

San Mateo County

Congestion Management Program

DRAFT REPORT

September 2021

2021



TABLE OF CONTENTS

Executive Summary 1

Chapter 1: Introduction..... 4

 1.1 Background4

 1.2 Elements of the CMP5

Chapter 2: Designated Roadway System..... 7

 2.1 Purpose and Intent of Legislation.....7

 2.2 Relationship to Regional Plans7

 2.3 Designated CMP Network.....8

 2.3 Companion Monitoring Network..... 15

Chapter 3: Roadway System LOS 18

 3.1 Legislative Requirements..... 18

 3.2 Discussion and Roadway Segments LOS Standards..... 18

 3.3 Intersection LOS Standards..... 21

 3.4 LOS Analysis Methodology..... 23

 3.5 2021 Monitoring Results 24

Chapter 4: System Performance..... 32

 4.1 Purpose and Intent of Legislation..... 32

 4.2 San Mateo County Performance Measures..... 32

 4.3 California Senate Bill (SB) 743 34

Chapter 5: Trip Reduction and Travel Demand Element..... 36

 5.1 Purpose and Intent of Legislation..... 36

 5.2 Measure A and Measure W 37

5.3 Current TSM/TDM Programs in San Mateo County	38
5.4 Local TSM/TDM Programs	43
5.5 Jobs and Employed Residents Balance.....	45
Chapter 6: Land Use Impact Analysis Program.....	49
6.1 Legislative Requirements.....	49
6.2 TDM Policy Update	50
6.3 Land Use Impact Analysis Program.....	51
Chapter 7: Deficiency Plan Guidelines.....	57
7.1 Current Deficiencies.....	59
7.2 San Mateo County Congestion Relief Plan (CRP).....	66
Chapter 8: Capital Improvement Program.....	67
8.1 Purpose and Intent of Legislation.....	67
8.2 Federal and State Funding Sources.....	67
8.3 Other Funding Sources for San Mateo County.....	71
8.4 Regional Planning Efforts.....	72
Chapter 9: Database and Travel Demand Model.....	75
9.1 Purpose and Intent of Legislation.....	75
9.2 Discussion.....	75
9.3 CMP Transportation Model and Database Legislative Requirements.....	76
9.4 Regional Models.....	77
9.5 Overview of the C/CAG-VTA Model.....	78
Chapter 10: Monitoring and Updating the CMP	84
Chapter 11: Measure M - \$10 Vehicle Registration Fee Program.....	86
Chapter 12: Traffic Impact Analysis (TIA) Policy	88

FIGURES

Figure 1: San Mateo County CMP Network.....	11
Figure 2: Companion Network.....	17
Figure 3: LOS Standards.....	22
Figure 4: CMP Roadway Segment LOS – AM Peak Period.....	26
Figure 5: CMP Roadway Segment LOS – PM Peak Period.....	27
Figure 6: CMP Intersection LOS – AM Peak Period.....	28
Figure 7: CMP Intersection LOS – PM Peak Period.....	29

TABLES

Table 1: CMP Network Segments.....	12
Table 2: CMP Network Intersections.....	14
Table 3: Companion Network Intersections.....	15
Table 4: Companion Network Roadway Segments.....	16
Table 5: LOS Definitions.....	19
Table 6: LOS Monitoring Methodology.....	23
Table 7: 2021 CMP Network Monitoring Results.....	25
Table 8: 2021 Companion Monitoring Results (AM Peak Period).....	30
Table 9: 2021 Companion Monitoring Results (PM Peak Period).....	30
Table 10: 2021 Weekend Monitoring Results (AM Peak Period).....	31
Table 11: 2021 Weekend Monitoring Results (Mid-Day Peak Period).....	31
Table 12: 2021 Weekend Monitoring Results (PM Peak Period).....	31
Table 13: San Mateo County Employed Residents – Commute to Work by Mode.....	46

Table 14: Projected Jobs and Employed Residents in San Mateo County	47
Table 15: Trips to Work by San Mateo County Residents.....	47
Table 16: Trips to Work in San Mateo County Originating from Outside the County.....	48
Table 17: Trips to Work through San Mateo County.....	48
Table 18: ADT Thresholds, Correlated with Project Size Characteristic.....	53
Table 19: Vehicle Trip Reduction Targets for TDM Plans	54
Table 20: 2021 CMP Roadway Segment LOS.....	60
Table 21: 2021 CMP Intersection LOS.....	64
Table 22: 2020 STIP Programming in San Mateo County (\$1,000's).....	68
Table 23: Regional Measure 3 Projects in San Mateo County (\$ in millions).....	70
Table 24: Plan Bay Area 2040 Goals.....	72
Table 25: Measure M Expenditure Plan.....	87

APPENDICES

Appendix A: Detailed Inventory of CMP Roadways and Intersections

Appendix B: Traffic LOS Calculation Methods

Appendix C: BAAQMD's Deficiency List

Appendix D: Guidelines for Deficiency Plan

Appendix E: Descriptions of Transportation Control Measures (TCMs)

Appendix F: 2021 CMP Monitoring Report

Appendix G: Status of Capital Improvement Projects

Appendix H: Measure A Program Strategic Plan

Appendix I: Land Use Guidelines and Compliance Monitoring

Appendix J: RTP Projects

Appendix K: Checklist for Modeling Consistency

Appendix L: Traffic Impact Analysis Policy

Appendix M: Measure M Implementation Plan

Appendix N: MTC Guidance for Consistency of CMPs with the RTP

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EXECUTIVE SUMMARY

The 2021 Congestion Management Program (CMP) Update is a document of the City/County Association of Governments of San Mateo County (C/CAG), the designated Congestion Management Agency (CMA) for San Mateo County. The 2021 biennial update is required by State statute. Following are highlights of this document.

Chapter 1: Introduction

This section introduces the CMP legislation and outlines the various elements/sections of this CMP.

Chapter 2: Designated Roadway System

The designated CMP roadway system in San Mateo County has not changed in this update. In total, the 464.7 directional miles of the CMP designated roadway network contains 301.4 miles of arterials/highways, 163.3 miles of freeways, and 16 intersections. New to this CMP is the Companion Monitoring Network (Companion Network), which includes an additional 10 roadway segments and 17 intersections not included in the CMP network. It will be monitored for informational purposes.

Chapter 3: Roadway System Level of Service (LOS)

Five roadway segments and one intersection fell below their established LOS standard before interregional reductions. After the reductions, all rose to an acceptable LOS and none are considered deficient. This could be due to the reduction in traffic countywide as a result of the COVID-19 pandemic. During the time period of monitoring (April-May 2021), many were working from home, participating in remote school, or otherwise making fewer trips outside the home. This section also summarizes the results of monitoring the Companion Network, and conducting weekend monitoring at locations on the Coastside. Full details are located in the 2021 CMP Monitoring Report in **Appendix F**.



Pedestrians crossing at SR-92/Main St in Half Moon Bay

Chapter 4: System Performance

C/CAG has adopted four performance measures: LOS; Travel Times for Single Occupancy Vehicles, Carpools, and Transit; Pedestrian and Bicycle Improvements, and Ridership/Person Throughput of Transit. Each of these performance measures is described in this chapter. Full details are located in the 2021 CMP Monitoring Report in **Appendix F**.

Chapter 5: Trip Reduction and Travel Demand Element

Transportation Demand Management (TDM) strategies are utilized to improve efficiency of existing transportation systems without significant expansion of the infrastructure. These strategies focus on ways to reduce solo driving and/or eliminate the need for driving altogether. Some of the commonly used strategies that aim at reducing solo driving include carpool, vanpool, bicycle, transit, and park, and ride lots. Strategies to reduce vehicle miles traveled (VMT) include alternatives such as remote working, flexible work schedules, and parking cash-out programs. Improving a balance between available jobs and employed residents can help to shorten commutes. Use of TDM strategies help cities and counties in their attempt to balance the growing need for transportation and availability of limited transportation dollars, knowing we can't build our way out of congestion. San Mateo County's TDM agency, Commute.org, is primarily responsible for implementing TDM measures countywide. This chapter includes a full description of these programs, as well as others being offered by local jurisdictions.

Chapter 6: Land Use Impact Analysis Program

The CMP includes three tiers of the Land Use Analysis Program: Tier 1 (Long Range Planning Analysis), Tier 2 (Individual Large Development Analysis), and Tier 3 (Cumulative Development Analysis). All of these require local government participation and cooperation. The chapter also includes a detailed summary of the new TDM Policy adopted by C/CAG in 2021, and revises the Tier 2 analysis to include its relevant components.

Chapter 7: Deficiency Plan Guidelines

Local jurisdictions must meet the CMP conformance requirements to receive funding from several State programs. The conformity process has not substantially changed in the 2021 CMP. Given that no segments or intersections are considered deficient, no jurisdiction is considered out of conformance at this time. C/CAG's adopted Congestion Relief Plan also serves as the countywide deficiency plan and relieves all cities/towns and the County from the need to prepare deficiency plans.

Chapter 8: Capital Improvement Program

A CMP is required to have a seven-year Capital Improvement Program (CIP) to maintain or improve the performance of the multimodal system for the movement of people and goods and to mitigate regional transportation impacts identified through the Land Use Analysis Program. Any project depending on State or Federal funding must be included in the CMP's CIP. This part of the CMP must be submitted first to the Metropolitan Transportation Commission (MTC) in the Bay Area and then to the California Transportation Commission (CTC) and/or the Federal Highway Administration (FHWA) so that funding from State and Federal programs will be allocated for the projects included in the CIP.

The 2021 CIP primarily includes projects programmed in the 2020 State Transportation Improvement Program (STIP), and lists other sources of funding for San Mateo County transportation projects.

