employer on a regular basis in order to secure the availability of an employee parking space not owned by the employer and the price, if any, charged to an employee for use of that space.

(2) A parking cash-out program may include a requirement that employee participants certify that they will comply with guidelines established by the employer designed to avoid neighborhood parking problems, with a provision that employees not complying with the guidelines will no longer be eligible for the parking cash-out program.

(k) "Performance measure" is an analytical planning tool that is used to quantitatively evaluate transportation improvements and to assist in determining effective implementation actions, considering all modes and strategies. Use of a performance measure as part of the program does not trigger the requirement for the preparation of deficiency plans.

(l) "Urbanized area" has the same meaning as is defined in the 1990 federal census for urbanized areas of more than 50,000 population.

(m) Unless the context requires otherwise, "regional agency" means the agency responsible for preparation of the regional transportation improvement program.

(Amended by Statutes 2013, Ch. 386, Sec. 3. (SB 743) Effective January 1, 2014.)

65088.3.

This chapter does not apply in a county in which a majority of local governments, collectively comprised of the city councils and the county board of supervisors, which in total also represent a majority of the population in the county, each adopt resolutions electing to be exempt from the congestion management program.

(Added by Statutes 1996, Ch. 293, Sec. 4. Effective January 1, 1997.)

65088.4.

(a) It is the intent of the Legislature to balance the need for level of service standards for traffic with the need to build infill housing and mixed use commercial developments within walking distance of mass transit facilities, downtowns, and town centers and to provide greater flexibility to local governments to balance these sometimes competing needs.

(b) Notwithstanding any other provision of law, level of service standards described in Section 65089 shall not apply to the streets and highways within an infill opportunity zone.

(c) The city or county may designate an infill opportunity zone by adopting a resolution after determining that the infill opportunity zone is consistent with the general plan and any applicable specific plan, and is a transit priority area within a sustainable communities strategy or alternative planning strategy adopted by the applicable metropolitan planning organization.

(Amended by Statutes 2013, Ch. 386, Sec. 4. (SB 743) Effective January 1, 2014.)

65088.5.

Congestion management programs, if prepared by county transportation commissions and transportation authorities created pursuant to Division 12 (commencing with Section 130000) of the Public Utilities Code, shall be used by the regional transportation planning agency to meet federal requirements for a congestion management system, and shall be incorporated into the congestion management system.

(Added by Statutes 1996, Ch. 1154, Sec. 4. Effective September 30, 1996.)

65089.

(a) A congestion management program shall be developed, adopted, and updated biennially, consistent with the schedule for adopting and updating the regional transportation improvement program, for every county that includes an urbanized area, and shall include every city and the county. The program shall be adopted at a noticed public hearing of the agency. The program shall be developed in consultation with, and with the cooperation of, the transportation planning agency, regional transportation providers, local governments, the department, and the air pollution control district or the air quality management district, either by the county transportation commission, or by another public agency, as designated by resolutions adopted by the county board of supervisors and the city councils of a majority of the cities representing a majority of the population in the incorporated area of the county.

(b) The program shall contain all of the following elements:

(1) (A) Traffic level of service standards established for a system of highways and roadways designated by the agency. The highway and roadway system shall include at a minimum all state highways and principal arterials. No highway or roadway designated as a part of the system shall be removed from the system. All new state highways and principal arterials shall be designated as part of the system, except when it is within an infill opportunity zone. Level of service (LOS) shall be measured by Circular 212, by the most recent version of the Highway Capacity Manual, or by a uniform methodology adopted by the agency that is consistent with the Highway Capacity Manual. The determination as to whether an alternative method is consistent with the Highway Capacity Manual shall be made by the

regional agency, except that the department instead shall make this determination if either (i) the regional agency is also the agency, as those terms are defined in Section 65088.1, or (ii) the department is responsible for preparing the regional transportation improvement plan for the county.

(B) In no case shall the LOS standards established below the level of service E or the current level, whichever is farthest from level of service A except when the area is in an infill opportunity zone. When the level of service on a segment or at an intersection fails to attain the established level of service standard outside an infill opportunity zone, a deficiency plan shall be adopted pursuant to Section 65089.4.

(2) A performance element that includes performance measures to evaluate current and future multimodal system performance for the movement of people and goods. At a minimum, these performance measures shall incorporate highway and roadway system performance, and measures established for the frequency and routing of public transit, and for the coordination of transit service provided by separate operators. These performance measures shall support mobility, air quality, land use, and economic objectives, and shall be used in the development of the capital improvement program required pursuant to paragraph (5), deficiency plans required pursuant to Section 65089.4, and the land use analysis program required pursuant to paragraph (4).

(3) A travel demand element that promotes alternative transportation methods, including, but not limited to, carpools, vanpools, transit, bicycles, and park-and-ride lots; improvements in the balance between jobs and housing; and other strategies, including, but not limited to, flexible work hours, telecommuting, and parking management programs. The agency shall consider parking cash-out programs during the development and update of the travel demand element.

(4) A program to analyze the impacts of land use decisions made by local jurisdictions on regional transportation systems, including an estimate of the costs associated with mitigating those impacts. This program shall measure, to the extent possible, the impact to the transportation system using the performance measures described in paragraph (2). In no case shall the program include an estimate of the costs of mitigating the impacts of interregional travel. The program shall provide credit for local public and private contributions to improvements to regional transportation systems. However, in the case of toll road facilities, credit shall only be allowed for local public and private contributions which are unreimbursed from toll revenues or other state or federal sources. The agency shall calculate the amount of the credit to be provided. The program defined under this section may require implementation through the requirements and analysis of the California Environmental Quality Act, in order to avoid duplication.

(5) A seven-year capital improvement program, developed using the performance measures described in paragraph (2) to determine effective projects that maintain or improve the performance of the multimodal system for the movement of people and goods, to mitigate regional transportation impacts identified pursuant to paragraph (4). The program shall conform to transportation-related vehicle emission air quality mitigation measures, and include any project that will increase the capacity of the multimodal system. It is the intent of the Legislature that, when roadway projects are identified in the program, consideration be given for maintaining bicycle access and safety at a level comparable to that which existed prior to the improvement or alteration. The capital improvement program may also include safety, maintenance, and rehabilitation projects that do not enhance the capacity of the system but are necessary to preserve the investment in existing facilities.

(c) The agency, in consultation with the regional agency, cities, and the county, shall develop a uniform data base on traffic impacts for use in a countywide

transportation computer model and shall approve transportation computer models of specific areas within the county that will be used by local jurisdictions to determine the quantitative impacts of development on the circulation system that are based on the countywide model and standardized modeling assumptions and conventions. The computer models shall be consistent with the modeling methodology adopted by the regional planning agency. The data bases used in the models shall be consistent with the data bases used by the regional planning agency. Where the regional agency has jurisdiction over two or more counties, the data bases used by the agency shall be consistent with the data bases used by the regional agency.

(d) (1) The city or county in which a commercial development will implement a parking cash-out program that is included in a congestion management program pursuant to subdivision (b), or in a deficiency plan pursuant to Section 65089.4, shall grant to that development an appropriate reduction in the parking requirements otherwise in effect for new commercial development.

(2) At the request of an existing commercial development that has implemented a parking cash-out program, the city or county shall grant an appropriate reduction in the parking requirements otherwise applicable based on the demonstrated reduced need for parking, and the space no longer needed for parking purposes may be used for other appropriate purposes.

(e) Pursuant to the federal Intermodal Surface Transportation Efficiency Act of 1991 and regulations adopted pursuant to the act, the department shall submit a request to the Federal Highway Administration Division Administrator to accept the congestion management program in lieu of development of a new congestion management system otherwise required by the act.

(Amended by Statutes 2002, Ch. 505, Sec. 4. Effective January 1, 2003.)

65089.1.

(a) For purposes of this section, "plan" means a trip reduction plan or a related or similar proposal submitted by an employer to a local public agency for adoption or approval that is designed to facilitate employee ridesharing, the use of public transit, and other means of travel that do not employ a single-occupant vehicle.

(b) An agency may require an employer to provide rideshare data bases; an emergency ride program; a preferential parking program; a transportation information program; a parking cash-out program, as defined in subdivision (f) of Section 65088.1; a public transit subsidy in an amount to be determined by the employer; bicycle parking areas; and other noncash value programs which encourage or facilitate the use of alternatives to driving alone. An employer may offer, but no agency shall require an employer to offer, cash, prizes, or items with cash value to employees to encourage participation in a trip reduction program as a condition of approving a plan.

(c) Employers shall provide employees reasonable notice of the content of a proposed plan and shall provide the employees an opportunity to comment prior to submittal of the plan to the agency for adoption.

(d) Each agency shall modify existing programs to conform to this section not later than June 30, 1995. Any plan adopted by an agency prior to January 1, 1994, shall remain in effect until adoption by the agency of a modified plan pursuant to this section.

(e) Employers may include disincentives in their plans that do not create a widespread and substantial disproportionate impact on ethnic or racial minorities, women, or low-income or disabled employees.

(f) This section shall not be interpreted to relieve any employer of the responsibility to prepare a plan that conforms with trip reduction goals specified in

Division 26 (commencing with Section 39000) of the Health and Safety Code, or the Clean Air Act (42 U.S.C. Sec. 7401 et seq.).

(g) This section only applies to agencies and employers within the South Coast Air Quality Management District.

(Added by Statutes 1994, Ch. 534, Sec. 2. Effective January 1, 1995.)

65089.2.

(a) Congestion management programs shall be submitted to the regional agency. The regional agency shall evaluate the consistency between the program and the regional transportation plans required pursuant to Section 65080. In the case of a multicounty regional transportation planning agency, that agency shall evaluate the consistency and compatibility of the programs within the region.

(b) The regional agency, upon finding that the program is consistent, shall incorporate the program into the regional transportation improvement program as provided for in Section 65082. If the regional agency finds the program is inconsistent, it may exclude any project in the congestion management program from inclusion in the regional transportation improvement program.

(c) (1) The regional agency shall not program any surface transportation program funds and congestion mitigation and air quality funds pursuant to Section 182.6 and 182.7 of the Streets and Highways Code in a county unless a congestion management program has been adopted by December 31, 1992, as required pursuant to Section 65089. No surface transportation program funds or congestion mitigation and air quality funds shall be programmed for a project in a local jurisdiction that has been found to be in nonconformance with a congestion management program pursuant to Section 65089.5 unless the agency finds that the project is of regional significance.

(2) Notwithstanding any other provision of law, upon the designation of an urbanized area, pursuant to the 1990 federal census or a subsequent federal census, within a county which previously did not include an urbanized area, a congestion management program as required pursuant to Section 65089 shall be adopted within a period of 18 months after designation by the Governor.

(d) (1) It is the intent of the Legislature that the regional agency, when its boundaries include areas in more than one county, should resolve inconsistencies and mediate disputes which arise between agencies related to congestion management programs adopted for those areas.

(2) It is the further intent of the Legislature that disputes which may arise between regional agencies, or agencies which are not within the boundaries of a multicounty regional transportation planning agency, should be mediated and resolved by the Secretary of Transportation, or an employee of the Transportation Agency designated by the secretary, in consultation with the air pollution control district or air quality management district within whose boundaries the regional agency or agencies are located.

(e) At the request of the agency, a local jurisdiction that owns, or is responsible for operation of, a trip-generating facility in another county shall participate in the congestion management program of the county where the facility is located. If a dispute arises involving a local jurisdiction, the agency may request the regional agency to mediate the dispute through procedures pursuant to subdivision (d). Failure to resolve the dispute does not invalidate the congestion management program.

(Amended by Statutes 2014, Ch. 345, Sec. 2. Effective January 1, 2015.)

65089.3.

The agency shall monitor the implementation of all elements of the congestion management program. The department is responsible for data collection and

analysis on state highways, unless the agency designates that responsibility to another entity. The agency may also assign data collection and analysis responsibilities to other owners and operators of facilities or services if the responsibilities are specified in its adopted program. The agency shall consult with the department and other affected owners and operators in developing data collection and analysis procedures and schedules prior to program adoption. At least biennially, the agency shall determine if the county and cities are conforming to the congestion management program, including, but not limited to, all of the following:

(a) Consistency with levels of service standards, except as provided in Section 65089.4.

(b) Adoption and implementation of a program to analyze the impacts of land use decisions, including the estimate of the costs associated with mitigating these impacts.

(c) Adoption and implementation of a deficiency plan pursuant to Section 65089.4 when highway and roadway level of service standards are not maintained on portions of the designated system.

(Amended by Statutes 1996, Ch. 293, Sec. 3. Effective January 1, 1997.)

65089.4.

(a) A local jurisdiction shall prepare a deficiency plan when highway or roadway level of service standards are not maintained on segments or intersections of the designated system. The deficiency plan shall be adopted by the city or county at a noticed public hearing.

(b) The agency shall calculate the impacts subject to exclusion pursuant to subdivision (f) of this section, after consultation with the regional agency, the department, and the local air quality management district or air pollution control district. If the calculated traffic level of service following exclusion of these impacts is consistent with the level of service standard, the agency shall make a finding at a publicly noticed meeting that no deficiency plan is required and so notify the affected local jurisdiction.

(c) The agency shall be responsible for preparing and adopting procedures for local deficiency plan development and implementation responsibilities, consistent with the requirements of this section. The deficiency plan shall include all of the following:

(1) An analysis of the cause of the deficiency. This analysis shall include the following:

(A) Identification of the cause of the deficiency.

(B) Identification of the impacts of those local jurisdictions within the jurisdiction of the agency that contribute to the deficiency. These impacts shall be identified only if the calculated traffic level of service following exclusion of impacts pursuant to subdivision (f) indicates that the level of service standard has not been maintained, and shall be limited to impacts not subject to exclusion.

(2) A list of improvements necessary for the deficient segment or intersection to maintain the minimum level of service otherwise required and the estimated costs of the improvements.

(3) A list of improvements, programs, or actions, and estimates of costs, that will (A) measurably improve multimodal performance, using measures defined in paragraphs (1) and (2) of subdivision (b) of Section 65089, and (B) contribute to significant improvements in air quality, such as improved public transit service and facilities, improved nonmotorized transportation facilities, high occupancy vehicle facilities, parking cash-out programs, and transportation control measures. The air quality management district or the air pollution control district shall establish and periodically revise a list of approved improvements, programs, and actions that meet the scope of this paragraph. If an improvement, program, or action on the approved list has not been fully implemented, it shall be deemed to contribute to significant improvements in air quality. If an

improvement, program, or action is not on the approved list, it shall not be implemented unless approved by the local air quality management district or air pollution control district.

(4) An action plan, consistent with the provisions of Chapter 5 (commencing with Section 66000), that shall be implemented, consisting of improvements identified in paragraph (2), or improvements, programs, or actions identified in paragraph (3), that are found by the agency to be in the interest of the public health, safety, and welfare. The action plan shall include a specific implementation schedule. The action plan shall include implementation strategies for those jurisdictions that have contributed to the cause of the deficiency in accordance with the agency's deficiency plan procedures. The action plan need not mitigate the impacts of any exclusions identified in subdivision (f). Action plan strategies shall identify the most effective implementation strategies for improving current and future system performance.

(d) A local jurisdiction shall forward its adopted deficiency plan to the agency within 12 months of the identification of a deficiency. The agency shall hold a noticed public hearing within 60 days of receiving the deficiency plan. Following that hearing, the agency shall either accept or reject the deficiency plan in its entirety, but the agency may not modify the deficiency plan. If the agency rejects the plan, it shall notify the local jurisdiction of the reasons for that rejection, and the local jurisdiction shall submit a revised plan within 90 days addressing the agency's concerns. Failure of a local jurisdiction to comply with the schedule and requirements of this section shall be considered to be nonconformance for the purposes of Section 65089.5.

(e) The agency shall incorporate into its deficiency plan procedures, a methodology for determining if deficiency impacts are caused by more than one local jurisdiction within the boundaries of the agency.

(1) If, according to the agency's methodology, it is determined that more than one local jurisdiction is responsible for causing a deficient segment or intersection, all responsible local jurisdictions shall participate in the development of a deficiency plan to be adopted by all participating local jurisdictions.

(2) The local jurisdiction in which the deficiency occurs shall have lead responsibility for developing the deficiency plan and for coordinating with other impacting local jurisdictions. If a local jurisdiction responsible for participating in a multi-jurisdictional deficiency plan does not adopt the deficiency plan in accordance with the schedule and requirements of paragraph (a) of this section, that jurisdiction shall be considered in nonconformance with the program for purposes of Section 65089.5.

(3) The agency shall establish a conflict resolution process for addressing conflicts or disputes between local jurisdictions in meeting the multi-jurisdictional deficiency plan responsibilities of this section.

(f) The analysis of the cause of the deficiency prepared pursuant to paragraph (1) of subdivision (c) shall exclude the following:

(1) Interregional travel.

(2) Construction, rehabilitation, or maintenance of facilities that impact the system.

(3) Freeway ramp metering.

(4) Traffic signal coordination by the state or multi-jurisdictional agencies.

(5) Traffic generated by the provision of low-income and very low income housing.

(6) (A) Traffic generated by high-density residential development located within one-fourth mile of a fixed rail passenger station, and

(B) Traffic generated by any mixed use development located within one-fourth mile of a fixed rail passenger station, if more than half of the land area, or floor area, of the mixed use development is used for high density residential housing, as determined by the agency.

(g) For the purposes of this section, the following terms have the following meanings:

(1) "High density" means residential density development which contains a minimum of 24 dwelling units per acre and a minimum density per acre which is equal to or greater than 120 percent of the maximum residential density allowed under the local general plan and zoning ordinance. A project providing a minimum of 75 dwelling units per acre shall automatically be considered high density.

(2) "Mixed use development" means development which integrates compatible commercial or retail uses, or both, with residential uses, and which, due to the proximity of job locations, shopping opportunities, and residences, will discourage new trip generation.

(Added by Statutes 1994, Ch. 1146, Sec. 7. Effective January 1, 1995.)

65089.5.

(a) If, pursuant to the monitoring provided for in Section 65089.3, the agency determines, following a noticed public hearing, that a city or county is not conforming with the requirements of the congestion management program, the agency shall notify the city or county in writing of the specific areas of nonconformance. If, within 90 days of the receipt of the written notice of nonconformance, the city or county has not come into conformance with the congestion management program, the governing body of the agency shall make a finding of nonconformance and shall submit the finding to the commission and to the Controller.

(b) (1) Upon receiving notice from the agency of nonconformance, the Controller shall withhold apportionments of funds required to be apportioned to that nonconforming city or county by Section 2105 of the Streets and Highways Code.

(2) If, within the 12-month period following the receipt of a notice of nonconformance, the Controller is notified by the agency that the city or county is in conformance, the Controller shall allocate the apportionments withheld pursuant to this section to the city or county.

(3) If the Controller is not notified by the agency that the city or county is in conformance pursuant to paragraph (2), the Controller shall allocate the apportionments withheld pursuant to this section to the agency.

(c) The agency shall use funds apportioned under this section for projects of regional significance which are included in the capital improvement program required by paragraph (5) of subdivision (b) of Section 65089, or in a deficiency plan which has been adopted by the agency. The agency shall not use these funds for administration or planning purposes.

(Added by renumbering Section 65089.4 by Statutes 1994, Ch. 1146, Sec. 6. Effective January 1, 1995.)

65089.6.

Failure to complete or implement a congestion management program shall not give rise to a cause of action against a city or county for failing to conform with its general plan, unless the city or county incorporates the congestion management program into the circulation element of its general plan.

(Added by renumbering Section 65089.5 by Statutes 1994, Ch. 1146, Sec. 8. Effective January 1, 1995.)

65089.7.

A proposed development specified in a development agreement entered into prior to July 10, 1989, shall not be subject to any action taken to comply with this chapter, except actions required to be taken with respect to the trip reduction and travel demand element of a congestion management program pursuant to paragraph (3) of subdivision (b) of Section 65089.

(Added by renumbering Section 65089.6 by Statutes 1994, Ch. 1146, Sec. 9. Effective January 1, 1995.)

65089.9.

The study steering committee established pursuant to Section 6 of Chapter 444 of the Statutes of 1992 may designate at least two congestion management agencies to participate in a demonstration study comparing multimodal performance standards to highway level of service standards. The department shall make available, from existing resources, fifty thousand dollars ($50,000) from the Transportation Planning and Development Account in the State Transportation Fund to fund each of the demonstration projects. The designated agencies shall submit a report to the Legislature not later than June 30, 1997, regarding the findings of each demonstration project.

(Added by Statutes 1994, Ch. 1146, Sec. 11. Effective January 1, 1995.)

65089.10.

Any congestion management agency that is located in the Bay Area Air Quality Management District and receives funds pursuant to Section 44241 of the Health and Safety Code for the purpose of implementing paragraph (3) of subdivision (b) of Section 65089 shall ensure that those funds are expended as part of an overall program for improving air quality and for the purposes of this chapter.

(Added by Statutes 1995, Ch. 950, Sec. 1. Effective January 1, 1996.)

Date: June 25, 1997
W.I.: 30.5.10
Referred By: WPC
Revised: 06/11/99-W 05/11/01-POC
06/13/03-POC 06/10/05-POC
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10/09/15-PC 06/14/19-PC
12/11/20-PC 01/13/23-PC

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GUIDANCE FOR CONSISTENCY OF

CONGESTION MANAGEMENT PROGRAMS

WITH THE REGIONAL TRANSPORTATION PLAN

Metropolitan Transportation Commission

January 2023

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Abbreviations

AB ..... Assembly Bill
ABAG ..... Association of Bay Area Governments
BAAQMD ..... Bay Area Air Quality Management District
BCDC ..... Bay Conservation and Development Commission
CFR ..... Code of Federal Regulations
CIP ..... Capital Improvement Program
CMA ..... Congestion Management Agency
CMP ..... Congestion Management Program
CTC ..... California Transportation Commission
GHG ..... Greenhouse Gas (CO_2)
HRA ..... High-Resource Area
ITIP ..... Interregional Transportation Improvement Program
MPO ..... Metropolitan Planning Organization
MTC ..... Metropolitan Transportation Commission
MTP ..... Metropolitan Transportation Plan
PDA ..... Priority Development Area
PPA ..... Priority Production Area
RMWG ..... Regional Model Working Group
RTIP ..... Regional Transportation Improvement Program
RTP/SCS ..... Regional Transportation Plan/Sustainable Communities Strategy
RTPA ..... Regional Transportation Planning Agency
SB ..... Senate Bill
STIP ..... State Transportation Improvement Program
TCM ..... Transportation Control Measures
TOC ..... Transit-Oriented Communities
TRA ..... Transit-Rich Area

INTRODUCTION

A. Purpose of This Guidance

The Congestion Management Program (CMP) statutes establish specific requirements for the content and development process for CMPs; the relationship between CMPs and the regional transportation planning process; Congestion Management Agency (CMA) monitoring and other responsibilities; and, the responsibilities of the Metropolitan Transportation Commission (MTC) as the Bay Area's Regional Transportation Planning Agency (RTPA) and Metropolitan Planning Organization (MPO). CMPs are not required to be prepared in counties where a majority of local governments representing a majority of the county's population and the Board of Supervisors adopt resolutions requesting to be exempt from this requirement (AB 2419 (Bowler) Chapter 293, Statutes of 1996). The following Guidance is for those counties that prepare a CMP following state statutes. For counties that opt out of preparing a CMP, MTC will work directly with the appropriate county transportation agencies to establish project priorities for funding.

CMP statutes specify responsibilities for MTC as the Bay Area's RTPA/MPO. These responsibilities include reviewing the consistency between each CMP and the Regional Transportation Plan (RTP) – which encompasses the Bay Area's Sustainable Communities Strategy (SCS) demonstrating how the region could achieve state greenhouse gas (GHG) emission reduction targets; evaluating the consistency and compatibility of the CMPs in the Bay Area; and, including CMP projects into the Regional Transportation Improvement Program (RTIP).

The purpose of this Guidance is to focus on MTC's role in making a consistency finding between the CMPs and the region's RTP/SCS (herein also referred to as "Plan Bay Area 2050").

B. Legislative Requirement for Congestion Management Programs

CMPs were established as part of a bi-partisan legislative package in 1989 and approved by the voters in 1990. This legislation also increased transportation revenues and changed state transportation planning and programming processes. The specific CMP provisions were originally chartered by the Katz-Kopp-Baker-Campbell Transportation Blueprint for the Twenty-First Century by AB 471 (Katz); (Chapter 106, Statutes 1989). They were revised by AB 1791 (Katz) (Chapter 16, Statutes of 1990), AB 3093 (Katz) (Chapter 2.6, Statutes of 1992), AB 1963 (Katz) (Chapter 1146, Statutes of 1994), AB 2419 (Bowler) (Chapter 293, Statutes of 1996), AB 1706 (Chapter 597, Statutes of 2001), and SB 1636 (Figueroa) (Chapter 505, Section 4, Statutes of 2002), which defines and incorporates "infill opportunity zones." The provisions regarding establishing new "infill opportunity zones" have now expired, but established infill opportunities zones are still subject to the statutes.

CMP statutes establish requirements for local jurisdictions to receive certain gas tax subvention funds. Additionally, CMPs play a role in the development of specific project proposals for the RTIP.

C. The Role of CMPs in the Regional Transportation Planning Process

CMPs can play a role in the countywide and regional transportation planning processes (although these functions can be achieved without an official CMP as well):

- CMPs can be used to identify near-term projects to implement the long-range vision established in a countywide transportation plan.
- Through CMPs, the transportation investment priorities of the multiple jurisdictions in each county can be addressed in a countywide context.
- CMPs can be used to establish a link between local land use decision making and the transportation planning process.
- CMPs can be used as a building block for the federally required Congestion Management Process[1].

I. MTC'S ROLE & RESPONSIBILITIES

A. MTC's Responsibilities Regarding CMPs

MTC's direct responsibilities under CMP statutes are concentrated in the following provisions:

> *"The regional agency shall evaluate the consistency between the program (i.e., the CMP) and the regional transportation plans required pursuant to Section 65080. In the case of a multicounty regional transportation planning agency, that agency shall evaluate the consistency and compatibility of the programs within the region. (Section 65089.2 (a))*
>
> *The regional agency, upon finding that the program is consistent, shall incorporate the program into the regional transportation improvement program as provided for in Section 65082. If the regional agency finds the program is inconsistent, it may exclude any project in the congestion management program from inclusion in the regional transportation improvement program. (Section 65089.2(b))*
>
> *It is the intent of the Legislature that the regional agency, when its boundaries include areas in more than one county, should resolve inconsistencies and mediate disputes which arise between agencies related to congestion management programs adopted for those areas." Section 65089.2.(d)(1))*

B. The RTP Regulatory Setting

Federal Requirements

The primary federal requirements regarding RTPs are addressed in the metropolitan transportation planning rules in Title 23 of the Code of Federal Regulations (CFR) Part 450 (Planning and Assistance Standards) and Part 500 (Management and Monitoring Systems) and

[1]See the following link for more information on the federal Congestion Management Process, https://ops.fhwa.dot.gov/plan4ops/focus_areas/cmp.htm

Title 49 CFR Part 613 (Metropolitan Transportation Planning and Programming). These federal regulations have been updated to reflect the metropolitan transportation planning regulations called out in the 2021 Infrastructure Investment and Jobs Act (H. R. 3684) — known as the Bipartisan Infrastructure Law. Under the Bipartisan Infrastructure Law, the U.S. Department of Transportation requires MPOs, such as MTC, to adopt long-range Metropolitan Transportation Plans (MTP) every four years if they are in designated "nonattainment" or "maintenance" areas for federal air quality standards.

State Requirements

California Government Code Section 65080 sets forth the state's requirements for RTPs. Section 65080 requires MPOs located in air quality nonattainment regions update their RTPs at least every four years.

The regional agencies, the Association of Bay Area Governments (ABAG), the Bay Area Air Quality Management District (BAAQMD), and the Bay Conservation and Development Commission (BCDC), assist MTC in addressing the requirements flowing from California's Sustainable Communities and Climate Protection Act (Sustainable Communities Act, SB 375, Chapter 728, Statutes of 2008), which requires each of the state's 18 metropolitan areas, including the Bay Area, to reduce GHG emissions from cars and light-duty trucks. The mechanism for achieving these reductions is the preparation of an SCS.

State RTP Guidelines

The California Transportation Commission (CTC)'s RTP Guidelines, last updated in 2017, tie together federal and state regulations and CTC policy direction to guide the development of RTPs. CTC programming policy prohibits the allocation of funds to projects that are not consistent with an adopted RTP.

Section 65080 of the Government Code, as amended by SB 375, states that the RTP shall contain four distinct elements:

- A Policy Element that reflects the mobility goals, policies and objectives of the region;
- A Sustainable Communities Strategy (SCS), as established through SB 375;
- An Action Element that identifies programs and actions to implement the RTP; and
- A Financial Element that summarizes the cost of implementing the projects in the RTP in a financially constrained environment.

C. Consistency Findings with the RTP/SCS

MTC will make a finding of consistency between CMPs and the RTP/SCS based on three areas:

- Consistency with Plan Bay Area 2050's vision and guiding principles, growth geographies and pattern, and transportation strategies and project list;
- Consistency with the MTC travel demand modeling database and methodologies; and,
- Consistency with federal and state air quality plans.

1) The RTP/SCS ("Plan Bay Area 2050")

Plan Bay Area 2050, adopted in 2021, along with its predecessors – Plan Bay Area and Plan Bay Area 2040 – grew out of SB 375 and serves as the Bay Area's MTP and RTP/SCS. Plan Bay Area 2050 integrates the region's SCS into the RTP. Plan Bay Area 2050 was prepared by MTC in partnership with ABAG and in collaboration with BAAQMD, BCDC, Caltrans, the nine county-level CMAs or substitute agencies, over two dozen Bay Area transit operators, and numerous transportation stakeholders and the public. Plan Bay Area 2050 achieves and exceeds the Bay Area's regional GHG reduction targets set forth by CARB and was prepared in compliance with the CTC's RTP Guidelines.

Vision and Guiding Principles

Plan Bay Area 2050 incorporates a set of five guiding principles and ten questions to evaluate potential impacts on the corresponding guiding principle, and twenty-seven performance measures – one of those being CARB's GHG emissions reduction target – as quantifiable measures against which progress may be evaluated in addressing the major challenges facing the region, as shown in Table 1. CMAs should consider these goals and targets when preparing their CMPs.

To assess whether a CMP is in line with Plan Bay Area 2050, MTC will first conduct a qualitative evaluation to assess whether the CMP is in support of or in opposition to the Plan's vision and guiding principles outlined in Table 1. MTC will not evaluate whether the CMP meets each of the Plan's adopted targets.

Table1. Plan Bay Area 2050 Equity and Performance Metrics

GUIDING PRINCIPLE	QUESTION	PERFORMANCE MEASURE
AFFORDABLE	Will Bay Area residents spend less on housing and transportation?	Housing and transportation costs as a share of household income
		Average transportation expenses per trip (fare, out-of-pocket auto costs, parking costs, tolls)
	Will the Bay Area produce and preserve more affordable housing?	Share of housing that is deed restricted affordable
		Share of new housing production that is deed-restricted affordable
		Share of at-risk affordable housing preserved as permanently affordable
CONNECTED	Will Bay Area residents be able to access their destinations more easily?	Number and share of total jobs that are accessible by: • 30 min auto • 45 min transit • 20 min bike • 20 min walk
		Share of households located near high-frequency transit (0.5 mi)
		Share of jobs located near high frequency transit (0.5 mi)
		Freeway corridor peak-hour travel time (minutes)

GUIDING PRINCIPLE	QUESTION	PERFORMANCE MEASURE
	Will Bay Area residents have a transportation system they can rely on?	Percent of person hours in transit spent in crowded conditions, by transit operator
		Share of transit assets that are not in a state of good repair
DIVERSE	Will Bay Area communities be more inclusive?	Share of households that are households with low incomes
		Homeownership rate for households with low incomes
	Will Bay Area residents be able to stay in place?	Share of neighborhoods (census tracts) that experience loss in households with low incomes over plan period
HEALTHY	Will Bay Area residents be healthier and safer?	Share of households in risk prone areas that are protected from risk: • Sea level rise/flooding risk • Earthquake risk • Wildfire risk
		Reduction in building risk exposure to damage from earthquake or wildfire
		Annual road fatalities/serious injuries per 100,000 residents
		Daily $PM_{2.5}$ emissions
		Parks and trails per thousand residents
	Will the environment of the Bay Area be healthier and safer?	GHG emissions from transportation per capita (cars and light-duty trucks only and all vehicles)
		Commute mode share
		Existing residential building stock efficiency (CO_2, energy, and water)
VIBRANT	Will jobs and housing in the Bay Area be more evenly distributed?	Jobs-housing ratio
		Mean one-way commute distance
		Jobs-housing ration
	Will the Bay Area economy thrive?	Growth in GRP per capita (2020 dollars) between 2015-2050
		Job growth by industry wage level

Growth Geographies and Pattern

In addition to reducing GHG emissions, SB 375 requires that the SCS promote compact, mixed-use commercial and residential development, and identify how the region could house its current and projected population. Building upon past iterations of Plan Bay Area, Plan Bay Area 2050's core strategy remains "focused growth" in existing communities along the existing transportation network, as well as communities with well-resourced schools and easy access to jobs, parks, and other amenities.

Plan Bay Area 2050 uses growth geographies[2] to guide where future housing and job growth would be focused under the plan's strategies over the next 30 years—the growth pattern[3]. These

[2] https://www.planbayarea.org/sites/default/files/documents/PBA2050_Growth_Geographies_Oct2021_0.pdf
[3] https://www.planbayarea.org/sites/default/files/FinalBlueprintRelease_December2020_GrowthPattern_Jan2021Update.pdf

geographies are identified for growth either by local jurisdictions or because of their proximity to transit or access to opportunity. The four types of growth geographies include:

- **Priority Development Areas (PDAs) -**
  Areas generally near existing job centers or frequent transit that are locally identified (i.e., identified by towns, cities or counties) for housing and job growth.
- **Priority Production Areas (PPAs) -**
  Locally identified places for job growth in middle-wage industries like manufacturing, logistics or other trades. An area must be zoned for industrial use or have a predominantly industrial use to be a PPA.
- **Transit-Rich Areas (TRAs) -**
  Areas near rail, ferry or frequent bus service that were not already identified as PDAs. Specifically, these are areas where at least 50% of the area is within 1/2 mile of either an existing rail station or ferry terminal (with bus or rail service), a bus stop with peak service frequency of 15 minutes or less, or a planned rail station or planned ferry terminal (with bus or rail service).
- **High-Resource Areas (HRAs) -**
  State-identified places[4] with well-resourced schools and access to jobs and open space, among other advantages, that may have historically rejected more housing growth. This designation only includes places that meet a baseline transit service threshold of bus service with peak headways of 30 minutes or better.

In addition, MTC has adopted a transit-oriented communities (TOC) policy, MTC Resolution No. 4530[5], that applies to areas within one half-mile of existing and planned stops and stations of regional rail, commuter rail, light-rail transit, bus rapid transit, and ferries. The policy requirements consist of four elements: 1) minimum required and allowed residential and/or commercial office densities for new development; 2) policies focused on housing production, preservation and protection, and commercial anti-displacement and stabilization polices; 3) parking management; and 4) transit station access and circulation. The TOC policy supports two high-impact Plan Bay Area 2050 strategies that will help the region reach ambitious targets for reducing GHG emissions and should be recognized in the CMP (attached as Attachment B, Appendix C).

To ensure that a CMP is in line with Plan Bay Area 2050, MTC will conduct a qualitative evaluation to assess whether the CMP is in support of or in opposition to the Plan's focused growth strategy, as well as MTC's TOC Policy.

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[4] Plan Bay Area 2050's High-Resource Areas are a subset of the high-opportunity areas identified statewide by the California Department of Housing and Community Development that meet a minimum transit service threshold and are located in the Bay Area. See more at: https://www.treasurer. ca.gov/ctcac/opportunity.asp

[5] https://mtc.ca.gov/planning/land-use/transit-oriented-communities-toc-policy

Transportation Strategies and Project List

Twelve transportation strategies support Plan Bay Area 2050's focused growth strategy that when taken together enable the Bay Area to reduce per capita GHG emissions and vehicle miles traveled. The transportation strategies are organized into three themes, strategies to 1) maintain and optimize the existing transportation system; 2) create healthy and safe streets; and 3) build a next-generation transit network. Approximately 75 percent of Plan Bay Area 2050's transportation investments support operating, maintaining, and optimizing the existing transportation system. Plan Bay Area 2050's twelve transportation strategies are shown in Table 2, below.

Table 2. Plan Bay Area 2050 Transportation Strategies

THEME	STRATEGY
MAINTAIN AND OPTIMIZE THE EXISTING SYSTEM	**T1. Restore, operate and maintain the existing system.** Commit to operate and maintain the Bay Area's roads and transit infrastructure while reversing pandemic-related cuts to total transit service hours.
	T2. Support community-led transportation enhancements in Equity Priority Communities. Provide direct funding to historically marginalized communities for locally identified transportation needs.
	T3. Enable a seamless mobility experience. Eliminate barriers to multi-operator transit trips by streamlining fare payment and trip planning while requiring schedule coordination at timed transfer hubs.
	T4. Reform regional transit fare policy. Streamline fare payment and replace existing operator specific discounted fare programs with an integrated fare structure across all transit operators.
	T5. Implement per-mile tolling on congested freeways with transit alternatives. Apply a per-mile charge on auto travel on select congested freeway corridors where transit alternatives exist, with discounts for carpoolers, low-income residents, and off-peak travel; and reinvest excess revenues into transit alternatives in the corridor.
	T6. Improve interchanges and address highway bottlenecks. Rebuild interchanges and widen key highway bottlenecks to achieve short- to medium-term congestion relief.
	T7. Advance other regional programs and local priorities. Fund regional programs like motorist aid and 511 while supporting local transportation investments on arterials and local streets.
CREATE HEALTHY AND SAFE STREETS	**T8. Build a Complete Streets network.** Enhance streets to promote walking, biking and other micro-mobility through sidewalk improvements, car-free slow streets, and 10,000 miles of bike lanes or multi-use paths.
	T9. Advance regional Vision Zero policy through street design and reduced speeds. Reduce speed limits to between 20 and 35 miles per hour on local streets and 55 miles per hour on freeways, relying on design elements on local streets and automated speed enforcement on freeways.
BUILD A NEXT-GENERATION TRANSIT NETWORK	**T10. Enhance local transit frequency, capacity and reliability.** Improve the quality and availability of local bus and light rail service, with new bus rapid transit lines, South Bay light rail extensions, and frequency increases focused in lower-income communities.

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THEME	STRATEGY
	T11. Expand and modernize the regional rail network. Better connect communities while increasing frequencies by advancing the Link21 new transbay rail crossing, BART to Silicon Valley Phase 2, Valley Link, Caltrain Downtown Rail Extension and Caltrain/High-Speed Rail grade separations, among other projects.
	T12. Build an integrated regional express lanes and express bus network. Complete the buildout of the regional express lanes network to provide uncongested freeway lanes for new and improved express bus services, carpools and toll-paying solo drivers.

To ensure that a CMP is in line with Plan Bay Area 2050, MTC will verify whether the CMP's Capital Improvement Program (CIP) is consistent with the Plan Bay Area 2050's transportation strategies and project list. The scope, schedule, and cost estimates of regionally significant projects must be consistent with Plan Bay Area 2050's project list, and non-regionally significant projects must align with a programmatic category in Plan Bay Area 2050's project list[6].

2) Consistency with the MTC Travel Demand Modeling Databases and Methodologies

MTC's statutory requirements regarding consistent databases are as follows:

> *The agency, (i.e., the CMA) in consultation with the regional agency, cities, and the county, shall develop a uniform data base on traffic impacts for use in a countywide transportation computer model . . . The computer models shall be consistent with the modeling methodology adopted by the regional planning agency. The data bases used in the models shall be consistent with the data bases used by the regional planning agency. Where the regional agency has jurisdiction over two or more counties, the data bases used by the agency shall be consistent with the data bases used by the regional agency. (Section 65089 (c))*

MTC desires the development and implementation of consistent travel demand models, with shared input databases, to provide a common foundation for transportation policy and investment analysis.

The Bay Area Partnership's Regional Model Working Group (RMWG) serves as a forum for sharing data and expertise and providing peer review for issues involving the models developed by or for the CMAs, MTC, and other parties. MTC Guidance for Model Consistency, Collaboration, and Transparency will be used to guide the consistency assessment of CMA models with the MTC model.

A link to the model consistency guidance is included in Attachment B, and addresses:

[6] https://www.planbayarea.org/2050-plan/final-plan-bay-area-2050/final-supplemental-reports/interactive-transportation-project-list

- Model Development – Base Year(s): Model Development, Calibration, and Validation Report(s) and Model User Guide;
- Model Development – Base Year(s): Demographic/economic/land use assumptions;
- Model Development – Forecast Year(s): Demographic/economic/land use forecasts;
- Model Development – Forecast Year(s): Pricing assumptions;
- Model Development – Forecast Year(s): Network assumptions;
- Model Development – Forecast Year(s): Automobile ownership;
- Model Development – Forecast Year(s): Coordinated Daily Activity Pattern model/trip generation;
- Model Development – Forecast Year(s): Activity/trip location;
- Model Development – Forecast Year(s): Travel mode choice; and,
- Model Development – Forecast Year(s): Traffic and transit assignment.