Chapter 9: Database and Travel Demand Model

CMP requirements include maintaining and utilizing a travel demand model that is consistent with the regional model and available for use in corridor and development studies. The C/CAG-VTA Model is the transportation model used by C/CAG and is described in its chapter along with its role in the CMP, and its conformity with the MTC model.

Chapter 10: Monitoring and Updating the CMP

This section details the elements that must be updated biennially per CMP legislation, as well as the procedure to find a jurisdiction in non-conformance with the CMP requirements.

Chapter 11: Measure M - \$10 Vehicle Registration Fee Program

This section summarizes the Measure M program and details the current expenditure plan. C/CAG is currently updating the Measure M Strategic Plan at the time of writing (September 2021).

Chapter 12: Traffic Impact Analysis (TIA) Policy

This section summarizes C/CAG's adopted TIA Policy.

CHAPTER 1: INTRODUCTION

1.1 Background



Cycle track approaching intersection of El Camino Real (SR-82) and Ralston Avenue in Belmont

In 1990, California voters approved Propositions 111 and 108, which included a requirement that every urban county within California designate a CMA that would prepare, implement, and biennially update a CMP. In San Mateo County, C/CAG was designated as the CMA. Subsequent legislation (AB 2419) allowed existing Congestion Management Agencies to discontinue participation in the Program; however, C/CAG voted to continue to participate in and adopt a CMP.

According to the state legislation, the purpose of CMPs is to develop a procedure to alleviate or control anticipated increases in roadway congestion and to ensure 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.”¹ The first CMP for San Mateo County was adopted by C/CAG in 1991. It has been updated and amended on a biennial basis. The last CMP update was in 2019.

When the California Legislature defined the requirements for CMPs, they set in motion the following actions:

- A political process that encourages local jurisdictions (cities/towns and the County) to discuss and seek resolution of anticipated transportation supply problems.

¹ California Government Code Section 65088(e).

- A political process that requires that all types of measures, including the possibility of implementing land use changes, creating TDM actions, and providing transit, ridesharing, and other modal alternatives to driving, be considered in conjunction with building or widening roadways as effective ways to address future urban transportation needs.
- A technical process to provide consistent and timely information to elected officials about the possible consequences of planned or proposed land developments, and of the costs and benefits of optional ways to resolve anticipated congestion problems.

This CMP describes the framework for the ongoing process that will be followed by C/CAG, the County of San Mateo, and the cities/towns in San Mateo County to implement state and federal requirements concerning the CMP. The overall goal of this CMP is to help C/CAG promote countywide solutions to transportation problems based upon cooperation and mutual support.

1.2 Elements of the CMP

Each CMA is charged with developing, adopting and updating a CMP. The following elements must be included in a CMP:

Roadway System

The CMA must specify a system of highways and roadways for which traffic LOS standards shall be established. The CMP's Roadway System shall include at a minimum all state highways and principal arterials. No highway or roadway designated as a part of the CMP Roadway System shall be removed from the system (in future CMPs).

Traffic LOS Standards

LOS standards intended to measure roadway congestion must be established for all state highways and principal arterials included in the CMP's Roadway System. LOS is a qualitative description of roadway operations ranging from LOS A, or free flow conditions, to LOS F, or gridlocked conditions. The CMP may not establish any standard below LOS E unless the LOS was F at the time that the standard was established in 1991. LOS must be monitored on the CMP network biennially.

Performance Element

The Performance Element was added by AB 1963 in 1994. This element includes performance measures to evaluate current and future multimodal system performance for the movement of people and goods in San Mateo County. For C/CAG, this includes the four designated performance measures: LOS, Multi-Modal Travel Times, Pedestrian and Bicycle Improvements, and Ridership/Person Throughput for Transit.

Trip Reduction and Travel Demand Element

The CMP must contain an element promoting the use of alternative transportation modes and ways to reduce future travel demand. Improving a county's jobs/employed residents balance and implementing TDM strategies are specifically mentioned as ways of attaining the objectives of this element of the CMP.

Land Use Impact Analysis Program

The purpose of this element of the CMP is to create and implement a program to analyze the impacts of land use decisions made by local jurisdictions on regional transportation systems. Estimates of the costs associated with mitigating the projected impacts must be included in the CMP, with some exceptions.²

Seven-Year Capital Improvement Program (CIP)

The CMP must contain a seven-year program of projects expected to maintain or improve traffic LOS and transit performance, and to mitigate the impacts of local land use decisions. Projects contained in the CIP must also conform to transportation-related air quality mitigation measures.

Other Items

In addition to these elements, a CMP must also include a uniform database and a computer-based transportation model that will be used to determine the quantitative impacts of proposed or planned land developments on a county's transportation systems. Finally, C/CAG is charged with monitoring the implementation of all elements of the CMP and determining conformance with the CMP's requirements and recommendations.

²According to statute, interregional trips will be excluded from this cost estimate. Credit will also be given to local, public, and private contributions for improvement to the roadway system.

CHAPTER 2: DESIGNATED ROADWAY SYSTEM

2.1 Purpose and Intent of Legislation

The CMP roadway system is a network that allows performance monitoring of established LOS standards. The network must be created at a level such that impacts can be identified, and a connection can be made between proposed projects and their specific impacts on the network. The network can neither be too small, as impacts would be unidentifiable, nor too large, as there would be logistical issues in monitoring network performance. The CMP was established as part of the legislated Transportation Blueprint of 1990 and became a requirement for CMAs across California to fulfill.



University Avenue (SR-109) south of Kavanaugh Drive in East Palo Alto

C/CAG established the CMP roadway network in 1991. The designated CMP roadway system includes all state highways and principal arterial roadways in San Mateo County, including freeways, multilane highways, two-lane highways, arterials, and intersections. California Government Code Section 65089(b)(1)(A) states that once a highway or roadway has been designated as part of the CMP system, it cannot be removed. Furthermore, Section 60589(b)(4) requires that the regional transportation system is part of the required land use program defined by State statute.

2.2 Relationship to Regional Plans

The CMP is a short-range document containing elements that are required for consistency with long term regional transportation plans. The CMP is required to be consistent with long range regional transportation plans in the following areas:

- Goals and objectives established in MTC's Regional Transportation Plan (RTP);
- System definition with adjoining counties;

- Federal and State air quality plans;
- MTC travel demand modeling database and methodologies; and
- RTP financial assumptions.

Plan Bay Area 2040 is the RTP developed by MTC, the San Francisco Bay Area’s regional transportation planning agency. The San Mateo CMP roadway system is consistent with the RTP, which was adopted in July 2017. At the time of writing, the next iteration of the RTP, Plan Bay Area 2050, is in draft form and expected to be adopted in late 2021 or early 2022.

2.3 Designated CMP Network

The CMP Network incorporates the CMP Roadway System adopted in 1991, plus 16 intersections adopted in 1993, and one additional roadway segment adopted in 1999. The roadways adopted by C/CAG to be part of the CMP's Roadway System are roadways in San Mateo County that fulfill at least one of the following requirements:

- They are routes that are part of the California State Highway System. (Some of the State Highways in San Mateo County serve as principal arterials).
- They extend from the San Mateo County/San Francisco County line to the San Mateo County/Santa Clara County line.
- They extend from San Francisco Bay to the Pacific Ocean and/or connect two major north/south routes.
- They connect directly with the roadways included in the CMP networks of adjacent counties (as is the case with Mission Street, Geneva Avenue, and Bayshore Boulevard with San Francisco’s CMP network).
- They are principal arterials, which in San Mateo County were defined as those roadways that are not freeways containing six or more lanes for a length of at least one mile and carrying average daily traffic (ADT) volumes of at least 30,000 vehicles.

Figure 1 illustrates all designated CMP roadway facilities within San Mateo County. The following roadways are designated as the San Mateo County CMP roadway network:

- State Route (SR)-1 – from San Francisco County Line to Santa Cruz County Line
- SR-35 – from San Francisco County Line to Santa Clara County Line
- SR-82 (El Camino Real) – from San Francisco County Line to Santa Clara County Line
- SR-84 – from SR-1 to Alameda County Line