3) Consistency with pertinent Air Quality Plans

Transportation Control Measures (TCMs) are identified in the federal and state air quality plans to achieve and maintain the respective standards for ozone and carbon monoxide. The statutes require that the Capital Improvement Program (CIP) of the CMP conform to transportation related vehicle emission air quality mitigation measures. CMPs should promote the region's adopted TCMs for federal and state air quality plans. In addition, CMPs are encouraged to consider the benefits of GHG reductions in developing the CIP, although GHG emission reductions are not currently required in federal and state air quality plans.

A reference to the lists of federal and state TCMs is provided in Attachment B. The lists may be updated from time to time to reflect changes in the federal and state air quality plans.

In particular, TCMs that require local implementation should be identified in the CMP, specifically in the CIP.

CMPs are also required to contain provisions pertaining to parking cash-out.

> *The city or county in which a commercial development will implement a parking cash-out program that is included in a congestion management program pursuant to subdivision (b), or in a deficiency plan pursuant to Section 65089.4, shall grant to that development an appropriate reduction in the parking requirements otherwise in effect for new commercial development. (2) At the request of an existing commercial development that has implemented a parking cashout program, the city of county shall grant an appropriate reduction in the parking requirements otherwise applicable based on the demonstrated reduced need for parking, and the space no longer needed for parking purposes may be used for other appropriate purposes. (Section 65089 (d)*

As of January 1, 2010, cities, counties and air districts were given the option to enforce the State Parking Cash-Out statutes (Section 43845 of the Health and Safety Code), as per SB 728

(Lowenthal). This provided local jurisdictions with another tool to craft their own approaches to support multi-modal transportation systems, address congestion and greenhouse gases.

D. Consistency and Compatibility of the Programs within the Region

The CMP statutes require that, in the case of a multi-county regional transportation agency, that agency shall evaluate the consistency and compatibility of the CMPs within the region. Further, it is the Legislature's stated intention that the regional agency (i.e., MTC in the San Francisco Bay Area) resolve inconsistencies and mediate disputes between or among CMPs within a region.

To the extent useful and necessary, MTC will identify differences in methodologies and approaches between the CMPs on such issues as performance measures and land use impacts. The CMP statutes also require that the CMA designate a system of highways and roadways which shall be subject to the CMP requirements. Consistency requires the regional continuity of the CMP designated system for facilities that cross county borders.

To determine whether a CMP is consistent with the system definition of adjoining counties, MTC will review the draft CMPs to determine whether adjacent counties have the same designations of cross border facilities.

E. Incorporation of the CMP Projects into the RTIP

State transportation statutes require that the MTC, in partnership with the state and local agencies, develop the RTIP on a biennial cycle. The RTIP is the regional program for state and federal funding, adopted by MTC and provided to CTC for the development of the State Transportation Improvement Program (STIP). In 1997, SB 45 (Statutes 1997, Chapter 622) significantly revised State transportation funding policies, delegating project selection and delivery responsibilities for a major portion of funding to regions and counties. Subsequent changes to state law (AB 2928 – Statutes 2000, Chapter 91) made the RTIP a five-year proposal of specific projects, developed for specific fund sources and programs. The RTIP is required to be consistent with the most recently adopted RTP (Plan Bay Area 2050).

The CMP statutes establish a direct linkage between CMPs that have been found to be consistent with the RTP, and the RTIP. MTC will review the projects in the CIP of the CMP for consistency with the RTP. MTC's consistency findings for projects in the CMPs will be limited to those projects that are included in the RTP, and do not extend to other projects that may be included in the CMP. Some projects may be found consistent with a program or programmatic category in the RTP. MTC, upon finding that the CMP is consistent with the RTP, shall incorporate the CMP's program of projects into the RTIP, subject to specific programming and funding requirements. If MTC finds the CMP inconsistent, it may exclude any project in the program from inclusion in the RTIP. Since the RTIP must be consistent with the RTP, projects that are not consistent with the RTP will not be included in the RTIP. MTC may include certain projects or programs in the RTIP which are not in a CIP, but which are in the RTP. In addition,

SB 45 requires projects included in the Interregional Transportation Improvement Program (ITIP) to be consistent with the RTP.

II. CMP PREPARATION & SUBMITTAL TO MTC

A. CMP Preparation

If prepared, the CMA shall develop the CMP in consultation with, and with the cooperation of, MTC, transportation providers, local governments, Caltrans, and the BAAQMD, and adopted at a noticed public hearing of the CMA. As established in SB 45, the RTIP is scheduled to be adopted by December 15 of each odd numbered year. If circumstances arise that change this schedule, MTC will work with the CMAs and substitute agencies in determining an appropriate schedule and mechanism to provide input to the RTIP.

B. Regional Coordination

In addition to program development and coordination at the county level, and consistency with the RTP, the compatibility of the CMPs with other Bay Area CMPs would be enhanced through identification of cross county issues in an appropriate forum, such as Partnership and other appropriate policy and technical committees. Discussions would be most beneficial if done prior to final CMA actions on the CMP.

C. Submittal to MTC

To provide adequate review time, draft CMPs should be submitted to MTC in accordance to a schedule MTC will develop to allow sufficient time for incorporation into the RTIP for submittal to CTC. Final CMPs must be adopted prior to final MTC consistency findings.

D. MTC Consistency Findings for CMPs

MTC will evaluate consistency of the CMP every two years with the RTP that is in effect when the CMP is submitted; for the 2023 CMP the RTP in effect will be Plan Bay Area 2050. MTC will evaluate the consistency of draft CMPs when received, based upon the areas specified in this guidance, and will provide staff comments of any significant concerns. MTC can only make final consistency findings on CMPs that have been officially adopted.

APPENDIX B

CMP NETWORK AND DEFICIENCY GUIDELINES

CMP Network

Criteria for Identifying the CMP Network

The roadway system must be detailed enough to identify significant impacts, yet be manageable for administration. The advantage of designating a relatively detailed CMP roadway system is that it may be easier to establish a link between proposed development projects and their impact on the CMP network. However, too large of a CMP network could become difficult and expensive to monitor. In light of technology advances, the cost for monitoring additional mileage has decreased, but additional staff resources are required to manage performance analysis of a larger network. The following criteria attempt to strike this balance. Alameda CTC will periodically review the effectiveness of these criteria and the CMP network to determine if changes are warranted.

Tier 1 network criteria

The statutes require designation of all state highways and principal arterials as part of the CMP network but do not provide guidance for determining the principal arterials to include. After evaluating several possible methods, an approach was adopted in 1991 for the CMP that provided for the systematic selection of principal arterials to include in the CMP network.

The selected approach, which met MTC's expectations for a "reasonable" CMP network designation method, relies on a concept central to the CMP legislation—identifying a system that carries a majority of the vehicle trips countywide.

Using the countywide travel model, an average daily traffic volume was identified that would produce a system of roadways carrying at least 70 percent of the VMT countywide. This approach yielded an average daily traffic of roughly 30,000 vehicles per day as a minimum threshold. Additional criteria were included to refine the definition as described below.

All state highways:

- Must have a minimum threshold of 30,000 vehicles per day.
- Will be evaluated according to the principal arterial criteria, if a route is relocated or removed from the State Highway System, to determine whether it should remain in the CMP network.

Principal arterials must meet all four criteria:

- Must carry 30,000 vehicles per day (average daily traffic) for at least one mile;
- Must be a roadway with four or more lanes;
- Must be a major cross-town connector, traversing from one side of town to the opposite side; and
- Must connect at both ends to another CMP route, unless the route terminates at a major activity center.

Tier 2 network criteria

In 2011, the Commission added 89 miles of roadways (arterials and major collectors) to the CMP network as Tier 2 roadways based on a set of qualitative criteria as follows.

Roadways must meet at least two of the following three criteria to be added to the Tier 2 network:

- Major thoroughfares, not on the existing CMP network, whose primary function is to link districts within an Alameda County jurisdiction and to distribute traffic from and to the freeways;
- Routes of jurisdiction-wide significance not on the existing CMP network; and
- Streets that experience significant conflicts between auto traffic and transit/other modes.

In 2017, based on the completed countywide modal plans and in coordination with the Alameda County Technical Advisory Committee (ACTAC) and transit agencies, Alameda CTC added four additional criteria for identifying new Tier 2 network roadway segments. Application of the 2017 CMP Tier 2 criteria resulted in the addition of approximately 220 new Tier 2 miles.

Roadways must meet one of the following criteria:

- Higher order facilities (throughways or county connectors[4]) as identified in the Multimodal Arterial Plan.
- Facilities that are AC Transit and LAVTA major corridors as identified in the Multimodal Arterial Plan and consistent with AC Transit's Major Corridor Study and LAVTA's updated Rapid service routes.
- Significant or Tier 2 goods movement routes[5] as identified in the Goods Movement Plan and Multimodal Arterial Plan.
- Rural roadways in East County that have greater than 7,500 annual daily traffic (ADT) according to the Multimodal Arterial Plan.

Transit monitoring network criteria

In 2017, Alameda CTC worked with transit agencies to develop a new network of 146 miles for monitoring transit vehicle performance. To be a part of the transit monitoring network, roadways must meet the following criteria:

- Facilities that carry AC Transit and LAVTA major corridors as identified in the Multimodal Arterial Plan and consistent with AC Transit's Major Corridor Study and LAVTA's updated Rapid service routes.

The transit monitoring network is a subset of the overall CMP. Monitoring began on the new Tier 2 segments in the 2018 monitoring cycle. Note that only Tier 2 segments for which commercial speed data is available will be monitored. Transit vehicle performance was also monitored on the transit monitoring network for the first time as part of the 2018 LOS monitoring cycle.

Process for Adding Roadways

Alameda CTC has not identified any new roadways for incorporation into the CMP network as part of the 2023 CMP Update. The addition of roadways to the CMP network not identified by Alameda CTC is voluntary for local jurisdictions, particularly for the Tier 1 network in view of the conformity requirements and related funding implications. Any new segments identified are reviewed by the jurisdictions and partner agencies, after which Alameda CTC staff perform a review of the proposed roadway additions to the CMP and transit monitoring networks with reference to the adopted criteria and submit a recommendation to the Commission for final approval.

Regarding the Tier 1 network criteria, no new roadways have been added since the initial adoption of the CMP network in 1991 and 1992, with the exception of any changes or additions to the state highways (e.g., the SR 84 new

[4] As defined in the Multimodal Arterial Plan, throughways carry at least 10,000 ADT and have a majority of volume traveling over 8 miles along the roadway. County connectors carry at least 10,000 ADT and have 45-50 percent of volume traveling over 6 miles along the roadway.

[5] Tier 2 Goods movement corridors are arterials that were first identified in the Countywide Goods Movement Plan as providing intra-county and intercity connectivity and last-mile connection to the Port of Oakland and the Oakland International Airport. The network was subsequently adopted in the Multimodal Arterial Plan and is also reflected in the 2017 CMP network.

System, as mandated by state law.

For potential roadways to be added to the Tier 2 network, interested jurisdictions or transit operators could propose a roadway if it meets the Tier 2 criteria. In the 2017 CMP update, Alameda CTC requested and incorporated additions to the Tier 2 network from local jurisdictions and partner agencies.

For potential roadways to be added to the transit monitoring network, interested jurisdictions or transit operators could propose a roadway if it meets the transit monitoring network criteria.

CMP Network Tier 1 Roadways

Table 2.1 lists the designated Tier 1 CMP network, including all freeways, all state highways, and principal arterials that satisfy the Tier 1 criteria.

Table B1 — CMP-Designated System, Tier 1 Roadway List

Table B1.1—Cities of Albany and Berkeley

Route	From	To
SR-123 (San Pablo)	Contra Costa County line	Emeryville city limit
University Avenue	I-80	Milvia Street
University Avenue	Milvia Street	Shattuck Avenue
Shattuck Avenue	University Avenue	Haste Street
Shattuck Avenue	Haste Street	Derby Street
Adeline Street	Derby Street	MLK Jr. Way
MLK Jr. Way	Adeline Street	Oakland city limit
SR-13 (Ashby Avenue)	I-80	Tunnel Road
SR-13 (Tunnel Road)	Ashby Avenue	Oakland city limit
I-80/I-580	University Avenue	Central

Table B1.2—City of Alameda

Route	From	To
SR-61 (Doolittle Drive)	Oakland city limit	Fernside Boulevard
SR-61 (Otis Drive)	Fernside Boulevard	SR-61 (Broadway)
SR-61 (Broadway)	Otis Drive	SR-61 (Encinal Avenue)
SR-61 (Encinal Avenue)	SR-61 (Broadway)	Sherman Street
SR-61 (Central Avenue)	Sherman Street	SR-260 (Webster Street)
SR-260 (Webster Street)	SR-61 (Central Avenue)	Posey/Webster tubes

Table B1.2—City of Alameda (Cont.)

Route	From	To
SR-260 (Posey/Webster tubes)	SR-260 (Webster Street)	Oakland city limit
Atlantic Avenue	SR-260 (Webster Street)	Poggi Street
Atlantic Avenue	Poggi Street	Main Street
Park Street	Oakland city limit	Central Avenue
Park Street	Central Avenue	SR-61 (Encinal Avenue)

Table B1.3—City of Hayward

Route	From	To
SR-185 (Mission Boulevard	Ashland (unincorporated)	SR-92 (Jackson Street)
SR-92 (Jackson Street)	I-880	SR-185 (Mission Boulevard)
SR-238 (Foothill Boulevard)	Ashland (unincorporated)	SR-185 (Mission Boulevard)
SR-238 (Mission Boulevard)	SR-92 (Jackson Street)	Union City city limit
A Street	I-880	SR-238 (Foothill Boulevard)
Hesperian Boulevard	San Lorenzo (unincorporated)	Tennyson Road
Tennyson Road	Hesperian Boulevard	SR-238 (Mission Boulevard)
SR-92	San Mateo County line	I-880
I-880	A Street	Alvarado-Niles

Table B1.4—Cities of Emeryville, Oakland, and Piedmont

Route	From	To
MLK Jr. Way	Berkeley city limit	SR-24
SR-123 (San Pablo)	Berkeley city limit	35th Street
SR-13 (Tunnel Road)	Berkeley city limit	SR-24
SR-260 (Posey/Webster tubes)	Alameda city limit	I-880
23rd/29th Avenue	Alameda city limit	I-880
SR-77 (42nd Avenue)	I-880	SR-185 (E. 14th Street)
SR-185 (E. 14th Street)	SR-77 (42nd Avenue)	San Leandro city limit
Hegenberger Road	I-880	Doolittle Drive
Hegenberger Road	I-880	Hawley Street
Hegenberger Road	Hawley Street	SR-185 (E. 14th Street)

Table B1.4—Cities of Emeryville, Oakland, and Piedmont (Cont.)

Route	From	To
SR-61 (Doolittle Drive)	Alameda city limit	San Leandro city limit
SR-13	SR-24	I-580
SR-24	I-980	Contra Costa County line
I-80	SF County Line	University Avenue
I-580	I-80	MacArthur Boulevard
I-880	I-980	Hegenberger Road
I-980	I-880	SR-24

Table B1.5—City of San Leandro

Route	From	To
SR-61 (Doolittle Drive)	Oakland city limit	SR-61/112 (Davis Street)
SR-61/112 (Davis Street)	SR-61 (Doolittle Drive)	SR-185 (E. 14th Street)
SR-61 (Broadway)	Otis Drive	SR-61 (Encinal Avenue)
SR-185 (E. 14th Street)	Oakland city limit	Ashland (unincorporated)
150th Avenue	Hesperian Boulevard	I-580
Hesperian Boulevard	SR-185 (E. 14th Street)	San Lorenzo (unincorporated)
I-880	Hegenberger Avenue	I-238
I-580	MacArthur Boulevard	I-238

Table B1.6—San Lorenzo, Castro Valley, and Ashland (Unincorporated Areas)

Route	From	To
SR-185 (Mission Boulevard)	San Leandro city limit	Hayward city limit
Hesperian Boulevard	San Leandro city limit	Hayward city limit
SR-238 (Foothill Boulevard)	I-238	Hayward city limit
I-880	I-238	A Street
I-238	I-880	I-580
I-580	I-238	I-680

Table B1.7—Cities of Union City, Fremont, and Newark

Route	From	To
SR-238 (Mission Boulevard)	Hayward city limit	I-680
Decoto Road	I-880	SR-238 (Mission Boulevard)
Mowry Avenue	I-880	SR-84 (Peralta Boulevard)
SR-262 (Mission Boulevard)	I-880	I-680
SR-84 (Thornton Avenue)	I-880	Fremont Boulevard
SR-84 (Fremont Boulevard)	SR-84 (Thornton Avenue)	SR-84 (Peralta Boulevard)
SR-84 (Peralta Boulevard)	SR-84 (Fremont Boulevard)	SR-84 (Mowry Avenue)
SR-84 (Mowry Avenue)	SR-84 (Peralta Boulevard)	SR-238 (Mission Boulevard)
SR-84 (Niles Canyon)	SR-238 (Mission Boulevard)	I-680
SR-84	San Mateo County line	I-880
I-880	Alvarado-Niles	Dixon Landing
I-680	Scott Creek	SR-238

Table B1.8—Cities of Pleasanton, Dublin, Livermore, and Unincorporated Areas

Route	From	To
SR-84 (Vallecitos Road)	I-680	SR-84 (Isabel Avenue)
SR-84 (Isabel Avenue)	SR-84 (Vallecitos Road)	SR-84 (Kitty Hawk Road)
SR-84 (Kitty Hawk Road)	SR-84 (Isabel Avenue)	SR-84 (Airway Boulevard)
SR-84 (Airway Boulevard)	SR-84 (Kitty Hawk Road)	I-580
1st Street	Inman Street	I-580
I-580	I-680	I-205
I-680	SR-238	Alcosta Boulevard

CMP Network Tier 2 Roadways

Table 2.2 lists the designated Tier 2 roadways identified using the adopted qualitative criteria from the 2011 and 2017 CMP updates.

Table B2—CMP-Designated System, Tier 2 Roadway List

Table B2.1—Cities of Alameda, Albany, Berkeley, Emeryville, and Oakland

Route	From	To	Jurisdiction	Distance (miles)
Buchanan Street-Marin Avenue	I-80	Arlington/ Del Norte	Albany	2.1
Solano Avenue	San Pablo Boulevard	Sutter Street	Albany/Berkeley	1.5
W. Grand Avenue to Grand Avenue	I-80	I-580	Oakland	3.1
12th Street-Lakeshore Avenue	I-980	I-580	Oakland	2.4
Telegraph Avenue	Broadway	Bancroft Way	Oakland, Berkeley	4.4
Broadway	I-880	College Avenue	Oakland	3.1
College Avenue	Broadway	Bancroft Way	Oakland, Berkeley	2.4
51st Street	Broadway	SR-24	Oakland	0.8
Shattuck Avenue	Adeline Street	51st Street	Oakland, Berkeley	1.5
Shattuck Avenue	University Avenue	Marin Avenue	Berkeley	1.3
Bancroft Way	College Avenue	Shattuck	Berkeley	0.7
Durant Avenue	Shattuck Avenue	College Avenue	Berkeley	0.7
Gilman Street	I-80	San Pablo Boulevard	Berkeley	0.6
Martin Luther King Jr Way	Marin Avenue	Adeline Street	Berkeley	2.7
Claremont Avenue	Telegraph Avenue	Ashby Avenue	Berkeley	1.6

Table B2.1—Cities of Alameda, Albany, Berkeley, Emeryville, and Oakland (Cont.)

Route	From	To	Jurisdiction	Distance (miles)
Powell Street-Stanford Avenue	I-80	Martin Luther King Jr. Way/ Adeline Street	Emeryville, Berkeley	2.2
40th Street-Shellmound Avenue	Broadway	Powell Street	Emeryville, Oakland	2.8
Broadway	College Avenue	SR-24	Oakland	0.9
Bush Street	San Pablo Avenue	7th Street	Oakland	0.9
Castro Street	7th Street	San Pablo Avenue	Oakland	0.8
Foothill Boulevard	1st Avenue	73rd Avenue	Oakland	5.3
Fruitvale Avenue	Tilden Way	MacArthur Boulevard	Oakland	2.4
Harrison Street-Oakland Avenue	MacArthur Boulevard	20th Street	Oakland	1.4
High Street	I-580	MacArthur Boulevard	Oakland	0.1
International Boulevard	1st Avenue	42nd Avenue	Oakland	2.9
MacArthur Boulevard	San Pablo Avenue	Estudillo Avenue	Oakland, Emeryville, San Leandro	13.8
Market Street	55th Street	Stanford Avenue	Oakland	0.4
Martin Luther King Jr. Way	San Pablo Avenue	47th Street	Oakland	1.8
Park Boulevard	E. 18th Street	SR-13	Oakland	3.7
San Leandro Street	Fruitvale Avenue	Oakland/ San Leandro border	Oakland	4.3
San Pablo Avenue	I-580	16th Street	Oakland	1.1
Seminary Avenue	MacArthur Boulevard	I-580	Oakland	0.7
5th Street	Adeline Street	Oak Street	Oakland	1.3
6th Street	Adeline Street	Oak Street	Oakland	1.3
7th Street-E. 8th Street	I-880	14th Avenue	Oakland	3.5
8th Street	Harrison Street	Broadway	Oakland	0.2

Table B2.1—Cities of Alameda, Albany, Berkeley, Emeryville, and Oakland (Cont.)