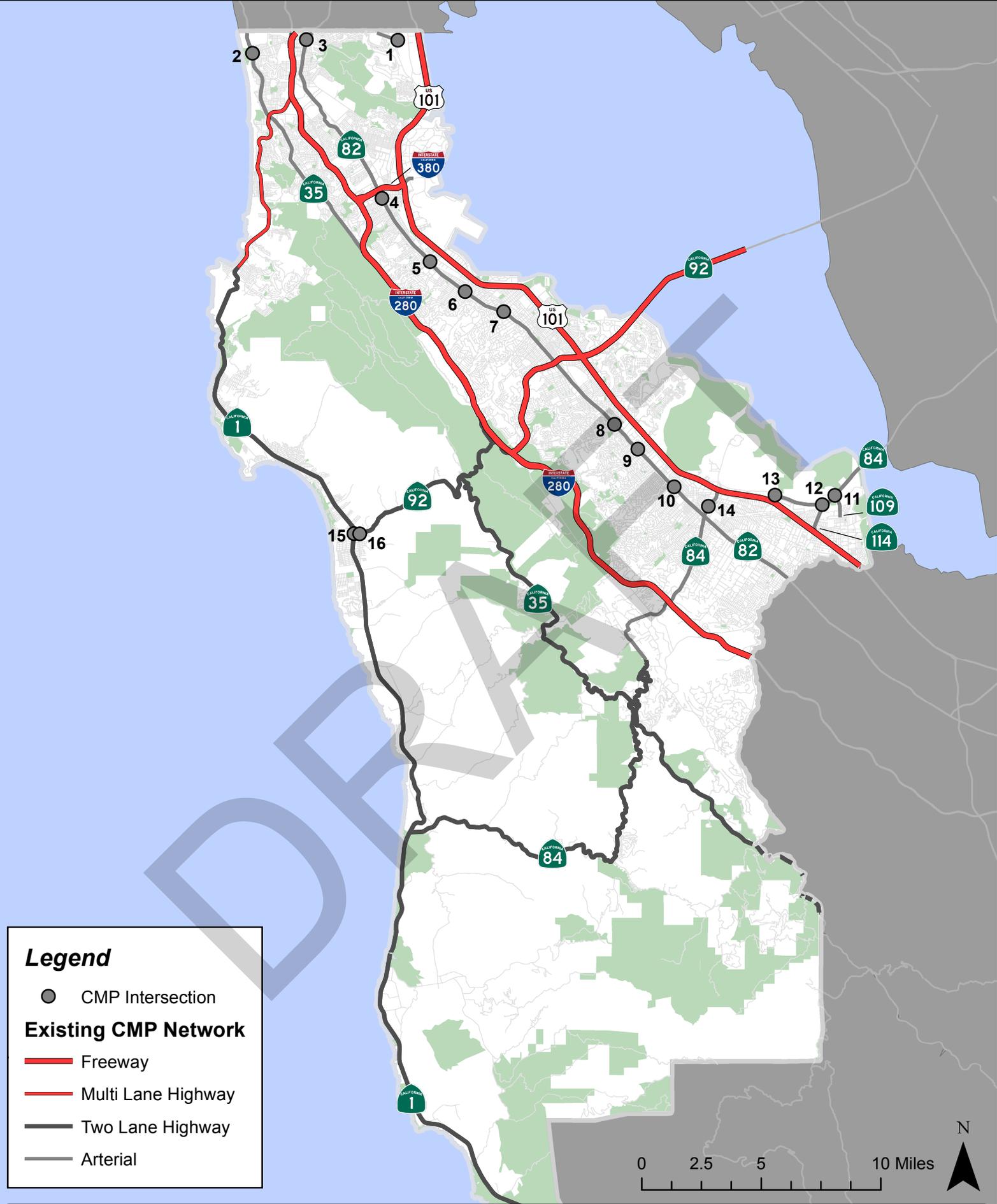
- SR-92 – from SR-1 to Alameda County Line
- US 101 – from San Francisco County Line to Santa Clara County Line
- SR-109 – from Kavanaugh Drive to SR-84
- SR-114 – from US 101 to SR-84
- I-280 – from San Francisco County Line to Santa Clara County Line
- I-380 – from US 101 to I-280
- Mission Street – from San Francisco County Line to SR-82
- Geneva Avenue – from San Francisco County Line to Bayshore Boulevard
- Bayshore Boulevard – from San Francisco County Line to Geneva Avenue

As noted above, 16 intersections were added to the CMP network in 1999. These intersections are listed below and also shown in **Figure 1**:

1. Bayshore Boulevard/Geneva Avenue
2. SR-35/John Daly Boulevard
3. SR-82/Hillside Boulevard/John Daly Boulevard
4. SR-82/San Bruno Avenue
5. SR-82/Millbrae Avenue
6. SR-82/Broadway
7. SR-82/Peninsula Avenue/Park Road
8. SR-82/Ralston Avenue
9. SR-82/Holly Street
10. SR-82/Whipple Avenue
11. University Avenue/SR-84
12. Willow Road/SR-84
13. Marsh Road/SR-84
14. Middlefield Road/SR-84
15. SR-1/SR-92
16. SR-92/Main Street

Tables 1 and 2 provide details of the San Mateo County CMP network. In total, the 464.7 directional miles of the CMP designated roadway network contains 301.4 miles of arterials/highways and 163.3 miles of freeways. Detailed descriptions of the roadways included in this CMP's Roadway System are presented in **Appendix A**. The results of the *2021 CMP Monitoring Report* with the current LOS are contained in **Appendix F**.

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Legend

- CMP Intersection
- Existing CMP Network**
- Freeway
- Multi Lane Highway
- Two Lane Highway
- Arterial

FIGURE 1

EXISTING CMP NETWORK



Table 1: CMP Network Segments

Route	From	To	Facility Type
SR-1	San Francisco County Line	Linda Mar Boulevard	Multi-Lane Highway
SR-1	Linda Mar Boulevard	Frenchmans Creek Road	Two-Lane Highway
SR-1	Frenchmans Creek Road	Miramontes Road	Two-Lane Highway
SR-1	Miramontes Road	Santa Cruz County Line	Two-Lane Highway
SR-35	San Francisco County Line	Sneath Lane	Arterial
SR-35	Sneath Lane	I-280	Arterial
SR-35	I-280	SR-92	Two-Lane Highway
SR-35	SR-92	SR-84	Two-Lane Highway
SR-35	SR-84	Santa Clara County Line	Two-Lane Highway
SR-82	San Francisco County Line	John Daly Boulevard	Arterial
SR-82	John Daly Boulevard	Hickey Boulevard	Arterial
SR-82	Hickey Boulevard	I-380	Arterial
SR-82	I-380	Trousdale Drive	Arterial
SR-82	Trousdale Drive	3 rd Avenue	Arterial
SR-82	3 rd Avenue	SR-92	Arterial
SR-82	SR-92	Hillsdale Avenue	Arterial
SR-82	Hillsdale Avenue	42 nd Avenue	Arterial
SR-82	42 nd Avenue	Holly Street	Arterial
SR-82	Holly Street	Whipple Avenue	Arterial
SR-82	Whipple Avenue	SR-84	Arterial
SR-82	SR-84	Glenwood Avenue	Arterial
SR-82	Glenwood Avenue	Santa Cruz Avenue	Arterial
SR-82	Santa Cruz Avenue	Santa Clara County Line	Arterial
SR-84	SR-1	Portola Road	Two-Lane Highway

Route	From	To	Facility Type
SR-84	Portola Road	I-280	Two-Lane Highway
SR-84	I-280	Alameda de las Pulgas	Arterial
SR-84	Alameda de las Pulgas	US 101	Arterial
SR-84	US 101	Willow Road	Arterial
SR-84	Willow Road	University Avenue	Arterial
SR-84	University Avenue	Alameda County Line	Arterial
SR-92	SR-1	I-280	Two-Lane Highway
SR-92	I-280	US 101	Freeway
SR-92	US 101	Alameda County Line	Freeway
US 101	San Francisco County Line	I-380	Freeway
US 101	I-380	Millbrae Avenue	Freeway
US 101	Millbrae Avenue	Broadway	Freeway
US 101	Broadway	Peninsula Avenue	Freeway
US 101	Peninsula Avenue	SR-92	Freeway
US 101	SR-92	Whipple Avenue	Freeway
US 101	Whipple Avenue	Santa Clara County Line	Freeway
SR-109	Kavanaugh Drive	SR-84	Arterial
SR-114	US 101	SR-84	Arterial
I-280	San Francisco County Line	SR-1 (North)	Freeway
I-280	SR-1 (North)	SR-1 (South)	Freeway
I-280	SR-1 (South)	San Bruno Avenue	Freeway
I-280	San Bruno Avenue	SR-92	Freeway
I-280	SR-92	SR-84	Freeway
I-280	SR-84	Santa Clara County Line	Freeway
I-380	I-280	US 101	Freeway

Route	From	To	Facility Type
I-380	US 101	Airport Access Road	Arterial
Mission Street	San Francisco County Line	SR-82	Arterial
Geneva Avenue	San Francisco County Line	Bayshore Boulevard	Arterial
Bayshore Boulevard	San Francisco County Line	Geneva Avenue	Arterial

Table 2: CMP Network Intersections

ID	Jurisdiction	Intersection
1	Daly City/Brisbane	Bayshore Boulevard/Geneva Avenue
2	Daly City	SR-35/John Daly Boulevard
3	Daly City	SR-82/Hillside Boulevard/John Daly Boulevard
4	San Bruno	SR-82/San Bruno Avenue
5	Millbrae	SR-82/Millbrae Avenue
6	Burlingame	SR-82/Broadway
7	Burlingame/San Mateo	SR-82/Peninsula Avenue/Park Road
8	Belmont	SR-82/Ralston Avenue
9	San Carlos	SR-82/Holly Street
10	Redwood City	SR-82/Whipple Avenue
11	Menlo Park	University Avenue/SR-84
12	Menlo Park	Willow Road/SR-84
13	Menlo Park	Marsh Road/SR-84
14	Redwood City	Middlefield Road/SR-84
15	Half Moon Bay	SR-1/SR-92
16	Half Moon Bay	SR-92/Main Street

2.3 Companion Monitoring Network

The 2021 CMP Update established a new “Companion Monitoring Network” (Companion Network) consisting of 10 roadway segments and 17 intersections not in the CMP network where C/CAG desired to see additional congestion monitoring. The purpose of the network is to monitor congestion in other parts of the county that are not necessarily on a state highway, or intersections that are not currently monitored. These locations will be monitored for informational purposes only.

The network was developed based on a set of criteria that considered roadway classification/function, past collision history, bicycle Level of Traffic Stress, facilities that were identified in local city/county plans, and locations that connected to existing CMP segments that had a failing LOS in 2019. All 20 cities/towns and towns in San Mateo County have at least one location (either a roadway segment or intersection), as well as several in unincorporated San Mateo County.

The Companion Network is detailed in **Tables 3** and **4**, and mapped in **Figure 2**.

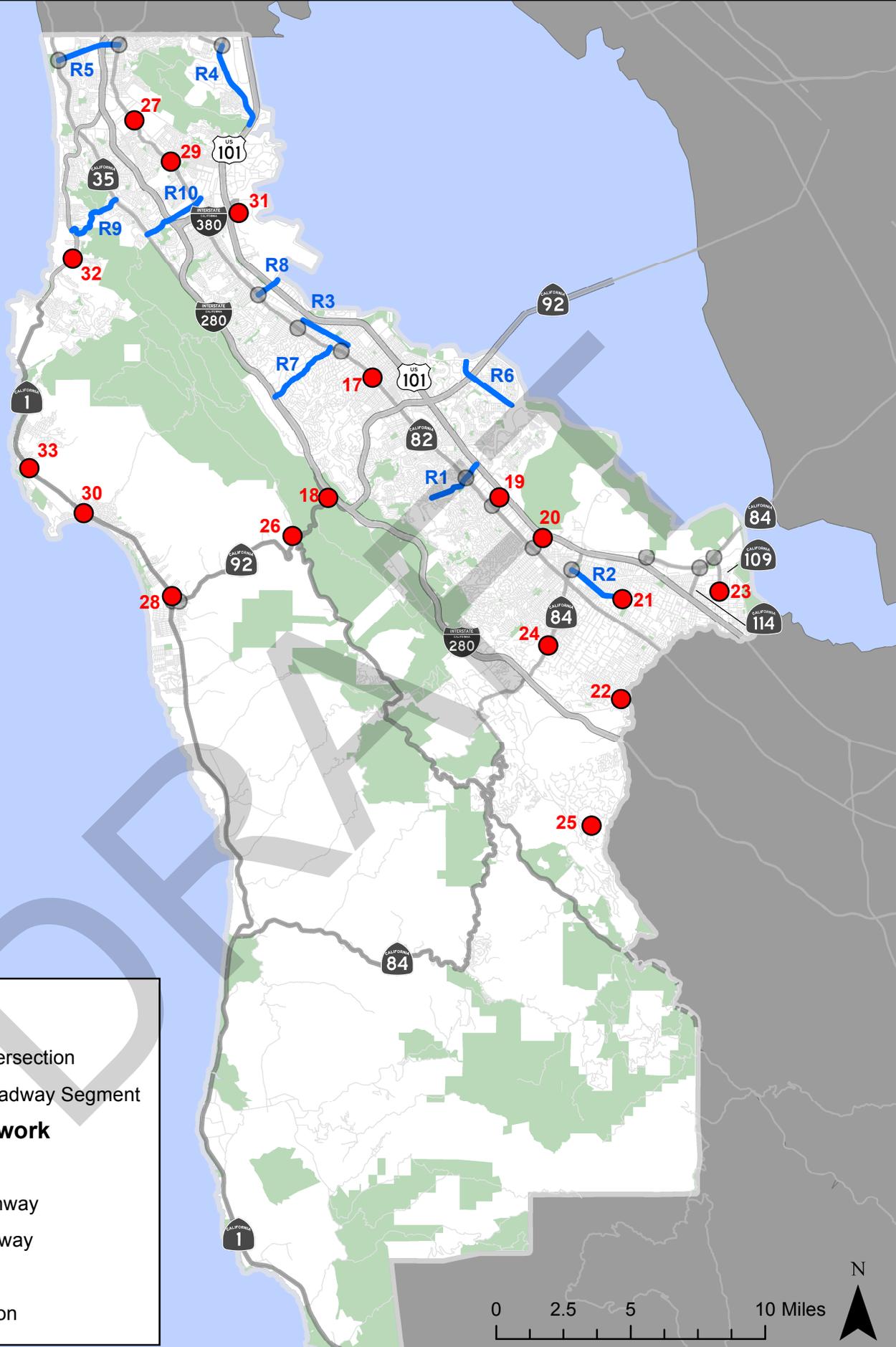
Table 3: Companion Network Intersections

#	Jurisdiction	Intersection
17	San Mateo	SR-82/3 rd Avenue
18	Unincorporated San Mateo County	Skyline Boulevard (SR-35)/SR-92
19	San Carlos	Holly Street/Industrial Road
20	Redwood City	Whipple Avenue/Veterans Boulevard
21	Atherton	Middlefield Road/Marsh Road
22	Menlo Park	Sand Hill Road/Santa Cruz Avenue
23	East Palo Alto	Bay Road/University Avenue
24	Woodside/Redwood City	SR-84/Alameda de las Pulgas
25	Portola Valley	Alpine Road/Portola Road
26	Unincorporated San Mateo County	SR-35/SR-92
27	Colma	El Camino Real/Mission Road
28	Half Moon Bay	SR-1/Main Street

#	Jurisdiction	Intersection
29	South San Francisco	El Camino Real/Westborough Boulevard
30	Unincorporated San Mateo County (El Granada/Coastside)	SR-1/Capistrano Boulevard
31	Unincorporated San Mateo County (SFO Airport)	S. Airport Boulevard/San Bruno Avenue
32	Pacifica	SR-1/Reina del Mar Avenue
33	Unincorporated San Mateo County (Moss Beach/Coastside)	SR-1/Cypress Avenue

Table 4: Companion Network Roadway Segments

Jurisdiction	Name	Extent
Belmont	Ralston Avenue	US 101 to Alameda de las Pulgas
Unincorporated San Mateo County (North Fair Oaks), Atherton, Redwood City	Middlefield Road	SR-84 to Marsh Road
Burlingame	California Drive	Broadway to Peninsula Avenue
Brisbane	Bayshore Boulevard	Geneva Avenue to US 101 Northbound Off-Ramp
Daly City	John Daly Boulevard	SR-35 to Mission Street
Foster City	Foster City Boulevard	E. 3 rd Avenue to Beach Park Boulevard
Hillsborough	Chateau Drive/Ralston Avenue	I-280 to El Camino Real
Millbrae	Millbrae Avenue	SR-82 to Old Bayshore Highway
Pacifica	Sharp Park Boulevard	SR-1 to SR-35
San Bruno	Sneath Lane	SR-35 to Huntington Avenue



Legend

- Companion Intersection
 - Companion Roadway Segment
- Existing CMP Network**
- Freeway
 - Multi Lane Highway
 - Two Lane Highway
 - Arterial
 - CMP Intersection

FIGURE 2

COMPANION MONITORING NETWORK



CHAPTER 3: ROADWAY SYSTEM LOS

3.1 Legislative Requirements

California Government Code Sections 65089.1 (A) and (B) requires that LOS standards be established by, in this case, C/CAG for the roadways and intersections designated to be in the CMP Roadway System. Furthermore, roadway LOS are to be measured by methods described in one of the following documents: The Transportation Research Board's *Circular 212*, the latest version of the *Highway Capacity Manual (HCM)*, or a uniform methodology adopted by the CMA that is consistent with the *HCM*.



Intersection of SR-84/Middlefield Road in Redwood City is LOS F in PM peak period (without exemption)

The CMP legislation stipulates that the CMP's LOS standards can be set at any LOS - A through F. However, only roadway segments or intersections operating at LOS F when the CMP was established in 1991 may have a LOS F standard set for them.

3.2 Discussion and Roadway Segments LOS Standards

LOS is a qualitative term used to describe a roadway's operating condition. The LOS of a road or street is designated by a letter grade ranging from A to F, with LOS A representing free-flow conditions with little or no delay and LOS F representing forced flow with excessive delays. An explanation of the various LOS levels is shown below in **Table 5**.

Table 5: LOS Definitions

LOS Level	Description
A	Free-flow conditions with unimpeded maneuverability.
B	Reasonably unimpeded operations with slightly restricted maneuverability.
C	Stable operations with somewhat more restrictions. Motorists will experience appreciable tension while driving.
D	Approaching unstable operations where small increases in volume produce substantial increases in delay and decreases in speed.
E	Unstable flow at or near capacity levels with poor levels of comfort and convenience.
F	Forced traffic flow in which the amount of traffic approaching a point exceeds the amount that can be served. Characterized by stop-and-go waves and poor travel times.

Sources: San Mateo C/CAG Traffic LOS Calculation Methods, HCM, & Virginia DOT

The purpose of setting LOS standards is to evaluate changes in congestion. Congestion is to be measured on the designated system of CMP roadways via LOS calculations. Existing LOS are to be calculated every two years as part of the CMP's traffic operations monitoring program. (The results of the monitoring of existing LOS in 2021 for the CMP roadway segments and intersections are presented in **Appendix F**) Future (or anticipated) LOS are expected to be calculated as part of the program to evaluate the impacts of planned (or anticipated) land use changes.

When monitoring conformance with this CMP's recommendations, a significant increase in congestion is defined as a change in the measured LOS to any level worse than the specified LOS standard. Therefore, nonattainment of the CMP's Roadway LOS standards would occur whenever the LOS for a roadway segment or intersection included in the CMP Roadway System is monitored as falling below the LOS standard established for that roadway facility. With one exception, this would occur regardless of the LOS standard set by C/CAG for a roadway. The exception would be that for a roadway where the standard was set to be LOS F, further decreases in their LOS would not be measured as falling below this CMP's standards.

The following LOS standards were selected for the roadway segments.

- If the existing (1990/91) LOS was F, then the standard was set to be LOS F.
- If the existing or future LOS when measured in 1991 was or will be E, then the standard was set to be LOS E.

- The standard for roadway segments near the San Francisco, Santa Clara, and Alameda County borders, with one exception,³ was set to be LOS E to be consistent with the recommendations in those counties' 1991 CMPs. (This standard would apply unless those roadway segments were already operating at LOS F.)
- On SR-82 (El Camino Real), the standard was set to be LOS E.
- For the remaining roadway segments, the standard was set to be one letter designation worse than the LOS projected for the year 2000 when the CMP was established in 1991.