Route	From	To	Jurisdiction	Distance (miles)
E. 12th Street	Lake Merritt Boulevard	High Street	Oakland	4.1
14th Street-Lake Merritt Boulevard	Bush Street	12th Street	Oakland	1.1
E. 15th Street	1st Avenue	14th Avenue	Oakland	1.0
E. 18th Street	Lakeshore Avenue	Park Boulevard	Oakland	0.2
20th Street	San Pablo Avenue	Harrison Street	Oakland	0.5
52nd Street	Telegraph Avenue	Shattuck Avenue	Oakland	0.1
55th Street	Market Street	Shattuck Avenue	Oakland	0.5
14th Avenue	E. 8th Street	Foothill Boulevard	Oakland	0.3
23rd Avenue	E. 12th Street	23rd Ave NB/ SB split	Oakland	0.3
29th Avenue	Ford Street	International/ E. 14th Street	Oakland	0.5
42nd Avenue-Courtland	International Boulevard	High Street	Oakland	0.4
73rd Avenue	International Boulevard	I-580	Oakland	1.9
98th Avenue	I-580	Airport Access Road	Oakland	3.2
Airport Access Road	Hegenberger Road	Doolittle Drive	Oakland	0.3
High Street	Otis Drive	I-580	Alameda, Oakland	3.5
Broadway	Encinal Avenue	Tilden Way	Alameda	0.6
Constitution Way-8th Street	Webster Street	Central Avenue	Alameda	0.9
Fernside Boulevard	High Street	Otis-Doolittle Drive	Alameda	1.1
Otis Drive	Park Street	Broadway	Alameda	0.2
Park Street	Otis Drive	Encinal Avenue	Alameda	0.4
Santa Clara Avenue	Webster Street	Broadway	Alameda	2.3
Tilden Way	Fruitvale Avenue	Park Street	Alameda	0.8

Table B2.2—Alameda County and Cities of Hayward and Union City

Route	From	To	Jurisdiction	Distance (miles)
Crow Canyon Road	I-580	County Line	Alameda County	7.0
Castro Valley Boulevard-Mattox	Mission Boulevard	Crow Canyon Road	Alameda County	2.7
Lewelling Boulevard	Wicks Boulevard	Mission Boulevard	Alameda County, San Leandro	2.9
Redwood Road	I-580	Castro Valley Boulevard	Alameda County	0.4
Winton Avenue-D Street	Clawiter Road	Foothill Boulevard	Hayward	2.4
A Street	Foothill Boulevard	I-580	Hayward, Alameda County	1.2
B Street	Mission Boulevard	Foothill Boulevard	Hayward	0.2
C Street	Mission Boulevard	Foothill Boulevard	Hayward	0.2
Carlos Bee Boulevard-Hayward Boulevard	Campus Drive	Mission Boulevard	Hayward	1.0
Clawiter Road	Winton Avenue	SR-92	Hayward	1.7
Grove Way	A Street/ Redwood Road	I-580	Hayward, Alameda County	1.0
Hesperian Boulevard-Union City Boulevard	Tennyson Road	Alvarado Boulevard	Hayward, Union City	2.9
Industrial Parkway Southwest	Whipple Road	Industrial Parkway West	Hayward	1.0
Industrial Boulevard-Parkway West	Clawiter Road	Mission Boulevard	Hayward	5.2
Tennyson Road	Industrial Boulevard	Hesperian Boulevard	Hayward	0.6
Whipple Road	Union City Boulevard	Mission Boulevard	Hayward, Union City	3.4
Estudillo Avenue	E. 14th Street	MacArthur Boulevard	San Leandro	1.0
Marina Boulevard	Doolittle Drive	Washington Avenue	San Leandro	1.2
San Leandro Boulevard	E. 14th Street	San Leandro/ Oakland border	San Leandro	2.2

Table B2.2—Alameda County and Cities of Hayward and Union City (Cont.)

Route	From	To	Jurisdiction	Distance (miles)
Washington Avenue	Juana Avenue	Lewelling Boulevard	San Leandro	2.9
Wicks Boulevard-Merced Street	Marina Boulevard	Lewelling Boulevard	San Leandro	2.2

Table B2.3—Cities of Fremont, Newark, and Union City

Route	From	To	Jurisdiction	Distance (miles)
Alvarado Boulevard	Union City Boulevard	I-880	Union City	2.2
Fremont Boulevard	I-880 @ Alvarado Boulevard/ Fremont Boulevard	Santa Clara County line	Fremont	11.8
Auto Mall Parkway	Cherry Street	I-680	Fremont	2.4
Cherry-Boyce-Cushing	Thornton Avenue	I-880	Fremont	5.7
Dyer Street	Whipple Road	Alvarado Boulevard	Union City	1.2
Alvarado-Niles/Smith/ Niles Boulevard	Union City Boulevard	Mission Boulevard	Fremont, Union City	6.4
Grimmer Boulevard	Paseo Padre Parkway	Mission Boulevard	Fremont	5.1
Mission Boulevard	I-680	I-680	Fremont	3.0
Osgood Road-Warm Springs Boulevard	Fremont Boulevard/ Washington Boulevard	Santa Clara County line	Fremont	5.5
Paseo Padre Parkway	Peralta Boulevard	Grimmer Boulevard	Fremont	2.3
Paseo Padre Parkway	SR-84	Ardenwood Boulevard	Fremont	1.5
Stevenson Boulevard	Cherry Street	Mission Boulevard	Fremont	4.0
Union City Boulevard-Ardenwood-Newark Boulevard	Hesperian Boulevard	Central Avenue	Union City, Fremont, Newark	6.0

Table B2.3—Cities of Fremont, Newark, and Union City (Cont.)

Route	From	To	Jurisdiction	Distance (miles)
Walnut Avenue	Fremont Boulevard	Mission Boulevard	Fremont	1.8
Warren Avenue	Warm Springs Boulevard	Fremont Boulevard	Fremont	1.0
Washington Boulevard	Fremont Boulevard	Mission Boulevard	Fremont	2.2
Central Avenue	I-880	Cherry Street	Newark	0.8
Mowry Avenue	Cherry Street	I-880	Newark	0.8
Thornton Avenue	SR-84	I-880	Newark	3.7

Table B2.4—Alameda County and Cities of Dublin, Livermore, and Pleasanton

Route	From	To	Jurisdiction	Distance (miles)
North Front Road-Altamont Pass Road-Grant Line	Vasco Road	County line	Alameda County, Livermore	11.1
Tesla Road	Livermore Avenue	County line	Alameda County	11.9
Patterson Pass Road	Vasco Road	County line	Alameda County, Livermore	10.1
Dublin Boulevard	San Ramon Road	Fallon Road	Dublin	6.4
Dougherty Road	I-580	County line	Dublin	1.9
Fallon Road	I-580	Tassajara Road	Dublin	2.8
San Ramon Road	I-580	County line	Dublin	1.7
Tassajara Road	I-580	County line	Dublin	2.8
Village Parkway	Dublin Boulevard	County line	Dublin	1.5
E. Stanley Boulevard-Railroad Avenue-1st Street	Isabel Avenue	Inman Street (connecting I-580)	Livermore	4.2

Table B2.4—Alameda County and Cities of Dublin, Livermore, and Pleasanton (Cont.)

Route	From	To	Jurisdiction	Distance (miles)
East Avenue	Livermore Avenue	Vasco Road	Livermore	2.3
First Street	Stanley Boulevard	Railroad Avenue	Livermore	2.7
Isabel Avenue	Portola Avenue	Airway Boulevard	Livermore	0.9
Livermore Avenue	I-580	Tesla Road	Livermore	5.1
North Canyons Parkway-Portola	Airway Boulevard	1st Street	Livermore	4.4
Vallecitos Road	SR-84	1st Street	Livermore	3.3
Vasco Road	County line	Tesla Road	Livermore	8.8
Bernal Avenue	I-680	Sunol Boulevard/ First Street	Pleasanton	1.4
El Charro Road	I-580	Stoneridge Drive	Pleasanton	0.3
Foothill Road	Stoneridge Drive	I-580	Pleasanton	0.7
Stoneridge Drive	I-680	Santa Rita Road	Pleasanton	2.5
Main Street-Santa Rita Road	Bernal Avenue	I-580	Pleasanton	3.5
Neal Street	Santa Rita Road	Sunol Boulevard	Pleasanton	0.1
Owens Drive	Willow Road	W. Los Positas Boulevard	Pleasanton	1.3
Stoneridge Drive-Jack London Boulevard	Foothill Road	Isabel Avenue	Pleasanton	4.9
W. Los Positas Boulevard	Owens Drive	Santa Rita Road	Pleasanton	1.3
Sunol Boulevard-1st Street-Stanley Boulevard	I-680	Isabel Avenue	Alameda County, Pleasanton	5.6

CMP Roadway and Transit Networks

The entire CMP-designated Roadway Network (Tiers 1 and 2) is illustrated in Figure 1, and detailed for each sub-area within the county in Figures 2 through 5. Figure 6 illustrates Levels of Service ratings A through F, which is the metric Alameda CTC uses to monitor performance on the CMP Roadway Network.

Figure 7 represents the CMP Transit Monitoring Network. Alameda CTC monitors transit performance for the two largest operators on CMP roadways: LAVTA and AC Transit. Union City offers more limited service, and other operators like the Altamont Corridor Express, Capitol Corridor, San Francisco Bay Area Rapid Transit, and the San Francisco Bay Area Water Emergency Transit Authority provide service, but not on CMP roadway networks; performance for these services are monitored systemwide.

Figure B.1: Alameda County Designated CMP Roadway Network

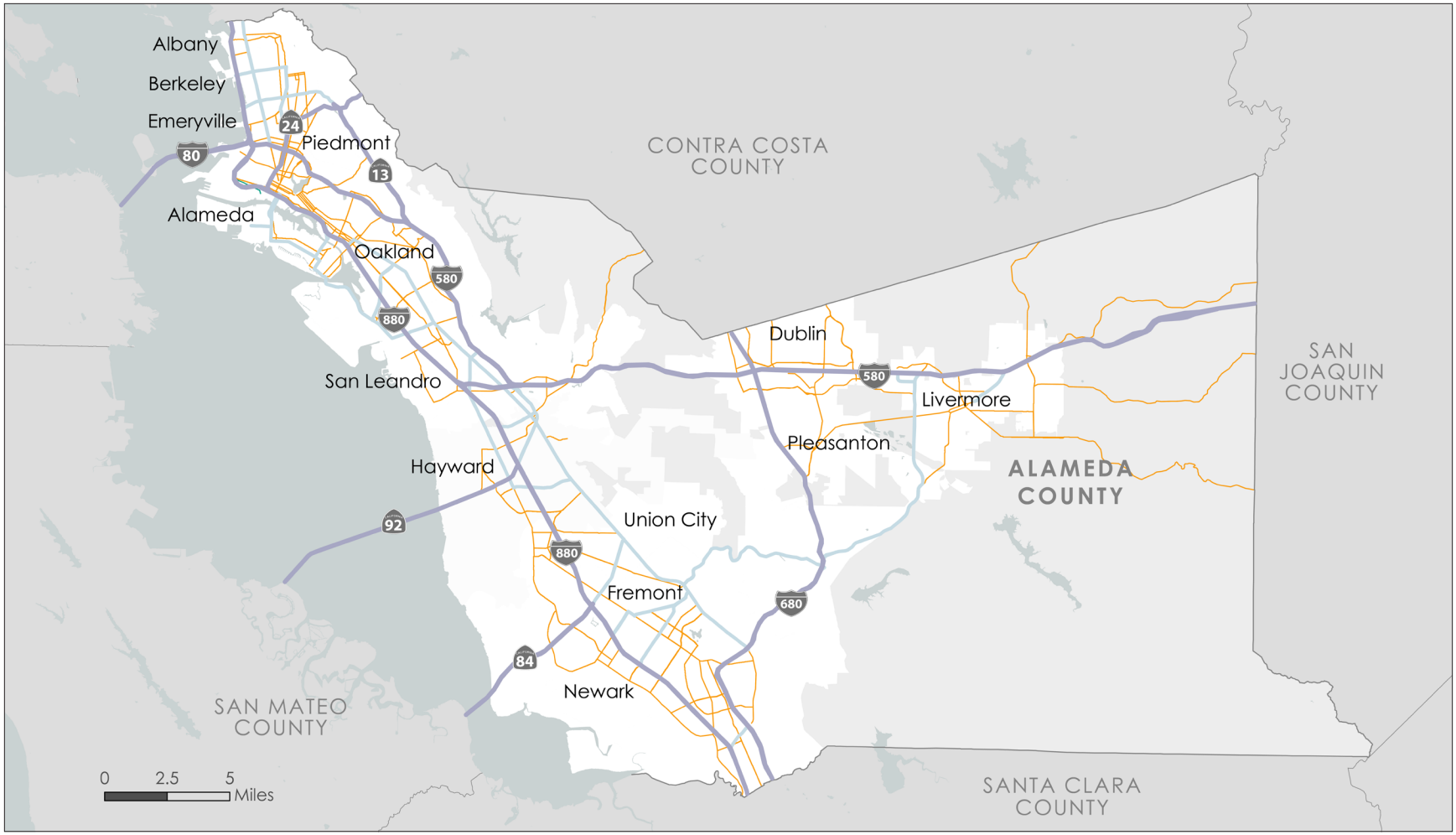


Figure B.2: North Planning Area (Alameda, Albany, Berkeley, Emeryville, Oakland and Piedmont) Designated CMP Roadway Network

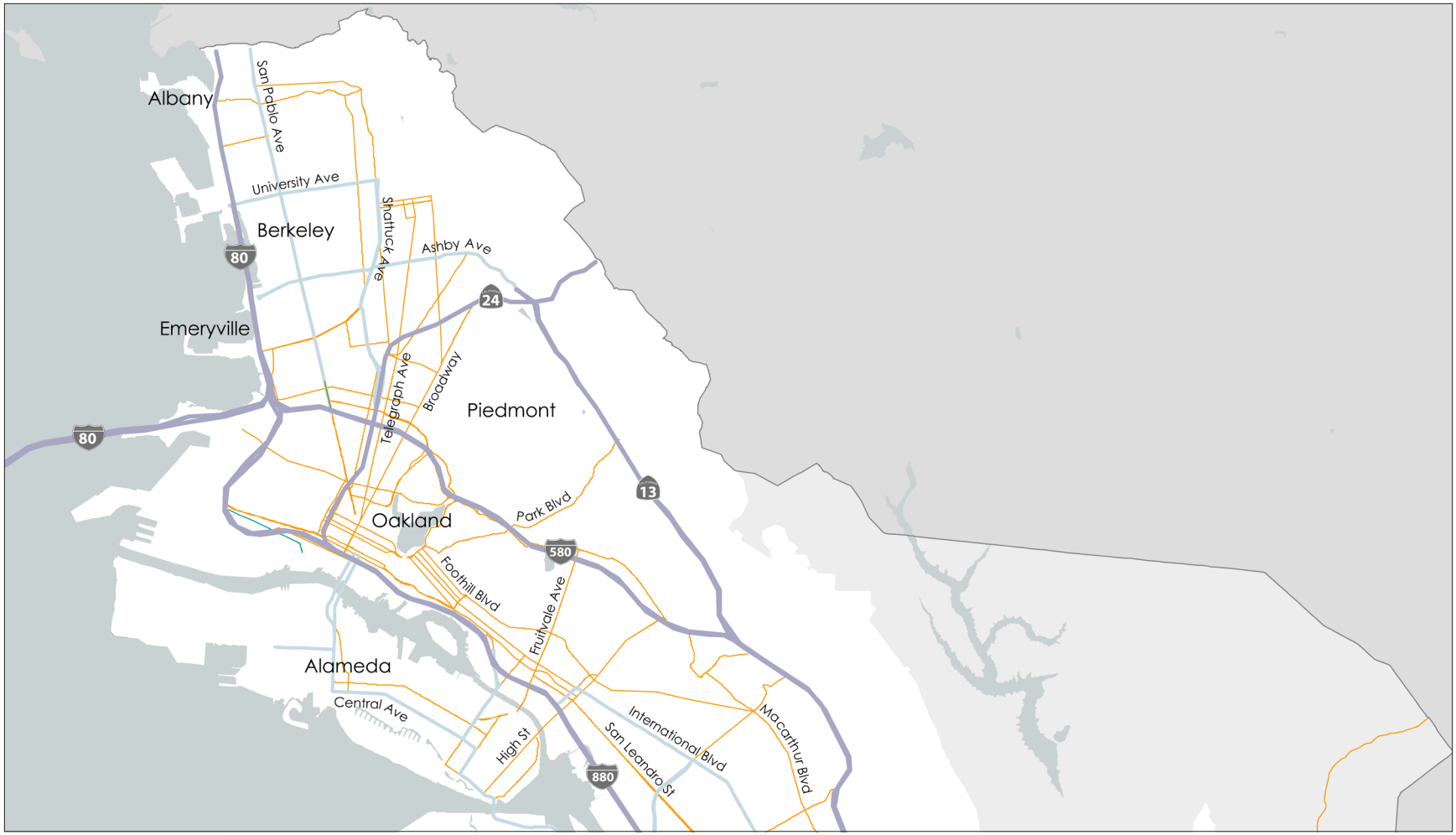


Figure B.3: Central Planning Area (Ashland, Castro Valley, Cherryland, Hayward, San Leandro and San Lorenzo) Designated CMP Roadway Network

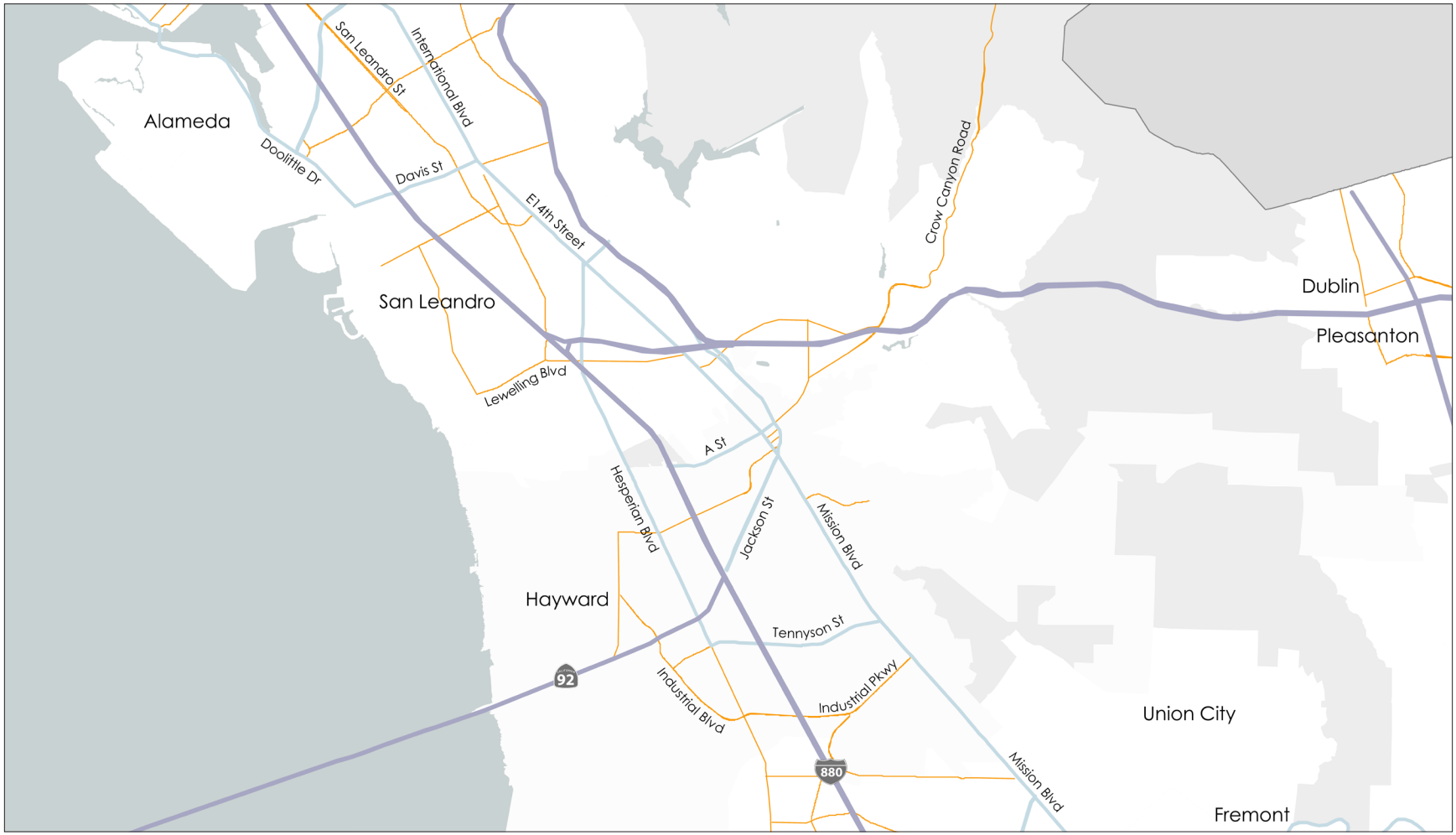


Figure B.4: South Planning Area (Fremont, Newark, Union City and Sunol) Designated CMP Roadway Network