The LOS standards established for San Mateo County vary by roadway segment. By adopting LOS standards based on geographic differences, C/CAG signaled that it intends to use the CMP process to prevent future congestion levels in San Mateo County from getting worse than currently anticipated. At the same time, the variations in LOS standards by geographic area conform to current land use plans and development differences between the Coastside and Bayside, and between older downtowns near Caltrain stations and other areas of San Mateo County.

Local cities and towns must consider the impacts that land use decisions have on LOS on the designated CMP network. C/CAG works with local government agencies to determine whether a change in land use affects LOS negatively and how to mitigate any anticipated deficiencies. A systems approach may have to be examined when considering LOS of the entire system. Cities/towns and counties may be responsible for improvements and funding of programs that affect the system as a whole. Note that while VMT became the required metric for analyzing the impact of development on the transportation system on July 1, 2020 (as part of SB 743), specific guidance has not been released for incorporating VMT into the CMP and as such LOS is still used. Additional discussion on the Land Use Analysis Program is presented in Chapter 6.

³For I-280 south of SR 84, the adopted standard is LOS D.

3.3 Intersection LOS Standards

16 intersections were added to the CMP Roadway System first adopted in 1991. Intersection LOS standards were selected based on the following considerations:

- If the existing LOS is F, then the standard is set to be LOS F.
- If the existing or future LOS is or will be E, then the standard is also set to be E.
- The standard of the intersections near the San Francisco, Santa Clara, and Alameda Counties will be LOS E to be consistent with the LOS standards adopted in those counties.
- On SR 82 (El Camino Real), the standard is set to be LOS E to be consistent with the roadway segment standards.
- For the remaining intersections, the standard is set to be LOS E to correspond to the standard established for the adjacent roadway segment. (All the segments on which these intersections are located have standards set to LOS E.)

Should the LOS of any particular segment fall below the established standard, it moves on to a second process of volume reductions before determining deficiencies. For purposes of determining deficiencies, as required by law, the impacts of the following will be excluded: (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 for multi-jurisdictional agencies, (5) traffic generated by the provision of low- and very low-income housing, (6) traffic generated by high-density residential development located within one-fourth mile of a rail passenger station, and (7) 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.

LOS standards only apply to CMP segments and intersections during the established weekday AM and PM peak periods. Locations and time periods outside of this, including the Companion Network or weekend monitoring as discussed in Chapter 3, do not have an established LOS standard and are monitored for informational purposes only.

The LOS standards for roadway segments and intersections is mapped below in **Figure 3**.

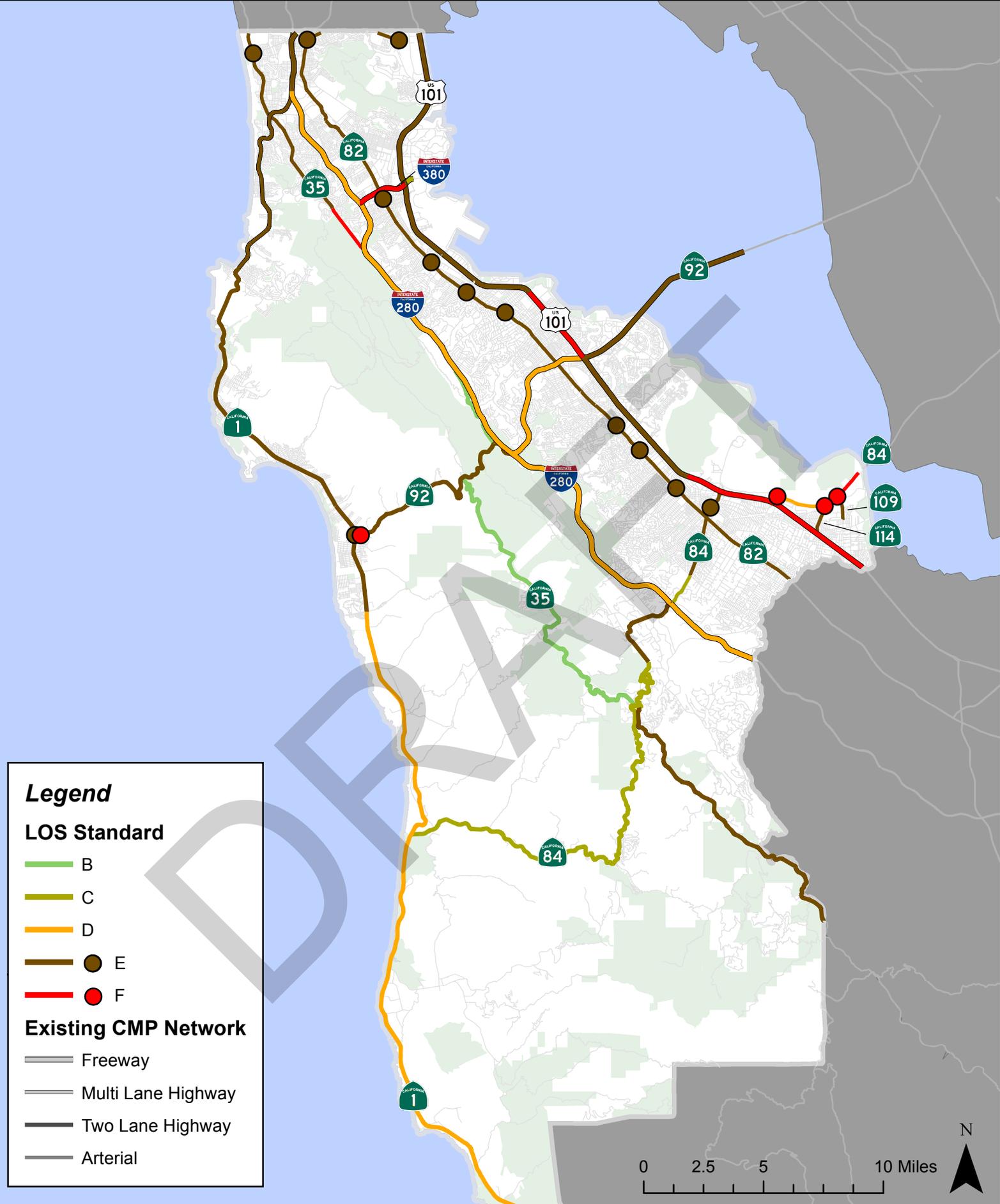


FIGURE 3
LEVEL OF SERVICE STANDARDS

3.4 LOS Analysis Methodology

Each biennial update of the CMP is accompanied by LOS monitoring of the CMP network. The San Mateo County CMP network includes five types of facilities, each with its own monitoring methodologies: freeways, multilane highways, two-lane highways, arterials, and intersections. Data collection for LOS monitoring took place in April and May 2021 on mid-week days (Tuesday-Thursday) during the established AM (7am-9am) and PM (4pm-6pm) peak periods. Data collection included: INRIX commercial speed data, turning movement counts, 72-hour volume counts, and HOV lane floating car surveys. Additional data collection occurred on Saturday and Sunday at certain Coastside locations to conduct informational weekend monitoring. A description of the data collected and LOS analysis methodology for each is summarized below in **Table 6**.

Table 6: LOS Monitoring Methodology

Facility Type	Data and Analysis Methodology
Freeways	Freeways were monitored using average speeds from commercially available INRIX data during the months of April-May 2021. Data was pulled and analyzed for the AM and PM peak periods. LOS is calculated based on average speed on each segment using HCM 1994 procedures and reported for the worst case direction in each peak period.
Multilane Highways	Data used and methodology is similar to freeways. LOS is determined from average INRIX average speed data and calculated using HCM 1994 procedures. LOS is assigned based on the worst case direction in each peak period.
Two-Lane Highways	Two-lane highways are monitored using data from 72-hour traffic counts taken on each segment countywide. The highest one hour volume across the three days in each peak period is used to calculate a V/C ratio. LOS is assigned based on HCM 1994 methodologies for two-lane highways and takes into account percent no passing and terrain (level, rolling, or mountainous).
Arterials	Arterials are monitored using data from 72-hour traffic counts or turning movement counts taken on each segment countywide. As with two-lane highways, the highest one hour volume across the three days in each peak period is used to calculate a V/C ratio. Where volumes from a turning movement count is used, data from the peak hour is used. LOS is assigned based on HCM 1994 methodology for arterials.
Intersections	Turning movement counts were collected at each intersection during the AM and PM peak periods. Each intersection was analyzed in Synchro software and assigned and LOS using HCM 2010 methodologies (Note: where signal parameters did not allow the use of HCM 2010, HCM 2000 was used). LOS is reported for both peak periods alongside the delay (in seconds).
Companion Network	The Companion Network was monitored using the same methodologies as the CMP network. 72-hour traffic counts were taken at Companion Network arterials, while turning movement counts were taken at Companion Network Intersections. For arterials, HCM 1994 was used to

Facility Type	Data and Analysis Methodology
	assign LOS based on a V/C ratio. Intersections were modeled in Synchro and used HCM 2010 (or, if needed, HCM 2000), to assign LOS.
Weekend Monitoring	At four roadway segments and eight intersections on the Coastside, data collection and analysis was done on the weekend for informational purposes. Roadway segments used 48-hour counts on Saturday and Sunday, while intersections were counted in the AM, Mid-Day (11am-1pm), and PM peak periods. The same methodologies to calculate LOS on the CMP network were used.

3.5 2021 Monitoring Results

Monitoring for the 2021 CMP was conducted for C/CAG by TJKM Transportation Consultants. This CMP Update relies on data from the 2021 Monitoring Cycle, as documented in the *2021 CMP Monitoring Report* in **Appendix F**. Overall, traffic has reduced across San Mateo County as a result of the COVID-19 pandemic. This caused many roadway segments and intersections that are usually congested to improve in LOS. In 2019, a total of 19 roadway segments were failing before interregional exemptions, compared to five in 2021. Volumes from 72-hour traffic counts fell by an average of 23% when compared to available data from 2017. Intersection turning movement count volumes similarly fell by an average of 21% when compared to 2019 data.

Reductions in traffic could be attributed to stay-at-home orders, increased telecommuting, and virtual school. As a monitoring document, the CMP provides C/CAG an opportunity to not only measure traffic reductions pre-COVID to during the pandemic, but also measure its recovery as traffic returns to pre-pandemic conditions.

Table 7 below summarizes the results of the CMP Network monitoring. Maps of the monitoring results are shown in **Figure 4** (AM Roadway Segment LOS), **Figure 5** (PM Roadway Segment LOS), **Figure 6** (AM Intersection LOS), and **Figure 7** (PM Intersection LOS).

Table 7: 2021 CMP Network Monitoring Results

Facility Type	# of CMP Segments	Before Interregional Exemption		After Interregional Exemption	
		LOS Standard Met	LOS Standard Not Met	LOS Standard Met	LOS Standard Not Met
Arterials	27	26	1	27	0
Multilane Highways	1	1	0	1	0
Two-Lane Highways	9	9	0	9	0
Freeways	16	12	4	16	0
Intersections	16	15	1	16	0
TOTAL	69	63	6	69	0

The results of the 2021 Monitoring Cycle show that five segments and one intersection were failing before interregional reductions were considered. After the reductions, all rose to an acceptable LOS above their respective standard. Therefore, no segment or intersection is considered deficient.

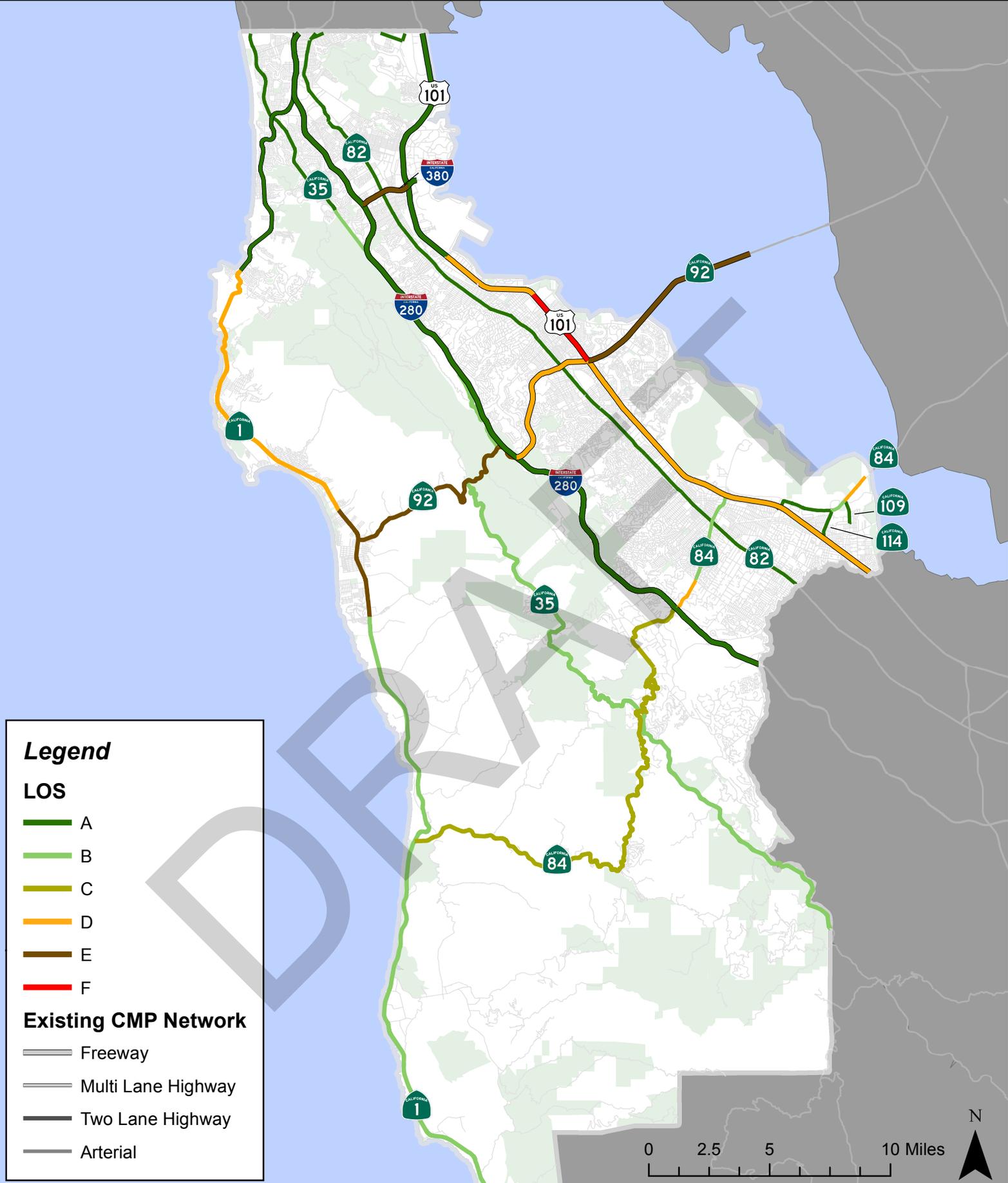


FIGURE 4

CMP ROADWAY SEGMENT LOS - AM PEAK PERIOD
 (WITHOUT INTERREGIONAL EXEMPTION)



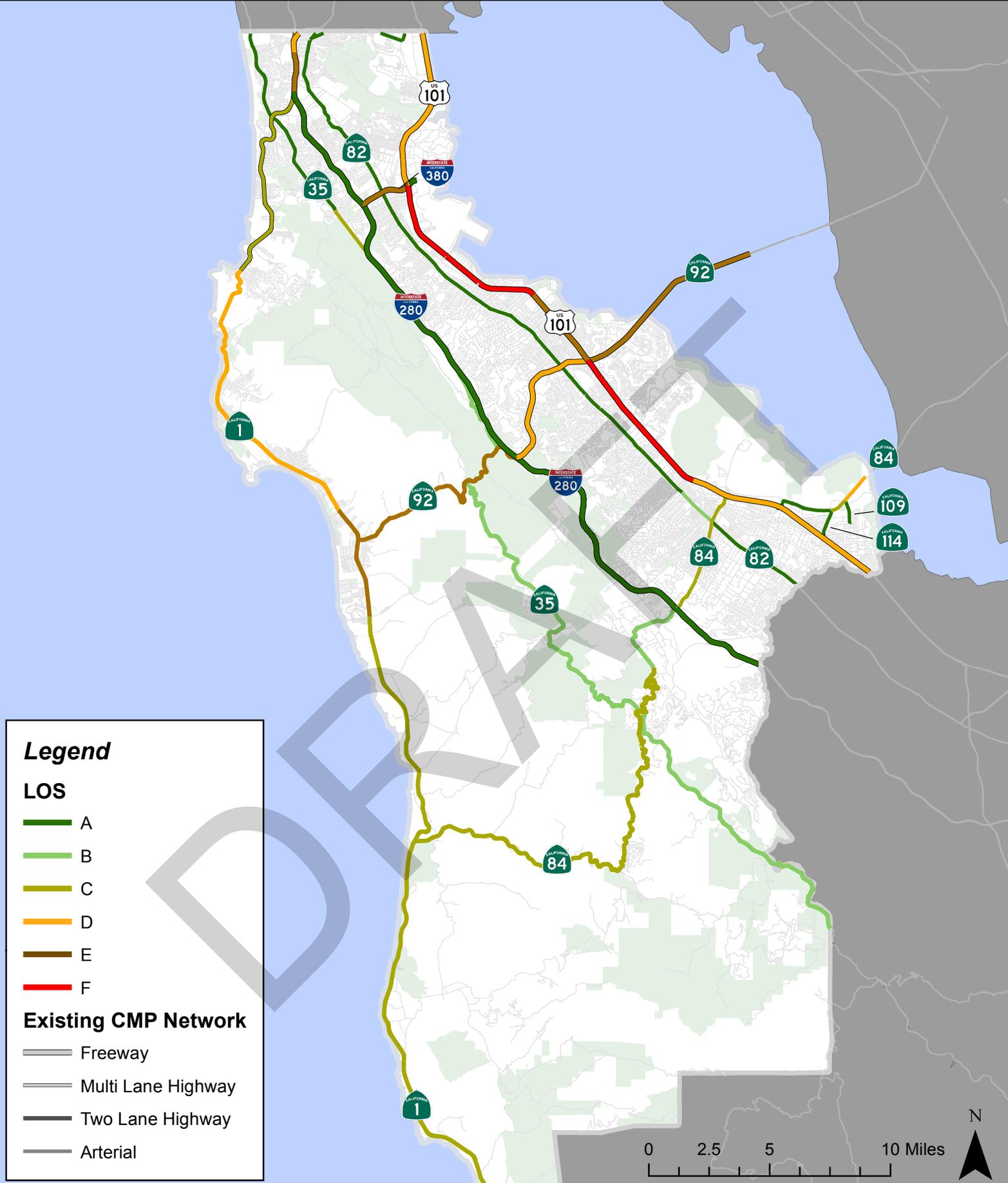


FIGURE 5

CMP ROADWAY SEGMENT LOS - PM PEAK PERIOD
 (WITHOUT INTERREGIONAL EXEMPTION)