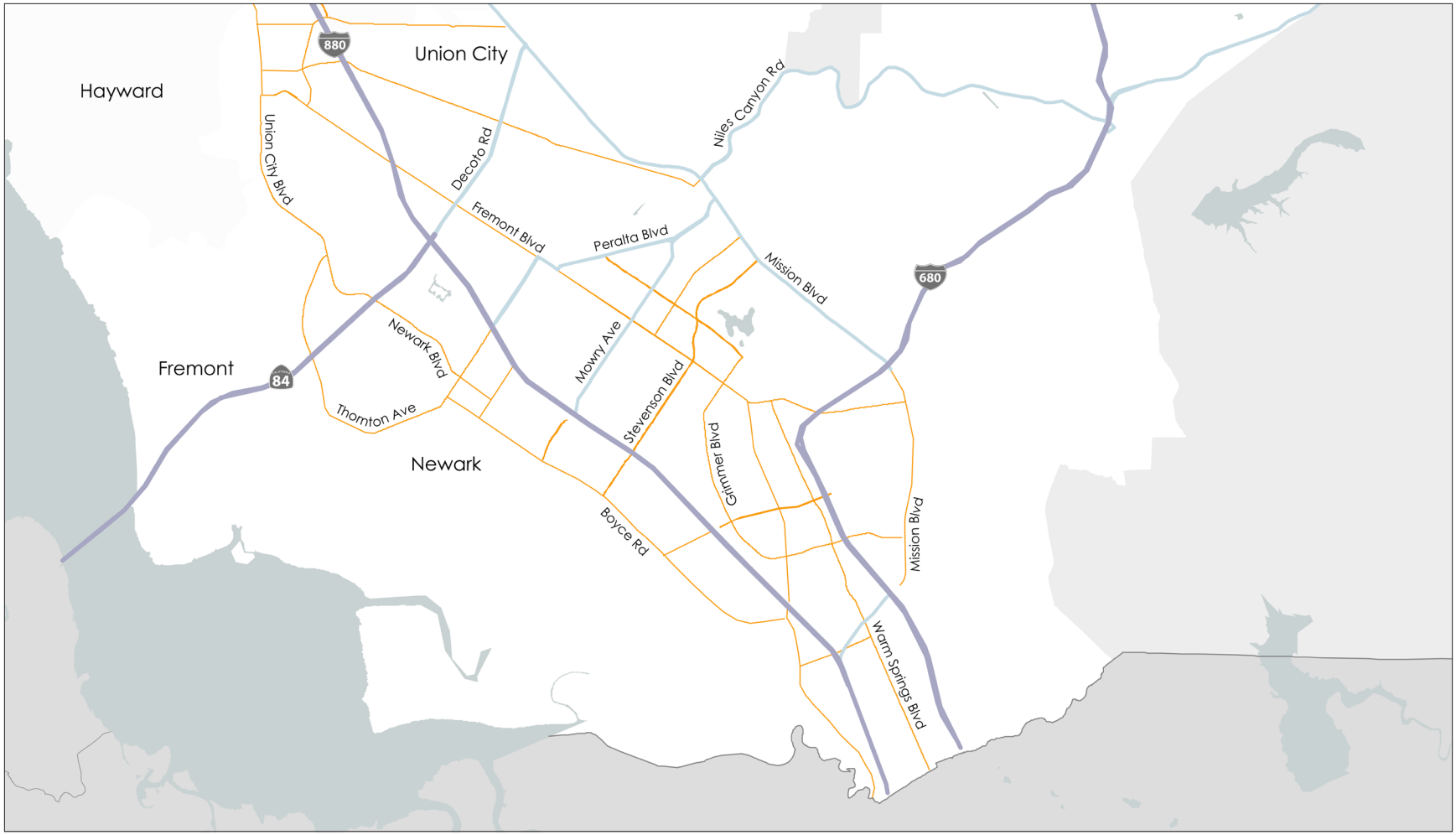


Figure B.5: East Planning Area (Dublin, Livermore, Pleasanton and Sunol) Designated CMP Roadway Network

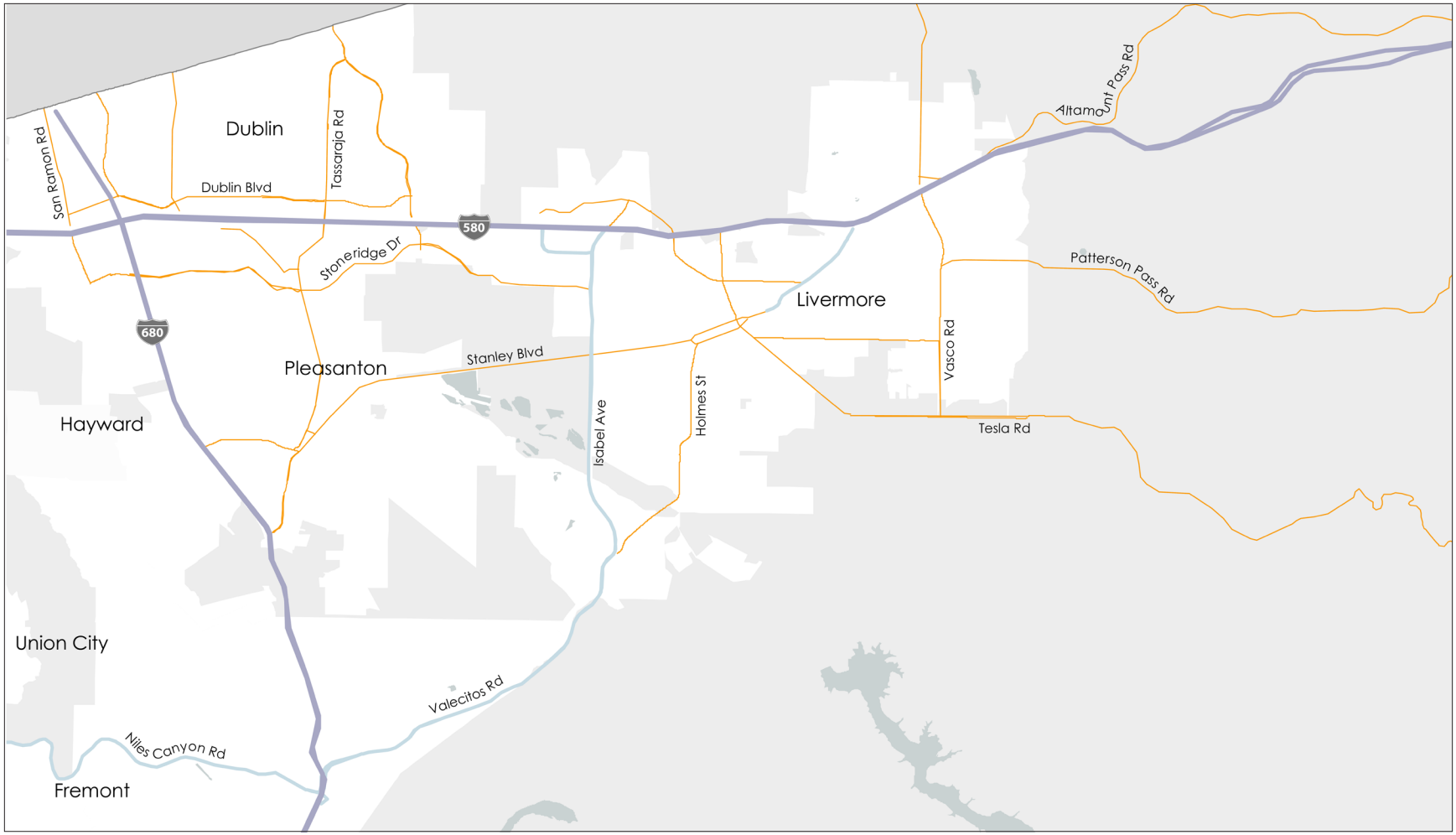
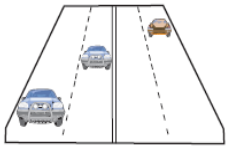
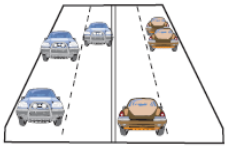
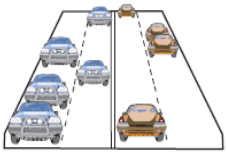
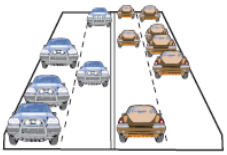
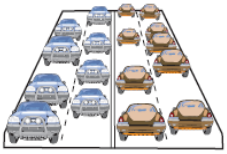
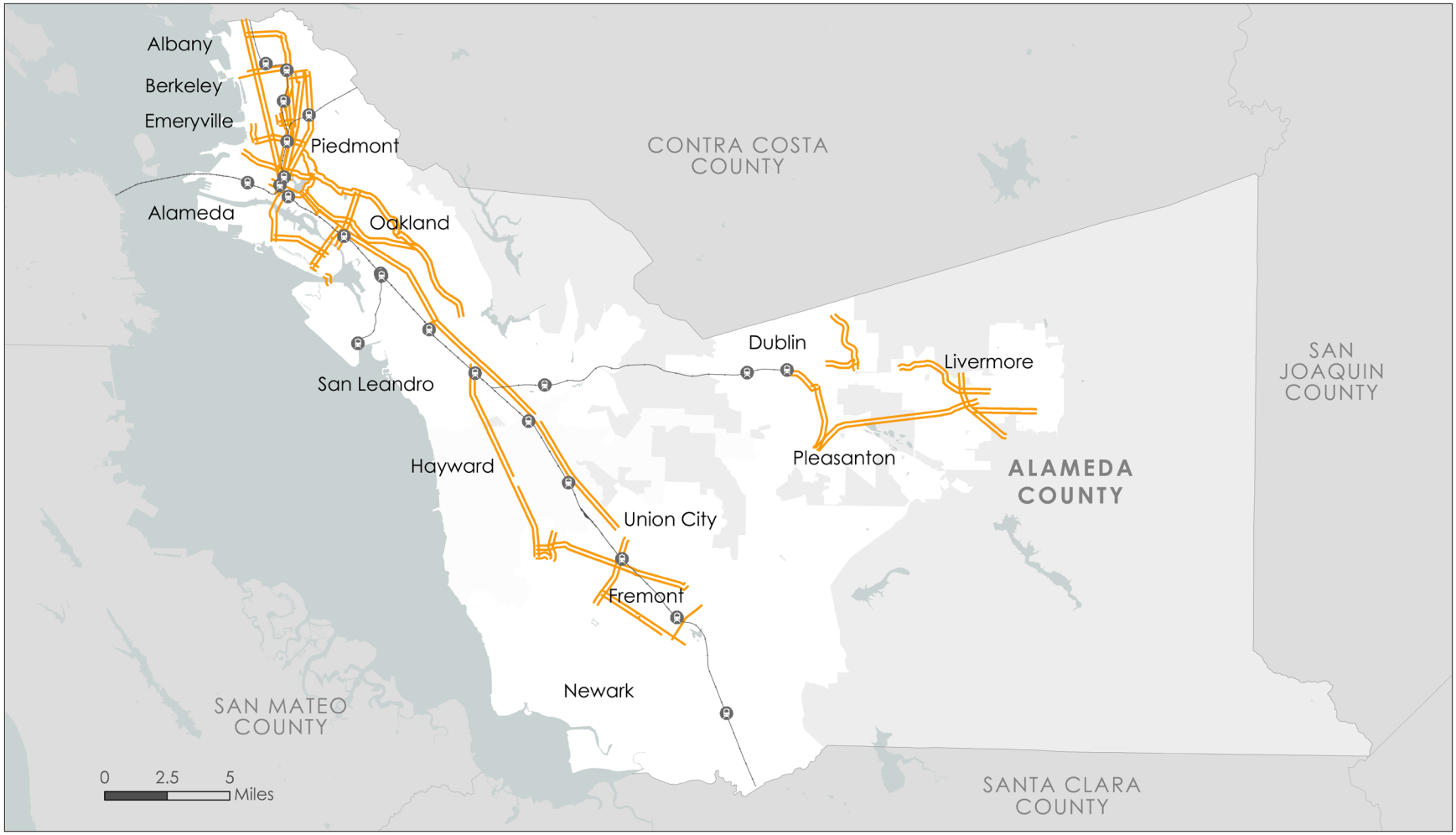


Figure B.6: Level of Service Ratings

Level of Service		Flow Conditions	Delay	Service Rating
A		Highest quality of service. Free traffic flow with low volumes. Little or no restriction on maneuverability or speed.	None	Good
B		Stable traffic flow, speed becoming slightly restricted. Low restriction on maneuverability.	None	Good
C		Stable traffic flow, but less freedom to select speed or to change lanes.	Minimal	Adequate
D		Approaching unstable flow. Speeds tolerable but subject to sudden and considerable variation. Less maneuverability and driver comfort.	Minimal	Adequate
E		Unstable traffic flow and rapidly fluctuating speeds and flow rates. Low maneuverability and low driver comfort.	Significant	Poor
F		Forced traffic flow. Speed and flow may drop to zero.	Considerable	Poor

Source: Highway Congestion Manual, 1985, Transportation Resource Board

Figure B.7: Transit Monitoring Network Map



Grandfathered LOS F Roadway Segments

CMP legislation exempts congested CMP roadway segments that did not meet the minimum LOS standards (LOS E) when the CMP network was formed (in 1991 and 1992) from deficiency identification and preparing a deficiency plan. These grandfathered segments were identified based on the LOS monitoring performed in 1991 for the CMP roadway segments and in 1992 for the CMP freeway-to-freeway connectors during the p.m. peak period, which is used for conformity. According to the study results, a total of 15 freeway segments (excluding freeway-to-freeway connectors) and 15 arterial segments were operating at LOS F in 1991 and five freeway-to-freeway connectors were operating at LOS F in 1992. Tables 3.3, 3.4, 3.5, and Figure 3.1 show the grandfathered CMP segments including the freeway-to-freeway connectors.

Although these segments are grandfathered by statute, they are not exempt from analysis and mitigation for the purpose of satisfying the Land Use Analysis Program, the California Environmental Quality Act (CEQA), and the federal National Environmental Protection Act. The CMP focuses on existing congestion; therefore, Alameda CTC considers strategies and/or improvements to address grandfathered segments in corridor studies, the Countywide Transportation Plan, and through the CMP Capital Improvement Program.

Table B3.1 — Grandfathered LOS F Segments: Freeway

	Roadway		Limits	Jurisdiction	Average Speed (mph)
1	I-80	EB	From Toll Plaza to I-580 Merge	Oakland	21.2
2	I-80	EB	From I-80/I-580 (Merge) to Powell Street	Emeryville	10.9
3	I-80	EB	From Powell Street to Ashby Avenue	Emeryville/Berkeley	12.8
4	I-80	EB	From Ashby Avenue to University Avenue	Berkeley	21.2
5	I-80	WB	From University Avenue to Ashby Avenue	Berkeley	26.9
6	I-80	WB	From Ashby Avenue to Powell Street	Emeryville	19.1
7	I-80	WB	From Toll Plaza to San Francisco County	Oakland	22.6
8	I-580	EB	From Eden Canyon Road to San Ramon Road/ Foothill Road	Unincorporated/ Pleasanton	23.9
9	I-580	EB	From San Ramon Road/Foothill Road to I-680	Pleasanton	14.9
10	I-580	EB	From I-680 to Hopyard Road	Pleasanton	14.8
11	I-580	EB	From Hopyard Road to Santa Rita Road	Pleasanton	26.7
12	I-580	EB	From 1st Street to Greenville Road	Livermore	22.8
13	I-580	EB	From Greenville Road to North Flynn Road	Unincorporated	21.0
14	I-580	EB	From I-80 to I-980	Oakland	19.5
15	I-580	EB	From I-980 to Harrison Street	Oakland	15.7

Table B3.1—Alameda County and Cities of Dublin, Livermore, and Pleasanton (Cont.)

	Roadway		Limits	Jurisdiction	Average Speed (mph)
16	I-580	EB	From Harrison Street to Lakeshore Avenue	Oakland	20.8
17	I-580	WB	From SR-24 On-Ramp to I-80/I-580 Split	Oakland	24.0
18	I-680	NB	From Scott Creek Road to SR-262/Mission Boulevard	Fremont	23.3
19	I-680	NB	From SR-262/Mission Boulevard to Durham Road	Fremont	9.0
20	I-680	NB	From Durham Road to Washington Boulevard	Fremont	12.2
21	I-680	NB	From Washington Boulevard to SR-238/ Mission Boulevard	Fremont	20.8
22	I-680	NB	From SR-238/Mission to Vargas Road	Fremont	22.2
23	I-680	NB	From Vargas Road to Andrade Road	Unincorporated	20.2
24	I-880	NB	From Dixon Landing to SR-262/Mission Boulevard	Fremont	25.1
25	I-880	NB	From Stevenson Boulevard to Decoto Road	Fremont	27.0
26	I-880	NB	From Decoto Road to Alvarado Boulevard	Fremont	18.7
27	I-880	NB	From Alvarado Boulevard to Alvarado-Niles Boulevard	Fremont/Union City	22.4
28	I-880	NB	From Alvarado-Niles Boulevard to Tennyson Road	Union City/Hayward	18.7
29	I-880	NB	From Tennyson Road to SR-92	Hayward	25.7
30	I-880	NB	From I-880/I-80 (Split) to I-880/I-80 (Merge)	Oakland	13.6
31	I-880	SB	From I-880/I-80 (Split) to I-980	Oakland	22.3
32	I-880	SB	From I-980 to 23rd Avenue	Oakland	14.4
33	SR-13	NB	From Moraga Avenue to Hiller Drive (Signal)	Oakland	22.6
34	SR-13	SB	From Redwood Road to I-580 Eastbound (Merge)	Oakland	13.7
35	SR-24	EB	From I-580 On-ramp to Broadway/SR-13	Oakland	20.2
36	SR-24	EB	From Broadway/SR-13 to the Caldecott Tunnel (Entrance)	Oakland	12.9
37	SR-24	EB	From the Caldecott Tunnel (Entrance) to Fish Ranch Road	Oakland	26.8
38	SR-84	EB	From Newark Boulevard/Ardenwood Boulevard to I-880 Northbound (Off-ramp)	Newark	15.6

Source: Data is based on surveys taken during the afternoon peak period in September/October 1992.

Table B3.2 — Grandfathered LOS F Segments: Freeway-to-Freeway Connectors

	Roadway	Jurisdiction	Length (miles)	Average Speed (mph)	Free Flow Speed
1	I-80 SB to I-580 EB*	Oakland	0.45	18.2	45.0
2	SR-24 WB to I-580 EB	Oakland	0.75	14.0	45.0
3	SR-13 NB to SR-24 EB*	Oakland	0.33	13.2	45.0
4	I-880 SB to SR-260 WB	Oakland	0.99	16.6	
	SR-260 EB to I-880 NB	Oakland	0.41	17.2	

Source: Data is based on surveys taken during the afternoon peak period in September/October 1992.
* LOS condition was first reported during the 1991 surveys.

Table B3.3 — Grandfathered LOS F Segments: Arterials

	Roadway	Limits	Jurisdiction	Arterial Class	Average Speed (mph)
1	SR-84 EB	From Sunol Road to Pleasanton-Sunol Road	Fremont	Rural	9.4
2	SR-84 EB	From SR-84 (Off)/I-680 to Vallecitos Lane	Unincorporated	Rural	13.4
3	SR-185 SB (International Blvd.)	From Seminary Avenue to 73rd Avenue	Oakland	II	7.9

Source: Based on surveys during the afternoon peak period (4 p.m. to 6 p.m.) in July-August and October 1991.

Deficiency Plan Guidelines

Background and Purpose

CMP Network segments that fall below the adopted LOS standard threshold are deemed "deficient." Deficiency Plans, which analyze the causes of congestion and identify various measures to improve transportation conditions and air quality, allow jurisdictions to remain in compliance with the CMP.

Jurisdictions are encouraged to connect the actions of their deficiency plans with the overall countywide transportation planning process and planned capital improvements, and ensure the plan's action items are consistent with the goals of CMP legislation and the current CTP to improve air quality and reduce congestion by supporting transit, carpooling, TDM measures, bicycling, and walking. Likewise, existing deficiencies should influence future countywide transportation planning and programming decisions. If a Deficiency Plan identifies system-wide improvements, Alameda CTC staff, transit agencies, BAAQMD, and Caltrans may also be involved.