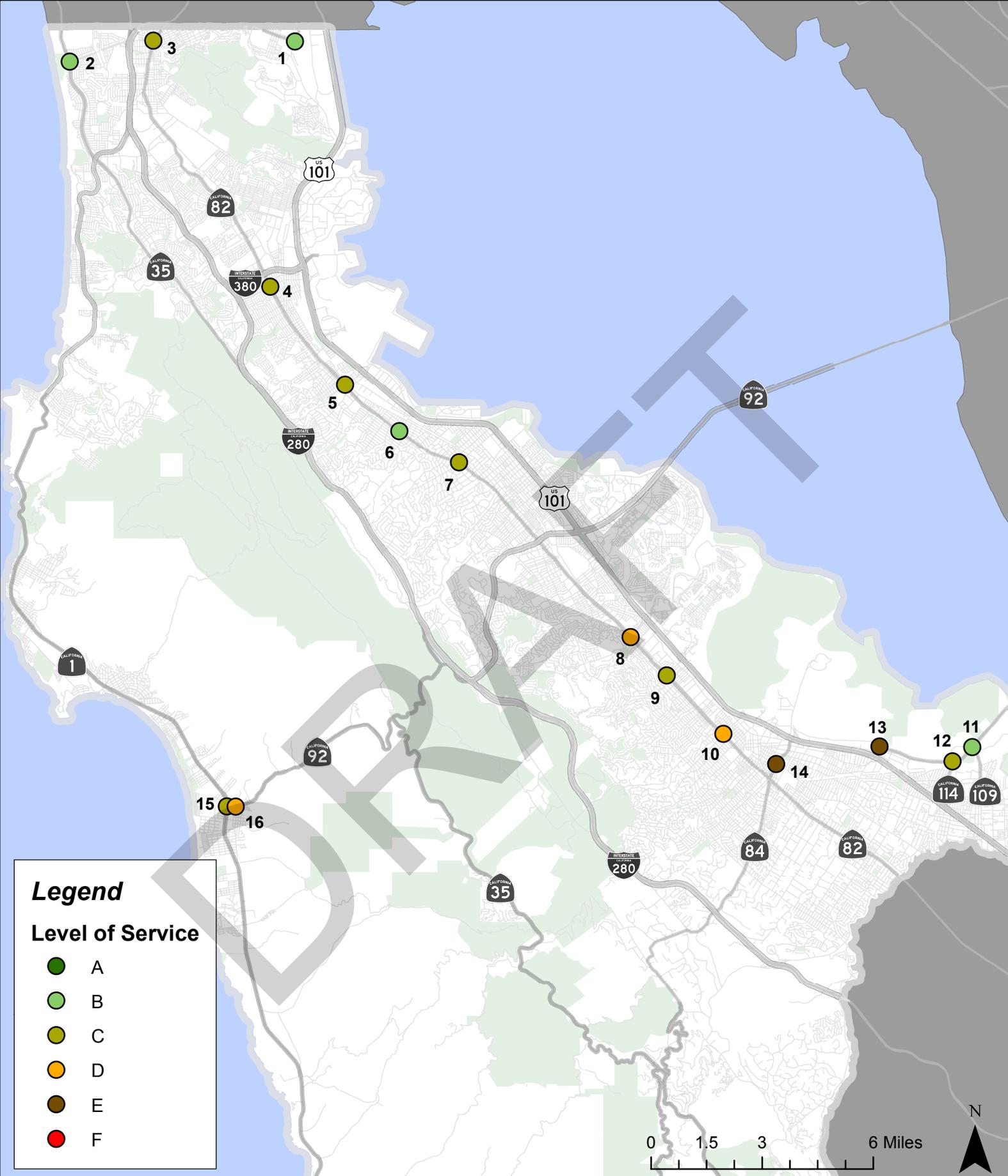
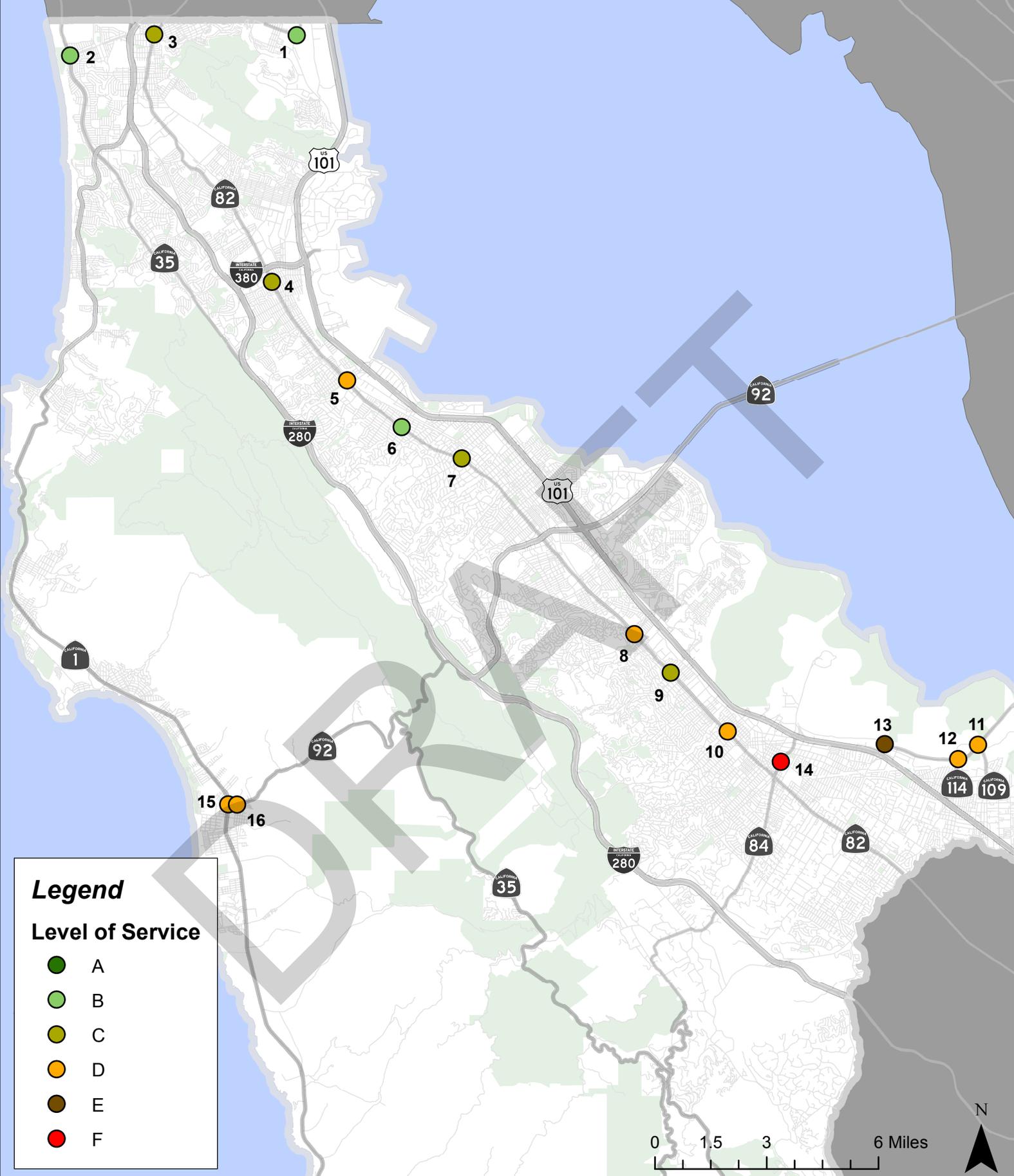


FIGURE 6

**CMP INTERSECTION LOS - AM PEAK PERIOD
(WITHOUT INTERREGIONAL EXEMPTION)**





Legend

Level of Service

- A
- B
- C
- D
- E
- F

FIGURE 7

**CMP INTERSECTION LOS - PM PEAK PERIOD
(WITHOUT INTERREGIONAL EXEMPTION)**



Companion Network

In addition to the biannual monitoring of the CMP network, the 2021 CMP monitoring efforts included monitoring the new Companion Network. This network includes roadway segments and intersections that C/CAG wanted to monitor congestion on, but are not included in the CMP network. It is provided for informational purposes only. The results of the monitoring of the Companion Network are summarized below in **Table 8** (AM peak period) and **Table 9** (PM peak period).

Table 8: 2021 Companion Monitoring Results (AM Peak Period)

Facility Type	# of Segments/Intersections	LOS A	LOS B	LOS C	LOS D	LOS E	LOS F
Roadway Segments	10	9	0	1	0	0	0
Intersections	17	1	4	6	5	0	1

Table 9: 2021 Companion Monitoring Results (PM Peak Period)

Facility Type	# of Segments/Intersections	LOS A	LOS B	LOS C	LOS D	LOS E	LOS F
Roadway Segments	10	8	1	1	0	0	0
Intersections	17	0	3	5	5	2	2

Weekend Monitoring

At four roadway segments and eight intersections on the Coastsides (CMP and Companion Networks), weekend monitoring was conducted to analyze the effects of tourist traffic. The results of Weekend monitoring are summarized below in **Table 10** (AM peak period), **Table 11** (Mid-Day Peak Period), and **Table 12** (PM peak period).