Deficiency Process

As described in Chapter 2, Alameda CTC identifies deficient roadway segments through biennial monitoring of LOS on the Tier 1 CMP Network after allowable exemptions are made.[3] Once Alameda CTC notifies the responsible local jurisdiction of a deficiency finding, the jurisdiction may choose to appeal the monitoring results or prepare and adopt a Deficiency Plan within 12 months to prevent the forfeit of additional gasoline tax subventions.[4]

Roadway Capacity Standards

For the purposes of determining deficiency, the following standards for roadway capacity will be used unless a local jurisdiction can demonstrate an alternative capacity:

- Freeways: 2,000 vehicles per lane per hour
- Two-lane: 1,400 vehicles per lane per hour highways
- Arterials: 800 vehicles per lane per hour

Jurisdictional Participation

If a deficient CMP roadway segment is located entirely in one jurisdiction and all other jurisdictions contribute less than 10% traffic, then the deficiency should be addressed through a local single-jurisdiction deficiency plan.

A multi-jurisdictional deficiency plan must be adopted if a deficient CMP roadway segment crosses jurisdictional boundaries, borders two jurisdictions, or if the following conditions are met:

- Traffic to or from another jurisdiction to either an origin or destination at the deficient segment represents ten percent (10 percent) of the capacity of the deficient freeway/roadway, as estimated by the countywide travel demand model.
- In some cases, and in order to eliminate any gaps and to ensure continuity in the planning process, a jurisdiction that does not meet the 10 percent threshold shall be required to participate in the deficiency plan process if it is surrounded by jurisdictions which meet the threshold for participation.

Additional guidelines for multi-jurisdictional deficiency plans:

- All owners/operators of a deficient segment of freeway or roadway along with transit operators shall be invited to participate in the deficiency plan process.
- The percent contribution of traffic specifically does not imply a commensurate financial share of the Deficiency Plan actions identified.

[3] California Government Code Section 65089.4
[4] Section 2105 of the Streets and Highways Code

- All participating jurisdictions shall adopt identical deficiency plan action plans. A local jurisdiction shall have the right to appeal or to invoke the established Conflict Resolution Process to address conflicts or disputes that arise between the local jurisdictions in developing the multi-jurisdictional Deficiency Plan.
- If a local jurisdiction responsible for participating in a multi-jurisdictional deficiency plan does not adopt the deficiency plan in accordance with the schedule and requirements outlined above, that jurisdiction shall be considered in non-conformance with the CMP.

See Figure 8 for a depiction of the multi-jurisdictional deficiency plan appeal process.

Plan Development

Two types of deficiency plans can be developed, depending on the needs of the local jurisdiction(s) and how and whether the deficiency can be mitigated. If more than one local jurisdiction is responsible for causing a deficient segment, all responsible local jurisdictions must participate in development and approval of a multi-jurisdictional deficiency plan. Local jurisdictions outside Alameda County that contribute significantly to a deficiency plan will be invited to participate but cannot be compelled to do so.

Localized vs. Areawide Deficiency Plans

A localized plan is appropriate for addressing transportation impacts to a single CMP segment or roadway. The Localized Deficiency Plan focuses on analyzing the cause of deficiency by including the immediate surrounding area as the project area, identifying a list of improvement or mitigation measures that are necessary to meet LOS standards in an action plan, and estimating the costs and implementation schedule of the proposed improvements.

Conversely, an areawide plan is appropriate when a CMP segment cannot be mitigated back to conformance with the established LOS standards if considered solely within a localized context. The Areawide Deficiency Plan focuses on offsetting the deficiency by including the broader surrounding area as the project area and identifying a list of improvements, programs, or actions to improve the performance of the larger multimodal network and contribute to significant air quality improvements.

Required Plan Components

The scope of a Deficiency Plan should match the severity of the problem. Extreme deficiencies will need more significant actions. Action plans must be incorporated into future CMP documents. State law requires a Deficiency Plan contain the following:

- An analysis of the deficiency;
- A list of improvements and related costs to mitigate the deficiency in that facility itself;
- A list of possible actions and costs that would result in improvements to the CMP system's LOS and be beneficial to air quality; and
- An action plan, including a schedule, to implement improvements from one of the two above lists.

Content Guidelines

- **Introduction:**
  - A short description of the facility, including a map showing its location.
- **Deficiency Analysis:**
  - Analysis and assessment of deficiency in terms of likely causes and the magnitude.
- **Screening of Suitable Actions:**
  - A sketch-planning level evaluation of actions for potential effects on system-wide traffic congestion and air quality (traffic operations analyses or model forecasts may be required).
- **Evaluation of Suitable Actions:**

    - Selected actions from the screening process further evaluated to demonstrate how these actions when implemented contribute to improving the CMP network LOS conditions.
- **Implementation Plan:**
    - A detailed implementation plan should be developed, including description of the selected actions, planning-level cost estimates, related funding sources and schedule.

Suitable Implementation Actions

Depending on the type of Deficiency Plan being prepared, implementation actions may either directly mitigate a specific deficiency through highway, transit, or other modal improvements, or provide measurable improvements to overall transportation system performance and air quality where deficiencies cannot be mitigated directly. In either case, CMP legislation promotes the use of actions which would reduce the overall percentage of trips made by the single occupant vehicles while increasing the percentage of pedestrian, bicycle and transit trips.

The air quality management district for the Bay Area, BAAQMD, has developed a list of actions which are considered beneficial for air quality and congestion management. The list includes measures to improve use of alternative modes, which will improve traffic flow and reduce trips. Jurisdictions may include actions other than those on this list, provided the BAAQMD reviews and approves the list prior to plan adoption.

The most current BAAQMD list of actions should always be consulted.

In addition, Alameda CTC encourages the use improvement measures and actions that align with the latest adopted Countywide Transportation Plan (CTP) and Comprehensive TDM Strategy, as well as modal plans such as the Countywide Goods Movement Plan, Countywide Transit Plan, and Countywide Multimodal Arterial Corridor Mobility Plan. Actions could support, but are not limited to, potential improvement measures related to priority transit routes, bicycle and pedestrian locations, priority roadways, and freight as identified in the modal plans.

Plan Adoption & Completion

Alameda CTC staff and ACTAC members will review the draft Deficiency Plan and provide technical input to assist the respective local jurisdiction(s) in developing and finalizing the Deficiency Plan. An acceptable Deficiency Plan will contain all of the required components listed above and will be evaluated on the following technical criteria:

- Completeness as required in California Government Code Section 65089.5;
- Appropriateness of the Deficiency Plan actions in relation to the magnitude of the deficiency;
- Reliability of the funding sources;
- Ability to implement the proposed actions (including jurisdictional control issues); and
- Reasonableness of the implementation plan schedule.

Plan Adoption

A final plan must be adopted by the affected local jurisdiction(s) at a noticed public hearing no later than 12 months following identification of Deficiency by Alameda CTC. The Alameda CTC Commission will approve or reject a Deficiency Plan within 60 days of receipt of the Deficiency Plan from the local jurisdiction(s). If the plan is rejected, Alameda CTC will notify the local jurisdiction(s) of the reasons for that rejection, and the local jurisdiction must submit a revised plan within 90 days.

Active Plan Updates

Jurisdictions that have prepared and are implementing a Deficiency Plan must prepare annual status report updates for the Annual Conformity Findings. Participating jurisdictions that did not prepare the Deficiency Plan must also review the annual status report updates and submit a letter to the Alameda CTC stating they are in concurrence with the annual update from the lead jurisdiction. This information is required for the Commission to make a determination whether the jurisdictions are in conformance with the CMP. Any jurisdiction (lead or participating), which is either not implementing the actions or not adhering to the stated schedule in the approved Deficiency Plan may be found in non-conformance with the CMP if the deficiency still exists.

To facilitate the implementation process, the Alameda CTC Commission will accept minor updates to Deficiency Plans. The affected jurisdictions(s) may submit a notice to the Alameda CTC stating the reason for and content of the update. The Alameda CTC Commission will approve or reject the request for the update. Should the Alameda CTC Commission reject the request, the existing Deficiency Plan will remain in place.

Plan Completion

A deficiency plan can be considered fully implemented if the local jurisdiction determines and Alameda CTC concurs that the implementation of the deficiency plan resulted in a measurable improvement in LOS, bringing the formerly deficient segments into compliance with established LOS standards. For deficiency plans that include both near-term and long-term actions, if completion of the near-term actions resulted in a measurable improvement in LOS, and has demonstrated compliance with LOS standards for at least five years, Alameda CTC and the local jurisdiction may consider implementation of the deficiency plan to be complete without the completion of the long-term actions.

Deficiency Conflict Resolution

CMP legislation requires each CMA to establish a conflict-resolution process for addressing conflicts or disputes between local jurisdictions in meeting the multi-jurisdictional deficiency plan responsibilities.

The intent of Alameda CTC's conflict-resolution process is to help local jurisdictions resolve conflicts that arise during multi-jurisdictional deficiency plan development or implementation that could impact the CMP conformance of one or more jurisdictions. The conflict resolution process is intended to be an effective and flexible process that responds to the issues and concerns of the respective jurisdictions.

Alameda CTC's conflict resolution process is based on the following principles.

- First, consensus at the local level on the resolution of conflicts is encouraged through the Alameda County Technical Advisory Committee (ACTAC).
- Second, when ACTAC is unable to reach consensus, Alameda CTC will look for evidence of "good faith" efforts among the parties involved when determining CMP conformance.
- Finally, any determination by Alameda CTC with respect to CMP conformance will not affect local agencies' land use authority or require programs that conflict with a community's fundamental socioeconomic or environmental character.

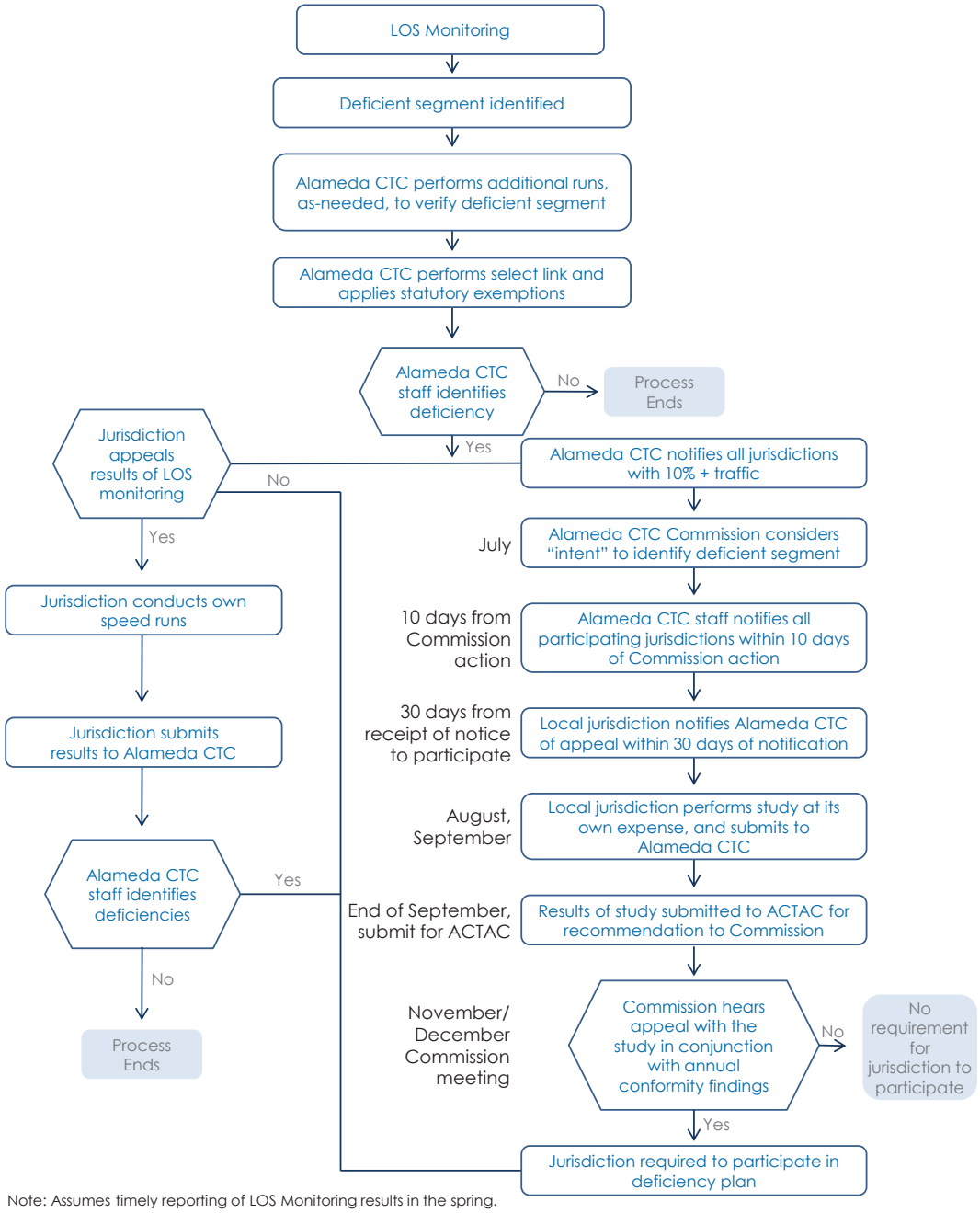
The conflict resolution process has the following four phases:

1. **Process initiation:** The lead jurisdiction requests Alameda CTC to initiate the conflict resolution process and outlines the issues needing resolution.

2. **Assessment of issues:** Alameda CTC staff meets with the parties involved to assess the issues in the dispute and its appropriateness for the conflict resolution process.
3. **Settlement sessions and agreement:** This phase involves holding/facilitating settlement sessions among the parties involved, facilitated by Alameda CTC staff (if appropriate), and the development of a settlement agreement, and obtaining all approvals that may be required from the governing bodies of the involved jurisdictions and/or Alameda CTC.
4. **Implementation and monitoring:** The final phase involves the implementation and monitoring of the agreement and Alameda CTC's assessment of good faith effort by the parties involved.

The conflict-resolution process outlined here is a general process that can be adjusted to meet the respective needs of local jurisdictions and/or the specific situation including identifying another mutually agreed upon conflict resolution process. See Figure 8, which describes the multi-jurisdictional deficiency plan appeal process.

Figure B.8: Multi-jurisdictional Deficiency Plan Appeal Process



Note: Assumes timely reporting of LOS Monitoring results in the spring.

APPENDIX C

TRAVEL DEMAND MANAGEMENT RESOURCES

Table C1 - Menu Of Travel Demand Management Measures

TDM Program	Description	Primary Agency Responsible	City Implementation Mechanism	Recommended Application/ Context	% Trip Reduction	Factors	Source
Trip Reduction Requirements							
Set trip reduction requirements for multifamily residential or commercial development	Require as a condition of approval for developments (either commercial, multifamily residential, or both) that certain TDM measures are implemented on an ongoing basis, or that specified vehicle trip reduction requirements are met.	Cities	Planning code or other municipal ordinance	Any urban area with good transit service; suburban downtowns, commercial and mixed use areas; transit stations. (particularly in high-growth areas)	5%-15%; Enables other strategies	Effects of this strategy depend on the location/accessibility of the development site(s), demographics of the project's residential/commercial occupants/ tenants and the type of measures required. The US EPA notes that "reasonable initial targets for the programs established under a trip reduction ordinance (TRO), might be a 5-10 percent reduction in single occupant vehicle (SOV) trips, with somewhat larger reductions (perhaps 15 percent) if substantial fees for parking are imposed."	https://www.epa.gov/state-and-local-transportation
Establish a Transportation Management Association	Establish an organization to assist businesses in reducing vehicle trips, either by administering programs, providing services (such as shuttle service), or providing technical assistance to businesses. Often implemented together with a trip reduction requirement.	Cities or business associations	Planning code or other municipal ordinance; or voluntary action by business association	Commercial area or other major business or employment districts	6%-7%	The TDM Resource Center (1997) estimated that just by improving coordination, and providing information on travel alternatives, establishment of a TMA can reduce commute-related vehicle trips by 6%-7%, with greater impact when implemented in concert with other trip reduction, TDM and parking management programs and services.	TDM Resource Center (1997), Transportation Demand Management; A Guide to Including TDM Strategies in Major Investment Studies and in Planning for Other Transportation Projects, Office of Urban Mobility, WSDOT (www.wsdot.wa.gov), as cited in the Victoria Transportation Policy Institute's TDM Encyclopedia (http://www.vtpi.org/tdm/tdm44.htm), last updated in 2017.
Implement an employee-trip reduction program for municipal employees	Appoint an employee commute coordinator, and implement incentive programs to reduce single-occupant vehicle commuting among municipal employees. Elements may include: subsidized transit passes; employee parking and/ or parking cash-out programs; commuter checks; direct financial incentives to bike, walk, carpool or take transit; ride sharing; shuttles; vanpools	Cities	Modify agency procedures	Any	4-20%	Management support and the presence of an onsite employee transporta- tion coordinator are important factors in the success of a program. Mandatory employee/commute trip reduction (CTR) ordinances often require employers with more than 50 or 100 employees at a given employment site to implement a CTR program. This reduces the costs of administering TDM programs and compliance with survey and reporting requirements, but prevents such programs from reaching the majority of employees in a given city/region who work for small to mid-sized firms and organizations with less than 50 employees.	Marlon G. Boarnet, Hsin-Ping Hsu and Susan Handy (2010), Draft Policy Brief on the Impacts of Employer-Based Trip Reduction Based on a Review of the Empirical Literature, for Research on Impacts of Transportation and Land Use-Related Policies, California Air Resources Board http://arb.ca.gov/cc/ sb375/policies/policies.htm); Philip Winters and Daniel Rudge (1995), Commute Alternatives Educational Outreach, National Urban Transit Institute, Center for Urban Transportation Research, University of South Florida; Tom Rye (2002), "Travel Plans: Do They Work?," Transport Policy, Vol. 9, No. 4 (www.elsevier.com/ locate/tranpol), Oct. 2002, pp. 287-298.
Safety Net							
Guaranteed/ Emergency Ride Home program	Provide a guaranteed ride home for people who do not drive to work alone to ensure they are not stranded if they need to go home in the middle of the day due to an emergency, or stay late for work unexpectedly.	GRH in Alameda County is provided by Alameda CTC		Any	9%-38%	Coupled with active program marketing by employers, including marketing of other TDM programs and financial incentives, such as parking pricing, the Alam- eda County Guaranteed Ride Home program has been shown to reduce drive alone vehicle trips to participating employment sites by as much as 38% (Alameda County Guaranteed Ride Home Program Evaluation, Nelson\Nygaard 2015 annual evaluation).	Alameda County Guaranteed Ride Home Program Evaluation (Nelson\Nygaard 2015, http:// grh.alamedactc.org/wp-content/uploads/2016/06/ ALAMEDA-CTC-GRH-Evaluation-2015-FINAL.pdf).

Table C1 - Menu Of Travel Demand Management Measures (Cont.)

TDM Program	Description	Primary Agency Responsible	City Implementation Mechanism	Recommended Application/ Context	% Trip Reduction	Factors	Source
Parking Management							
Demand-responsive pricing of on-street spaces	Set on-street parking prices based on parking demand in area to achieve parking availability targets.	Cities	Municipal code; capital project	Urban or suburban downtowns, commercial and mixed use areas; transit stations	4%-18%	One of the most significant factors affecting motorists' choice of whether to drive or travel by another mode is the price of parking at the destination. Moreover, up to 28% of traffic in mixed-use districts is attributable to cruising for parking. By encouraging use of alternative modes and reducing parking search related delays for transit, demand responsive pricing can significantly reduce vehicle trips to major destinations/districts. The impact of parking pricing depends on the overall supply and availability of both on-street and off-street parking and the extent to which employers subsidize such parking.	Low-end estimate per Harvey and Deakin (1997), who estimated that parking pricing for work and non-work trips would reduce regional vehicle trips by 2.8% (Greig Harvey and Elizabeth Deakin (1997), "The STEP Analysis Package: Description and Application Examples," Appendix B, in Apogee Research, Guidance on the Use of Market Mechanisms to Reduce Transportation Emissions, US EPA (Washington DC; www.epa.gov/omswww/market.htm)). High end estimated based on the Victoria Transportation Policy Institute (2016), Trip Reduction Tables (http://www.vtpi.org/tdm/tdm41.htm). Additional resource: http://www.spur.org/publications/spur-report/2009-05-01/critical-cooling.
Use of new meter technologies to allow multiple forms of payment and dynamic pricing	Install parking meters that allow payment by credit card or phone, and that connect to a central system in real-time, allowing for remote programming and management of parking prices.	Cities	Capital project	Urban or suburban downtowns, commercial and mixed use areas; transit stations	Enables demand responsive parking pricing	Installation of new parking management technologies, including new meters and infrastructure to support payment by cell phone and real-time monitoring of parking space utilization and turnover enable implementation of demand responsive parking pricing, which in turn reduces vehicle travel (see Demand Responsive Parking Pricing).	San Francisco Planning and Urban Research (2009). "Critical Cooling," The Urbanist, Issue 482, May, 2009 (http://www.spur.org/publications/spur-report/2009-05-01/critical-cooling).
Use of parking revenue to support other mobility/ neighborhood programs	Dedicate meter revenue from designated area to uses such as mobility improvements, neighborhood or business improvement programs, potentially through the creation of a parking benefit district.	Cities	Form dedicated Transportation Management District to receive funds	Any area with paid parking	Enables investment in Multimodal Infrastructure and TDM Programs	Creation of parking benefit district can directly support vehicle trip reduction by providing funding for investments in other multimodal access programs and services that increase opportunities for access by non-auto modes. The establishment of such districts and provisions requiring meter and permit revenues to be spent within the district can also indirectly support vehicle trip reduction by increasing local political support for demand responsive, market-based pricing of on-street and off-street parking.	
Require "Unbundling" of parking costs from rents and leases	Separate the charge for leasing or buying a unit or square footage in multifamily residential or commercial buildings from charges for parking spaces.	Cities	Modify planning code	Any	6%-16%	"Charging separately for parking is among the most effective strategies to encourage households to own fewer cars, and subsequently reduce vehicle trips. Parking costs are generally subsumed into the sale or rental price of housing and commercial real estate. For residential development, unbundled parking may prompt some residents to dispense with one of their cars and to make more of their trips by other modes. The elasticity of vehicle ownership with respect to price is typically -0.4 to -1.0. Assuming total annual vehicle spending of $7,788 (BLS Consumer Expenditure Survey, 2011), unbundling of an average of $100/month in parking costs would increase perceived transportation costs/vehicle by 15%/year for the typical hh, which in turn is expected to result in a decline in vehicle ownership of 6% (at a price elasticity of -0.4) to 16% (at -0.10), with corresponding declines in vehicle trips."	Victoria Transport Policy Institute (2017), Transportation Elasticities, http://www.vtpi.org/tdm/tdm11.htm; Bureau of Labor Statistics (2012), Consumer Expenditure Survey, 2011, www.bls.gov.

Table C1 - Menu Of Travel Demand Management Measures (Cont.)

TDM Program	Description	Primary Agency Responsible	City Implementation Mechanism	Recommended Application/ Context	% Trip Reduction	Factors	Source
Parking Management, Continued							
Reduced or eliminated minimum parking requirements	In areas that are well-served by transit and other alternatives to driving, allow developers to build residential and commercial buildings with fewer parking spaces or no parking.	Cities	Modify planning code	Any area with quality transit service	9%-16%	Eliminating or reducing off-street parking requirements allows a market based supply of parking, and eliminates the sometimes required over-supply of parking, which encourages property owners/managers to bundle parking in lease/sale agreements and provides an effective subsidy for vehicle travel. This policy reform does not directly influence vehicle travel demand associated with existing development, although elimination of minimum off-street parking requirements does remove a barrier to changes of use, and/or the lease or sale of underutilized private off-street parking constructed in accordance with previous requirements, supporting the development of market-based parking pricing that in turn reduces vehicle travel.	Range of vehicle trip reduction impact of eliminating minium parking requirements on Los Angeles' Westside, as incorporated in the vehicle trip reduction impact analysis conducted for the Los Angeles Westside Mobility Plan (http://www.westsidemobilityplan.com/transportation-demand-model/)
District-based parking management	Manage parking supply in a defined area as a unified whole in order to better manage parking demand between different facilities to eliminate cruising for parking and improve the customer experience.	Cities	Modify city agency procedures;	Urban or suburban downtowns, commercial and mixed use areas; transit stations	Enables compact development	District-based parking management offers the same benefit as shared parking facilities at a wider scale. As with shared parking facilities, the coordinated provision and management of a shared, publicly accessible supply of on-street and off-street parking at a district-scale can reduce vehicle trips by facilitating dense/compact, clustered, and mixed-use development and by reducing expenditure of land and financial resources on off-street parking, thereby reducing an effective subsidy for auto access and mobility.	
Incentivize shared parking	Facilitate the sharing of parking among multiple land uses that have complementary schedules (e.g., an office with greater demand during the day and restaurant with greater demand at night).	Enabled by cities, brokered by private businesses or developments	Modify planning code	Urban or suburban downtowns, commercial and mixed use areas	Enables compact development	Shared parking facilities can reduce vehicle trips by reducing the need for construction of dedicated off-street parking facilities for each land use/activity commensurate with the peak parking demand for that use. By so doing, shared parking facilities can enable dense, clustered development that facilitates a greater share of trips by walking, cycling and public transit. Shared parking can also reduce the total amount of land and financial resources dedicated to parking facilities, in turn reducing the effective subsidy for access by automobile that such expenditures represent. However, if shared parking increases available parking supply and thereby reduces parking prices it may in some cases increase vehicle trips and vehicle miles traveled (VMT).	Shared parking does not directly reduce vehicle travel if it substitutes for increased parking supply. To the degree that it increases the available supply of parking and reduces parking prices it can encourage automobile travel. To the degree that shared parking allows more clustered development can encourage use of alternative modes.
Improved parking wayfinding signage	Install wayfinding signage to make parking easier to find. This can help to shift parking demand away from overfull spaces to underutilized areas and can help reduce local traffic impacts caused by searching for parking.	Cities	Capital project	Urban or suburban downtowns, commercial and mixed use areas; transit stations	Not available	Enhanced wayfinding, signage, and provision of real-time information about parking supply and availability can reduce VMT and traffic congestion by reducing parking search time, but impacts on total vehicle trips are unclear.	
Urban Form and Land Use							
Compact, mixed use development and "park once" districts	Encourage development of districts that allow people to park just once if they drive to reach the district, and walk to destinations within the area once they are there.	Cities are responsible for zoning, land use planning, and development permissions	Amending general plans and zoning codes to plan for and facilitate compact, mixed-use development in appropriate areas. Support implementation of compact, mixed-use development by establishment of public development commissions and other mechanisms to support public investment.	Urban; suburban downtown; transit station	20%-40%	Recent literature indicates that compact development can reduce VMT per capita by 20%-40% compared to conventional "sprawl type" development characterized by low density and segregation of land uses and activities (vehicle trips are assumed to be reduced by a corresponding 20%-40%). Cumulative effects depend on the pace of new development in the County relative to the base of existing development (at a more rapid pace and extensive geographic scale, compact/mixed-use development/redevelopment can lead to greater reduction in vehicle trips.	Ewing, R. K. Bartholomew, S. Winkelman, J. Walters, and D. Chen (2008). Growing Cooler: The Evidence on Urban Development and Climate Change. Washington, DC: Urban Land Institute (ULI), p. 33.

Table C1 - Menu Of Travel Demand Management Measures (Cont.)

TDM Program	Description	Primary Agency Responsible	City Implementation Mechanism	Recommended Application/ Context	% Trip Reduction	Factors	Source
Trip Reduction							
Establish a Transportation Management Association	Establish an organization to assist businesses in reducing vehicle trips, either by administering programs, providing services (such as shuttle service), or providing technical assistance to businesses. Often implemented together with a trip reduction requirement.	Businesses	Voluntary action by business association	Commercial area or other major business or employment districts	6%-7%	The TDM Resource Center (1997) estimated that just by improving coordination, and providing information on travel alternatives, establishment of a TMA can reduce commute-related vehicle trips by 6%-7%, with greater impact when implemented in concert with other trip reduction, TDM and parking management programs and services.	TDM Resource Center (1997), Transportation Demand Management; A Guide to Including TDM Strategies in Major Investment Studies and in Planning for Other Transportation Projects, Office of Urban Mobility, WSDOT (www.wsdot.wa.gov), as cited in the Victoria Transportation Policy Institute's TDM Encyclopedia (http://www.vtpi.org/tdm/tdm44.htm), last updated in 2017.
Implement an employee-trip reduction program	Appoint an employee commute coordinator, and implement incentive programs to reduce single-occupant vehicle commuting among municipal employees. Elements may include: subsidized transit passes; employee parking and/or parking cash-out programs; commuter checks; direct financial incentives to bike, walk, carpool or take transit; ride sharing; shuttles; vanpools.	Businesses		Any	4-20%	Management support and the presence of an onsite employee transportation coordinator are important factors in the success of a program. Mandatory employee/commute trip reduction (CTR) ordinances often require employers with more than 50 or 100 employees at a given employment site to implement a CTR program. This reduces the costs of administering TDM programs and compliance with survey and reporting requirements, but prevents such programs from reaching the majority of employees in a given city/region who work for small to mid-sized firms and organizations with less than 50 employees.	Marlon G. Boarnet, Hsin-Ping Hsu and Susan Handy (2010), Draft Policy Brief on the Impacts of Employer-Based Trip Reduction Based on a Review of the Empirical Literature, for Research on Impacts of Transportation and Land Use-Related Policies, California Air Resources Board http://arb.ca.gov/cc/sb375/policies/policies.htm); Philip Winters and Daniel Rudge (1995), Commute Alternatives Educational Outreach, National Urban Transit Institute, Center for Urban Transportation Research, University of South Florida; Tom Rye (2002), "Travel Plans: Do They Work?," Transport Policy, Vol. 9, No. 4 (www.elsevier.com/locate/tranpol), Oct. 2002, pp. 287-298.
Safety Net							
Guaranteed/ Emergency Ride Home program	Provide a guaranteed ride home for people who do not drive to work alone to ensure they are not stranded if they need to go home in the middle of the day due to an emergency, or stay late for work unexpectedly.	GRH in Alameda County is provided by Alameda CTC		Any	9%-38%	Coupled with active program marketing by employers, including marketing of other TDM programs and financial incentives, such as parking pricing, the Alameda County Guaranteed Ride Home program has been shown to reduce drive alone vehicle trips to participating employment sites by as much as 38% (Alameda County Guaranteed Ride Home Program Evaluation, Nelson\Nygaard 2015).	Alameda County Guaranteed Ride Home Program Evaluation (Nelson\Nygaard 2015, http://grh.alamedactc.org/wp-content/uploads/2016/06/ALAMEDA-CTC-GRH-Evaluation-2015-FINAL.pdf).
Parking Management							
Incentivize shared parking	Facilitate the sharing of parking among multiple land uses that have complementary schedules (e.g., an office with greater demand during the day and restaurant with greater demand at night).	Enabled by cities, brokered by private businesses or developments	Modify planning code	Urban or suburban downtowns, commercial and mixed use areas	Enables compact development	Shared parking facilities can reduce vehicle trips by reducing the need for construction of dedicated off-street parking facilities for each land use/activity commensurate with the peak parking demand for that use. By so doing, shared parking facilities can enable dense, clustered development that facilitates a greater share of trips by walking, cycling and public transit. Shared parking can also reduce the total amount of land and financial resources dedicated to parking facilities, in turn reducing the effective subsidy for access by automobile that such expenditures represent. However, if shared parking increases available parking supply and thereby reduces parking prices it may in some cases increase vehicle trips and vehicle miles traveled.	Shared parking does not directly reduce vehicle travel if it substitutes for increased parking supply. To the degree that it increases the available supply of parking and reduces parking prices it can encourage automobile travel. To the degree that shared parking allows more clustered development it can encourage use of alternative modes.

Table C1 - Menu Of Travel Demand Management Measures (Cont.)

TDM Program	Description	Primary Agency Responsible	City Implementation Mechanism	Recommended Application/ Context	% Trip Reduction	Factors	Source
Multimodal Infrastructure							
Bicycle sharing services	Bicycles are available to members for short-term rental and can be returned at any bike share station. Bike share may be offered in city neighborhoods, near transit hubs, or at major employment centers.	Cities or private bicycle sharing companies (usually at invitation of a city)		Urban; suburban downtown; transit station	Impacts depend on conditions	A survey of bikeshare users in four major cities (Minneapolis, Montreal, Toronto, and Washington DC) by Shaheen and Martin (2015) found that 25-52% reported reducing their automobile travel and 1.9-3.6% reported reducing their vehicle ownership. The impact depends on the larger bike network and bicycling conditions. This research does not state if the shift from automobile trips to bicycle trips is for commute or non-commute trips, nor does the research state at what time of day these trips occur, i.e., peak or non-peak trips.	Victoria Transport Policy Institute (2017), Public Bike Systems: Automated Bike Rentals for Short Utilitarian Trips, www.vtpi.org/tdm/tdm126.htm.
Enhanced transit service	Improve transit service to better serve potential riders and shift travel from driving trips.	Transit agencies, funded by cities, counties, TMAs, BIDs, regional agencies		Any	Impacts depend on the level and quality of improvements	The elasticity of transit use with respect to transit service frequency is about 0.4, which means that a 1.0% increase in service (measured by transit vehicle mileage or operating hours) increases average ridership by 0.4%. Not all persons will be shifting from auto to transit, so the relationship is not one to one.	Brian E. McCollom, Richard H. Pratt (2004), Transit Pricing and Fares – Traveler Response to Transportation System Changes, TCRB Report 95, Transportation Research Board (www.trb.org); available at http://onlinepubs.trb.org/onlinepubs/tcrp/tcrp_rpt_95c12.pdf.
High Occupancy Vehicle/Toll (HOV/HOT) lanes	Implement a system of express lanes for high-occupancy vehicles, transit, and/or people who pay a toll. This provides a time savings to people who commute by modes other than driving alone.	Highway districts, often led by counties or regional agencies		Freeways, any context	2% to 30%	Comsis (1993) and Turnbull, Levinson and Pratt (2006) find that HOV facilities can reduce vehicle trips on a particular roadway by 4-30%. Ewing (1993) estimates that HOV facilities can reduce peak-period vehicle trips on individual facilities by 2-10%, and up to 30% on very congested highways if HOV lanes are separated from general-purpose lanes by a barrier. Turnbull, Levinson and Pratt (2006) suggest that HOV highway lanes are most effective at reducing automobile use on congested highways to large employment centers in large urban areas with 25 or more buses per hour during peak periods, where transit provides time savings of at least 5 to 10 minutes per trip.	Comsis Corporation (1993), Implementing Effective Travel Demand Management Measures: Inventory of Measures and Synthesis of Experience, USDOT and Institute of Transportation Engineers (www.ite.org); available at www.bts.gov/ntl/DOCS/474.html. Katherine F. Turnbull, Herbert S. Levinson and Richard H. Pratt (2006), HOV Facilities – Traveler Response to Transportation System Changes, TCRB Report 95, Transportation Research Board (www.trb.org); available at http://onlinepubs.trb.org/onlinepubs/tcrp/tcrp_rpt_95c2.pdf.
Financial Incentives							
Transit "fare free" zones	Transit agency provides free rides in designated zone.	Transit agencies, can be initiated/funded by cities, transportation management associations (TMAs), business districts	Can be implemented directly by transit agency, or another organization can form a funding partnership with the transit agency	Urban or suburban downtowns	Not available	Impact of transit fare-free zones is highly context specific. Some cities have seen very large increases in transit ridership within free-fare zones.	Henry Grabar (2012), "What Really Happens When a City Makes Its Transit System Free?" available at http://www.citylab.com/work/2012/10/what-really-happens-when-city-makes-its-transit-system-free/3708/.

Travel Demand Management Checklist

The Travel Demand Management (TDM) Element of the Alameda County Congestion Management Program requires each jurisdiction to comply with the Required Program. This requirement can be satisfied in three ways. The legislation declares the following:

- Option 1: Adopting "Design Strategies for encouraging alternatives to using auto through local development review" prepared by ABAG and the Bay Area Air Quality Management District;
- Option 2: Adopting new design guidelines that meet the individual needs of the local jurisdictions and the intent of the goals of the TDM Element; or
- Option 3: Providing evidence that existing local policies and programs meet the intent of the goals of the TDM Element.

For jurisdictions that have chosen to satisfy this requirement by Option 2 or 3 above, the following checklist has been prepared. To ensure consistency and equity throughout Alameda County, this checklist identifies the components of a design strategy that should be included in a local program to meet the minimum CMP conformity requirements. The required components highlighted in bold type are shown at the beginning of each section. A jurisdiction must answer "Yes" to each of the required components to be considered consistent with the CMP. Each jurisdiction will be asked to annually certify that it is complying with the TDM Element. Local jurisdictions will not be asked to submit the back-up information to the CMA justifying its response; however, it should be available at the request of the public or neighboring jurisdictions.

Questions regarding optional program components are also included. Local jurisdictions are encouraged but not required to answer these questions. This checklist will help the CMA to further support local jurisdictions and TDM activities throughout the county.

(Note: **Bold type face** indicates those components that must be included in the "Required Program" to be found in compliance with the Congestion Management Program.)

Bicycle Facilities

Goal

To develop and implement design strategies that foster the development of a countywide bicycle program that incorporates a wide range of bicycle facilities to reduce vehicle trips and promote bicycle use for commuting, shopping and school activities, and recreation. (Note: examples of facilities are bike paths, lanes, or racks.)

Local Responsibilities

1. **Does your jurisdiction have design strategies or adopted policies that include the following?**
   - A. **A system of bicycle facilities that connects residential and/or non-residential development to other major activity centers?**
     Yes _____ **No** _____
   - B. Bicycle facilities that provide access to transit?
     Yes ____ No ____
   - C. Construction of bicycle facilities needed to fill gaps, (i.e., gap closure), not provided through the development review process?
     Yes ____ No ____
   - D. Consideration of bicycle safety such as safe crossing of busy arterials or along bike trails?
     Yes ____ No ____
   - E. Bicycle storage and bicycle parking for (A) multi-family residential and/or (B) non-residential developments?
     Yes ____ No ____

2. How does your jurisdiction implement these strategies? Please identity.
   - Zoning Ordinance _____
   - Design Review _____
   - Standard Conditions of Approval _____
   - Capital Improvement Program _____
   - Specific Plan _____
   - Other _____

Pedestrian Facilities

Goal

To develop and implement design strategies that reduce vehicle trips and foster access for commuting, shopping, recreation, and school activities.

Local Responsibilities

3. **Does your jurisdiction have design strategies or adopted policies that incorporate and provide for the following?**
   - **A. Reasonably direct, convenient, accessible, and safe pedestrian connections to major activity centers, transit stops, or hubs parks/open space and other pedestrian facilities?**
     Yes ____ No ____
   - **B. Construction of pedestrian paths needed to fill gaps, (i.e., gap closure), not provided through the development process?**
     Yes ____ No ____
   - C. Safety elements such as convenient crossing at arterials?
     Yes ____ No ____
   - D. Amenities such as lighting, street trees, and trash receptacles that promote walking?
     Yes ____ No ____
   - E. Encouraging uses on the first floor that are pedestrian oriented, entrances that are conveniently accessible from the sidewalk or transit stops, or other strategies that promote pedestrian activities in commercial areas?
     Yes ____ No ____

4. How does your jurisdiction implement these strategies? Please identity.
   - Zoning Ordinance _____
   - Design Review _____
   - Standard Conditions of Approval _____
   - Capital Improvement Program _____
   - Specific Plan _____
   - Other _____

Transit

Goal

To develop and implement design strategies in cooperation with the appropriate transit agencies that reduce vehicle trips and foster the use of transit for commuting, shopping, recreation, and school activities.

Local Responsibilities

5. **Does your jurisdiction have design strategies or adopted policies that incorporate the following?**
   - **A. Provide for the location of transit stops that minimize access time, facilitate intermodal transfers, and promote reasonably direct, accessible, convenient and safe connections to residential uses and major activity centers?**
     Yes ____ No ____
   - **B. Provide for transit stops that have shelters or benches, trash receptacles, street trees or other street furniture that promote transit use?**
     Yes ____ No ____
   - **C. Include a process for including transit operators in development review?**
     Yes ____ No ____
   - D. Provide for directional signage for transit stations and/or stops?
     Yes ____ No ____
   - E. Include specifications for pavement width, bus pads or pavement structure, length of bus stops, and turning radii that accommodates bus transit?
     Yes ____ No ____

6. How does your jurisdiction implement these strategies? Please identity.
   - Zoning Ordinance _____
   - Design Review _____
   - Standard Conditions of Approval _____
   - Capital Improvement Program _____
   - Specific Plan _____
   - Other _____

Carpools and Vanpools

Goal

To develop and implement design strategies that reduce the overall number of vehicle trips and foster carpool and vanpool use.

Local Responsibilities

7. Does your jurisdiction have design strategies or adopted policies that incorporate the following?
   A. For publicly owned parking garages or lots, are there preferential parking spaces and/or charges for carpools or vanpools?
      Yes ____ No ____
   B. Convenient or preferential parking for carpools and vanpools in non-residential developments?
      Yes ____ No ____
   C. Information and marketing to support carpool and vanpool matching series and for use on city website, social media, and printed materials?
      Yes ____ No ____
   D. Policies that support reducing free parking or providing incentives to businesses to decrease free parking?
      Yes ____ No ____

8. How does your jurisdiction implement these strategies? Please identity.
   - Zoning Ordinance _____
   - Design Review _____
   - Standard Conditions of Approval _____
   - Capital Improvement Program _____
   - Specific Plan _____
   - Other _____

Park and Ride

Goal

To develop design strategies that reduce the overall number of vehicle trips and provide park and ride lots at strategic locations.

Local Responsibilities

9. Does your jurisdiction have design strategies or adopted policies that incorporate the following?
   A. Promotion of park-and-ride lots located near freeways or major transit hubs using city outreach methods?
      Yes ____ No ____
   B. Process that provides input to Caltrans to insure HOV by-pass at metered freeway ramps?
      Yes ____ No ____

10. How does your jurisdiction implement these strategies? Please identity.
    - Zoning Ordinance _____
    - Design Review _____
    - Standard Conditions of Approval _____
    - Capital Improvement Program _____
    - Specific Plan _____
    - Other _____

APPENDIX D

FEDERAL AND STATE TRANSPORTATION CONTROL MEASURES

Federal and State Transportation Control Measure

The transportation control measures (TCMs) that the Bay Area Air Quality Management District (BAAQMD) and the Metropolitan Transportation Commission (MTC) have set forth for the Bay Area are included in plans designed to achieve air quality standards, defined in state and federal legislation.

The following lists include all TCMs contained in the three plans, intended to improve air quality in the Bay Area.

Table D1. Federal TCMs in the 2001 Bay Area Ozone Attainment Plan (State Implementation Plan)

TCM	Description
Original TCMs from 1982 Bay Area Air Quality Plan	
TCM 1	Reaffirm Commitment to 28 Percent Transit Ridership Increase Between 1978 and 1983
TCM 2	Support Post-1983 Improvements in the Operators' Five-Year Plans and, After Consultation with the Operators, Adopt Ridership Increase Target for the Period 1983 through 1987
TCM 3	Seek to Expand and Improve Public Transit Beyond Committed Levels
TCM 4	High Occupancy Vehicle (HOV) Lanes and Ramp Metering
TCM 5	Support ERIDES Efforts
TCM 6*	Continue Efforts to Obtain Funding to Support Long Range Transit Improvements
TCM 7	Preferential Parking
TCM 8	Shared Use Park and Ride Lots
TCM 9	Expand Commute Alternatives Program
TCM 10	Information Program for Local Governments
TCM 11**	Gasoline Conservation Awareness Program (GasCAP)
TCM 12**	Santa Clara County Commuter Transportation Program
Contingency Plan TCMs Adopted by MTC in February 1990 (MTC Resolution 2131)	
TCM 13	Increase Bridge Tolls to $1.00 on All Bridges
TCM 14	Bay Bridge Surcharge of $1.00
TCM 15	Increase State Gas Tax by 9 Cents
TCM 16*	Implement MTC Resolution 1876, Revised — New Rail Starts

Table D1—Federal TCMs in the 2001 Bay Area Ozone Attainment Plan (State Implementation Plan) (Cont.)

TCM	Description
Contingency Plan TCMs Adopted by MTC in February 1990 (MTC Resolution 2131), Continued	
TCM 17	Continue Post-Earthquake Transit Services
TCM 18	Sacramento-Bay Area Amtrak Service
TCM 19	Upgrade Caltrain Service
TCM 20	Regional HOV System Plan
TCM 21	Regional Transit Coordination
TCM 22	Expand Regional Transit Connection Ticket Distribution
TCM 23	Employer Audits
TCM 24	Expand Signal Timing Program to New Cities
TCM 25	Maintain Existing Signal Timing Programs
TCM 26	Incident Management on Bay Area Freeways
TCM 27	Update MTC Guidance on Development of Local TSM Programs
TCM 28	Local Transportation Systems Management (TSM) Initiatives
New TCMs in 2001 Ozone Attainment Plan	
TCM A	Regional Express Bus Program
TCM B	Bicycle/Pedestrian Program
TCM C	Transportation for Livable Communities
TCM D	Expansion of Freeway Service Patrol
TCM E	Transit Access to Airports

*Deleted by EPA action from ozone plan.
** Deleted by EPA action from ozone plan, but retained in Carbon Monoxide Maintenance Plan.

Source: 2021 Transportation Improvement Program Conformity Analysis, Metropolitan Transportation Commission.

Status of Transportation Control Measures

The original set of TCMs plus the five most recent TCMs (A-E) have been fully implemented.

Table D2. Implementation of State TCMs in the 2017 Clean Air Plan

TCM	Description
TCM-A1	Local and Area-wide Bus Service Improvements
TCM-A2	Improve Local and Regional Rail Service
TCM-B1	Freeway and Arterial Operations Strategies
TCM-B2	Transit Efficiency and Use
TCM-B3	Bay Area Express Lane Network
TCM-B4	Goods Movement Improvements and Emission Reduction Strategies
TCM-C1	Voluntary Employer-Based Trip Reduction Program
TCM-C2	Safe Routes to Schools and Safe Routes to Transit Programs
TCM-C3	Ridesharing Services and Incentives
TCM-C4	Conduct Public Outreach & Education
TCM-C5	Smart Driving
TCM-D1	Bicycle Access and Facilities Improvements
TCM-D2	Pedestrian Access and Facilities Improvements
TCM-D3	Local Land Use Strategies
TCM-E1	Value Pricing Strategies
TCM-E2	Parking Policies to Reduce VMT
TCM-E3	Transportation Pricing Reform

Source: BAAQMD, 2017 Clean Air Plan.

APPENDIX E

SUBAREA TRAVEL DEMAND MODEL GUIDELINES

Subarea Travel Demand Model Guidelines

General Policy Statement

Alameda CTC maintains a Countywide Travel Demand Model (Countywide Model) which is in conformance with MTC's Regional Travel Demand Model and land use database and can therefore be used to satisfy Congestion Management Program (CMP) requirements in Alameda County. The Master Transportation Demand Model Agreements made between the Alameda County Congestion Management Agency and local jurisdictions detail the process through which local jurisdictions can have access to the Countywide Model and use its results for CMP conformance purposes.

An alternative to using the Countywide Model which local jurisdictions or groups of local jurisdictions may wish to pursue is the development of subarea travel demand models (subarea models) for the purpose of satisfying CMP requirements. Subarea models may be more effective than the Countywide Model for the evaluation of certain local conditions or CMP applications.

Local jurisdictions may use a subarea model for CMP purposes so long as the subarea model demonstrates consistency with the Countywide Model. Results from subarea models which are not consistent with the Countywide Model will not be accepted by Alameda CTC for CMP purposes.

Consistency Guidelines

A two-step process has been established to determine consistency of a subarea model with the Countywide Model. The two-step process includes an initial evaluation of subarea model compatibility by the Alameda CTC (step one) and, if required, additional data and information to be submitted to Alameda CTC to verify consistency (step two).

Step One

A. Local jurisdictions apply to Alameda CTC for a consistency finding. The application shall consist of the following:
   i. A written communication to Alameda CTC requesting a model consistency finding.
   ii. A complete model consistency checklist.
B. In the case of new/proposed subarea models, Alameda CTC staff must be part of the Local Technical Advisory/Oversight Committee/Taskforce for model development.

Step Two

C. If additional information is required to determine consistency, Alameda CTC staff will review modeling procedures and land use database issues with local modeling staff.

Acceptable CMP-related Uses of a Consistent Subarea Model

A subarea model that has been found to be consistent with the countywide Model may be used for the following CMP-related uses:

1. Forecasting of operating conditions on roadway segments.
2. Development impact analysis performed for the CMP Land Use Analysis Program.
3. Testing of mitigation measures or deficiency plan recommendations to address degradation of level of service (LOS) on CMP roadway segments operating below LOS E.

Annual Recertification

Annual recertification of subarea models is required by Alameda CTC. Recertification requires a written request that must clearly explain why the subarea model should be recertified on the basis of one of the following two conditions:

1. All changes to the model specifications of the land use database (1) were reported to the Alameda CTC previously or (2) are changes done in coordination with the land use database update process of the Countywide Model; or
2. Recertification request includes a completed consistency checklist.

Development and Operation of Subarea Models

It is assumed that subarea models will be developed by local jurisdictions that will have responsibility for their operation, maintenance, and the costs associated with them. As a condition for delegation of Alameda CTC modeling responsibilities, it is assumed that local jurisdictions will commit to providing adequate ongoing technical support for all model applications in support of a CMP requirement (e.g., land use analysis or deficiency analysis). It is assumed that consultant assistance would normally be required for model development and maintenance.

Dispute Resolution

Disputes regarding consistency or appropriate use of a subarea model shall be brought to the Alameda County Technical Advisory Committee.

Alameda CTC Checklist for Modeling Consistency for Local Jurisdictions

This checklist guides local jurisdictions wishing to develop a subarea model through their model development and consistency review process by providing an inventory of specific products to be developed and submitted to Alameda CTC, and by describing standard practices and assumptions.

A. General approach:

Discuss the general approach to travel demand modeling by the local jurisdiction and the subarea model's relationship to the Alameda Countywide Travel Demand Model.

PRODUCT:

1) Description of the subarea model's general approach.

B. Demographic/economic/land use forecasts:

Both base and forecast year demographic/economic/land use ("land use") inputs must be consistent—though not identical—to the census tract-level data provided to Alameda CTC by ABAG. Specifically, if local jurisdictions wish to reallocate land use within their own jurisdiction, they must consult with Alameda CTC. Further, the resulting deviation in the subject jurisdiction (or jurisdictions) should be no greater than plus or minus 1 percent from the jurisdiction-level totals in the Alameda CTC land use database for the following variables: population, households, jobs, and employed residents.

Outside the subject jurisdiction (or jurisdictions) and within Alameda County, the land use variables in the travel analysis zones used by the jurisdiction's model must match the Alameda CTC model or another adopted subarea model (e.g., the City of Hayward could adopt the land use from within the City of Dublin

if the City of Dublin's model for use in the TAZs within the City of Dublin had an approved subarea model).

Outside of Alameda County, the land use variables in the travel analysis zones used by the jurisdiction's model must match the Alameda CTC model exactly.

PRODUCTS:

2) A statement establishing that the differences between key Alameda CTC land use variables and those of the subarea model do not differ by more than 1 percent at the jurisdiction level for the subject jurisdiction. A statement establishing that no differences exist at the census-tract-level outside the jurisdiction between the Alameda CTC forecast or the forecast contained within an adopted subarea model.
3) A table comparing Alameda CTC land use estimates with the subarea model land use estimates by jurisdiction for population, households, jobs, and employed residents for both the base year and the horizon year.
4) If land use estimates within the jurisdiction are modified from the Alameda CTC model projections, agendas, discussion summaries, and action items from each meeting held with Alameda CTC at which the redistribution was discussed, as well as before/after census-tract-level data summaries and maps.

C. Pricing assumptions:

Use Alameda CTC's automobile operating costs, transit fares, and bridge tolls or provide an explanation for the reason such values are not used.

PRODUCT:

5) Table comparing the assumed automobile operating cost, key transit fares, and bridge tolls to Alameda CTC's values for the horizon year.

D. Network assumptions:

Use Alameda CTC's regional highway and transit network assumptions for the other Bay Area counties and other jurisdictions within Alameda County. Local jurisdictions should include a more detailed network definition relevant to their own jurisdiction in addition to the regional highway and transit networks. For the CMP horizon year, to be compared with the Transportation Improvement Program (TIP) interim year, regionally significant network changes in the base case scenario shall be limited to the current TIP for projects subject to inclusion in the TIP.

PRODUCT:

6) Statement establishing satisfaction of the above.

E. Automobile ownership:

Use Alameda Countywide Travel Demand Model automobile ownership models or forecasts or submit alternative models to Alameda CTC for review and comment.

PRODUCT:

7) Planning area-level table comparing estimates of households by automobile ownership level (zero, one, two, or more automobiles) to Alameda CTC's estimates for the horizon year.

F. Trip generation:

Use Alameda Countywide Travel Demand Model trip generation models or submit alternative models to Alameda CTC for review and comment.

PRODUCT:

8) County-level tables comparing estimates of trip and/or tour frequency by purpose to MTC's estimates for the horizon year.

G. Trip distribution:

Use Alameda Countywide Travel Demand Model trip distribution models or submit alternative models to Alameda CTC for review and comment.

PRODUCTS:

9) County-level tables comparing estimates of average trip distance by tour/trip purpose to Alameda CTC's estimates for the horizon year.

10) Planning area-to-planning area comparison of journey-to-work or home-based-work flow estimates to MTC's estimates for the horizon year.

H. Travel mode choice:

Use Alameda Countywide Travel Demand Model mode choice models or submit alternative models to Alameda CTC for review and comment.

PRODUCT:

11) County-level tables comparing travel mode share estimates by tour/trip purpose to Alameda CTC's estimates for the horizon year.

I. Traffic assignment:

Use Alameda Countywide Travel Demand Model traffic assignment models, or submit alternative models to Alameda CTC for review and comment.

PRODUCTS:

12) County-level, time-period-specific comparison of vehicle miles traveled and vehicle hours traveled estimates by facility type to Alameda CTC's estimates for the horizon year.
13) County-level, time-period-specific comparison of estimated average speed on freeways and all other facilities, separately, to Alameda CTC's estimates for the horizon year.

APPENDIX F

CMP TRANSPORTATION IMPACT ANALYSIS TECHNICAL GUIDELINES

CMP Transportation Impact Analysis Technical Guidelines

Project Trip Generation Methodologies

The ITE trip generation handbook should be used to determine project trip generation.

Projects near transit or in infill development areas may apply one of the following methodologies to adjust project vehicle trip generation to reflect project context. Other alternative trip generation methodologies will be considered on a case-by-case basis.

EPA's Trip Generation Tool for Mixed Use Development (MXD model):

A description of this method can be found online at: http://www.epa.gov/smartgrowth/mxd tripgeneration.html

Caltrans/UC Davis Smart Growth Trip Generation Adjustment Method

A description of this method can be found online at: http://ultrans.its.ucdavis.edu/projects/smart-growth-trip-generation

MTC's Station Area Residents (STARS) Mode Split Based Adjustment Method

This method uses household travel survey data to determine how mode share varies by land use characteristics and then use this information to reduce ITE trip generation rates. The key assumption is that ITE rates produce a reasonably accurate estimate of person-trips, but that in a more dense, transit accessible setting, many of these person-trips may use modes other than driving, so the vehicle-trip rate will be lower.

In the Bay Area, MTC conducted extensive analysis of the 2000 Bay Area Travel Survey (BATS 2000), the most recent household travel survey, as part of its Station Area Residents Study (STARS). This analysis looked at how mode shares differ as a function of proximity to transit and land use density. The findings of this study are well-suited to producing urban trip generation rate estimates. For instance, the driving mode share of residents living within a half-mile of transit is only 48.2 percent, while for residents living more than a mile from transit, in a lower density area, this share is 87.0 percent.

This information can be used to adjust ITE trip generation rates. For instance, for a development located more than a mile from transit in a high-suburban density area, an adjusted ITE rate could be computed as:

Adjusted Rate = ITE Rate X 0.82

Note that the STARS analysis examined mode share for specific trip purposes (e.g., school trips, shopping trips, social/recreation trips) and depending on the type of development project, an analyst may wish to use this information instead of the mode share for all trips to adjust ITE rates.

Types of Impacts and Impact Assessment Methodologies

Autos

Projects should consider auto impacts on CMP roadway segments including:

- **Vehicle delay:** the analysis should assess impacts to vehicle delay on CMP roadway segments.

The Highway Capacity Manual 2010 (HCM 2010) freeway and urban streets methodologies are the preferred methodologies to study vehicle delay impacts. However, project sponsors may use the

HCM 2000 if conformance with local requirements is required.

Consistency with adopted plans: the analysis should disclose whether the project is consistent with plans including future Alameda Countywide Arterial Corridors Plan, and should consider opportunities to implement the plan in the project vicinity.

Transit

Projects should consider impacts to transit operators and riders, including:

- **Effects of vehicle traffic on mixed flow transit operations:** the analysis should evaluate if vehicle trips generated by the project will cause congestion that degrades transit vehicle operations. Analysis may be qualitative and may be based on auto traffic circulation analysis, but should consider that transit vehicles may have unique considerations compared to autos (e.g., pulling into and out of stops, longer gaps needed for left turns). For instance, the analysis may use information about delay on a key segment or intersection with transit service to determine that impacts to transit operations will exist. It should not be assumed that transit operational impacts will not exist if a roadway operates at better than automobile LOS F. Furthermore, the mitigations required to address transit operations impacts may not be the same as those to address vehicle delay.
- **Transit capacity:** the analysis should evaluate if transit trips generated by the project will cause ridership to exceed existing transit capacity. Both vehicle and station circulation should be considered, as appropriate. Transit operators should be consulted to see if any routes or stations in the project area require capacity analysis. If a project will cause transit capacity impacts such that additional service will be required, funding for transit operations cannot be assumed and appropriate mitigations considered. If such analysis is required, it should consider volume to capacity ratios. The Alameda CTC can assist in providing ridership data by line or route if needed.

  Transit access/egress: the analysis should assess whether pedestrian connections between the project site and transit stops are adequate to support any project trip generation assumed to be served by transit. The site plan should provide good access between buildings and from buildings to transit stops and stations. Sidewalks should be provided on both sides of all streets to provide access to bus stops. Sidewalks and curb cuts at intersections should be designed for ADA accessibility. Designs should avoid requiring pedestrians to walk through parking lots to access transit service. The assessment should include consideration of the safety of crossing opportunities, as needed. Qualitative analysis is sufficient to assess this impact type.
- **Future transit service:** developments in areas without current transit service should seek to avoid designs which preclude future transit service. Trip generation estimates should assess the potential for new transit service, and if warranted by demand, the environmental review should address a funding mechanism to support service. Transit operators should be consulted to ensure that project design and surrounding roadway networks can accommodate transit vehicles (e.g., grades, turning radii, lane widths are appropriate). Where a project proposes private shuttle services, a cost analysis of providing this service versus subsidizing existing transit service should be included. Qualitative analysis is sufficient to assess this impact type.
- **Consistency with adopted plans:** the analysis should disclose whether the project is consistent with plans including transit operators Short Range Transit Plan and Long Range Transit Plan and the future Alameda Countywide Transit Plan, and should consider opportunities to implement the plan in the project vicinity.
- **Circulation Element:** for projects involving major

local jurisdictions are encouraged to develop and maintain a transit component of their Circulation Element.

Bicycles

Projects should consider impacts including:

- **Effects of vehicle traffic on bicyclist conditions:** the analysis should evaluate if vehicle trips generated by the project will present barriers to bicyclists safely crossing roadways or executing turning movements as well as whether project traffic volumes necessitate greater separation between bicyclists and vehicles. This analysis may be qualitative and may be based on auto traffic circulation analysis.
- **Site development and roadway improvements:** the analysis should evaluate if the project or its mitigations will reduce or sever existing bicycle access or circulation in the area as well as whether the project could produce conflicting movements between bicyclists and vehicle turning into and out of project driveways. Qualitative analysis is sufficient to assess this impact type.
- **Consistency with adopted plans:** the analysis should disclose whether the project is consistent with the Alameda Countywide Bicycle Plan, and should consider opportunities to implement the plan in the project vicinity, either in conjunction with other roadway improvements required by the project or as a mitigation measure for air quality or traffic circulation impacts. Qualitative analysis is sufficient to assess this impact type.

Pedestrians

Projects should consider impacts including:

- **Effects of vehicle traffic on pedestrian conditions:** the analysis should evaluate if vehicle trips generated by the project will present barriers to pedestrians safely crossing roadways at intersections and mid-block crossings. This analysis may be qualitative and may be based on auto traffic circulation analysis.
- **Site development and roadway improvements:** the analysis should evaluate if the project or its mitigations will reduce or sever existing pedestrian access or circulation in the area as well as whether the project could produce conflicting movements between pedestrian and vehicle turning into and out of project driveways. The need for new crossing opportunities or circulation given project pedestrian access points and likely access/egress routes should be considered. Qualitative analysis is sufficient to assess this impact type.
- **Consistency with adopted plans:** the analysis should disclose whether the project is consistent with the most recent Alameda Countywide Pedestrian Plan, and should consider opportunities to implement the plan in the project vicinity, either in conjunction with other roadway improvements required by the project or as a mitigation measure for air quality or traffic circulation impacts. Qualitative analysis is sufficient to assess this impact type.

Other Impacts and Opportunities

Projects should consider impacts including:

- Noise impacts: for projects adjacent to state roadway facilities, the analysis should address noise impacts of the project. If the analysis finds an impact, then mitigation measures (i.e., soundwalls) should be incorporated as part of the conditions of approval of the proposed project. It should not be assumed that federal or state funding is available.
- Transit Oriented Community access: local jurisdictions are encouraged to adopt the Transit Oriented Communities (TOC) program, including environmentally clearing all access improvements necessary to support transit oriented development as part of environmental documentation.