Table 10: 2021 Weekend Monitoring Results (AM Peak Period)

Facility Type	# of Segments/Intersections	LOS A	LOS B	LOS C	LOS D	LOS E	LOS F
Roadway Segments	4	0	1	1	1	1	0
Intersections	8	0	1	5	1	1	0

Table 11: 2021 Weekend Monitoring Results (Mid-Day Peak Period)

Facility Type	# of Segments/Intersections	LOS A	LOS B	LOS C	LOS D	LOS E	LOS F
Roadway Segments	4	0	0	1	1	2	0
Intersections	8	0	0	1	3	1	3

Table 12: 2021 Weekend Monitoring Results (PM Peak Period)

Facility Type	# of Segments/Intersections	LOS A	LOS B	LOS C	LOS D	LOS E	LOS F
Roadway Segments	4	0	0	1	1	2	0
Intersections	8	0	1	0	4	2	1

Full details of the 2021 CMP monitoring efforts can be found in the *2021 CMP Monitoring Report* in **Appendix F**.

CHAPTER 4: SYSTEM PERFORMANCE

4.1 Purpose and Intent of Legislation

The California Government Code Section 65089(b)(2) requires each CMA to establish 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 services 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 CIP, deficiency plans, and the land use impact analysis program.



Caltrain serves most of San Mateo County, with stops in all cities along the US 101 corridor

Consistent with past CMPs, performance measures are included in this CMP and described in this chapter. The measures should not be confused with “standards,” as no level of performance is required. Rather, measures simply indicate the levels of performance at a given time.

4.2 San Mateo County Performance Measures

The below performance measures help determine whether the goals of the CMP are being met. The goals relate to supporting mobility, air quality, land-use, and economic objectives. These measures are also used in the development of a CIP, deficiency plan, and the land-use analysis program. The *2021 CMP Monitoring Report* in **Appendix F** contains detailed results of the monitoring of each performance measure.

Four performance measures were selected for the 1997 CMP and retained for subsequent CMPs. Beginning with the 2003 CMP, the Pedestrian and Bicycle Improvement performance measure was increased to encourage more improvements in new projects. Monitoring will be done biennially. The results will be used for planning purposes and to identify where additional measures may be needed to better assess the degree to which congestion is improving or worsening.

These measures will be evaluated for peak commute periods (7am-9am and 4pm-6pm), when congestion levels are at their highest. The four measures are:

LOS

This performance measure provides an overview of the operating level of the roadway system in San Mateo County. It is already included in the CMP and LOS standards have been set for selected roadway segments and intersections. Roadway LOS is measured using commercially available INRIX average speed data, 72-hour traffic counts, and intersection turning movement counts. Roadway segment LOS is calculated using either average speeds (freeways/multilane highways), or a V/C ratio (two-lane highways and arterials) and assigned based on HCM 1994 methodology. Intersections are modeled in Synchro software and assigned LOS based on HCM 2010 methodologies (or HCM 2000 where signal parameters prevented use of HCM 2010). A summary of the 2021 monitoring results is located in Chapter 3, while the complete *2021 CMP Monitoring Report* is included in **Appendix F**.

Travel Times for Single-Occupant Automobiles, Carpools, and Transit

This performance measure determines the amount of time required to traverse the US 101 corridor on a variety of modes. Travel times are measured from the northern county border to the southern county border. Four modes are included: single occupancy vehicle, high occupancy vehicle (HOV), Caltrain, and SamTrans bus. Average speed data from INRIX already used in the LOS monitoring was used to determine travel times for single occupancy vehicle. Floating car surveys were conducted in the HOV lane on US 101 between the Santa Clara County Line and Whipple Avenue. These travel times were summed with the INRIX average speed calculated travel time to drive the remaining distance to the San Francisco County Line, as a person driving a high occupancy vehicle would travel in the mixed flow lanes north of Whipple Avenue. Note that the US 101 Express Lanes are currently under construction between I-380 and Whipple Avenue, so in the future the floating car surveys could be modified to include the new express lane once complete. Transit schedules in effect during the monitoring period of April-May 2021 were used to determine travel times for Caltrain and

SamTrans Route 398. Full details of this analysis is available in the *2021 CMP Monitoring Report* in **Appendix F**.

Pedestrian and Bicycle Improvements

The purpose of this measure is to ensure that pedestrian and bicycle travel is being incorporated in new transportation improvement projects. This measure will be accomplished by considering pedestrian and bicycle facilities in the design for all transportation projects in the CMP's CIP. If a new transportation improvement project does not incorporate pedestrian and bicycle travel, it must provide justification for such.

A summary of current bicycle/pedestrian planning efforts in San Mateo County, as well as bicycle/pedestrian counts at the CMP and Companion Network intersections can be found in Chapter 4 of the *2021 CMP Monitoring Report* in **Appendix F**.

Ridership/Person Throughput for Transit ⁴

This measure will evaluate the numbers of individuals that use transit during peak periods. It will be measured by accumulating available ridership data from transit agencies that provide service in San Mateo County. It will be used to determine whether transit ridership is growing, and how the various transit modes (SamTrans, Caltrain, BART) compare among themselves. Details are provided in Chapter 4 of the *2021 CMP Monitoring Report* in **Appendix F**.

4.3 California Senate Bill (SB) 743

SB 743 (Steinberg) was signed into law in 2013 by Governor Jerry Brown and aimed to replace the metric used to measure the transportation impact assessment in the California Environmental Quality Act (CEQA) process from a delay-based metric such as traffic LOS to another metric such as VMT. Initial guidance regarding transportation impact assessment under CEQA guidelines was released in December 2018 with statewide application beginning on July 1, 2020.

⁴ There are several private companies located within the county offering private bus/shuttle services for their employees that contribute in the reduction of "Drive Alone" trips.

CMP legislation requires use of a delay-based metric, (LOS), to measure roadway performance. However, separate and unrelated efforts to the CMP, such as the recently adopted CEQA guidelines based on Senate Bill (SB) 743 require (VMT) as the primary metric for traffic impacts under CEQA. Hence, there will be different metrics being used to report roadway and traffic conditions in various reports such as the CMP, TIA under CEQA, other monitoring reports by local jurisdictions during the transition period. It is anticipated CMP legislation will be amended to better align with these recent regulations in the future.

Since the CMP legislation has not been updated to provide new guidance with regard to performance metrics, no changes in methodology in this regard have been implemented for the 2021 CMP monitoring cycle.

Notwithstanding the CMP legislation, it is recommended that C/CAG to initiate a process to evaluate the CMP Roadway Network as well as the most appropriate performance monitoring measures to be adopted for use by C/CAG in order to prepare for the next cycle of the CMP update, scheduled for 2023.

C/CAG is currently working on a SB 743 VMT Regional Baseline Study and VMT Estimation Tool, which will assist in understanding baseline VMT data in San Mateo County and assessing the potential VMT of a proposed project. It is currently under development.

DRAFT

CHAPTER 5: TRIP REDUCTION AND TRAVEL DEMAND ELEMENT

5.1 Purpose and Intent of Legislation



Commute.org operates 29 shuttle routes throughout San Mateo County, such as this one at Oyster Point in South San Francisco (Source: Commute.org)

TDM strategies are utilized to improve efficiency of the existing transportation systems without significant expansion of the infrastructure. These strategies focus on ways to reduce solo driving and/or eliminate some of the need for driving altogether. Some of the commonly used strategies aimed at cutting down solo driving include carpool, vanpool, bicycles, transit, and park and ride lots. Strategies to reduce VMT include alternatives such as telecommuting, flexible work schedules and parking cash-out programs. Improving a balance between available jobs and housing also encourages non-auto modes of transportation. Use of TDM strategies help cities and counties in their attempt to balance the growing need for transportation and availability of limited transportation dollars.

The CMP is required to include all elements identified in the California Government Code Section 65089(b) Subsection (3) that outlines projects and strategies that promote alternate modes of transportation and thereby help reduce traffic congestion and improve air quality.

As local governments review new development proposals and make key decisions on planning and zoning matters, they have an opportunity to ensure that TDM measures are adequately factored into the decision making process. As they develop and adopt their annual operating and capital budgets, they can allocate necessary funds so that the TDM strategies are adequately financed and implemented in a timely manner. Although not required, local governments may also choose to support (through resolution or other means) regional TDM measures, including carpool lanes and ridesharing facilities and programs, which could be implemented by other agencies, such as C/CAG or MTC.

5.2 Measure A and Measure W

In June 1988, voters in San Mateo County approved Measure A that created the San Mateo County Transportation Authority (SMCTA) and authorized a half-cent increase in the local sales tax for a period of 20 years to finance specified transportation improvements. The improvements, including transit and highway projects, were listed in the Transportation Expenditure Plan and were incorporated into the ballot measure. Measure A also required SMCTA to adopt, in conjunction with the cities/towns and the County of San Mateo, a Transportation System Management (TSM) Plan. The San Mateo County Transportation System Management Plan was developed and adopted in 1990.

In November 2004, voters in San Mateo County approved the continuation of Measure A to be in effect from 2009 to 2033. The continuation of Measure A includes the Bicycle and Pedestrian Program (\$45 million over 25 years) which will provide safe paths for bicyclists and pedestrians and the Alternative Congestion Relief Program (\$15 million over 25 years) which allocates one percent of the total revenue to fund traffic management projects and creative congestion relief programs.

Measure A mandated that every jurisdiction in San Mateo County have a TSM/TDM plan/program in order to be eligible to receive Measure A funds. The Measure A TSM Plan is the mandated TSM/TDM program for San Mateo County and the primary funding source for this effort. It requires that local jurisdictions implement TSM/TDM programs in order to be eligible to receive Measure A funding.

Measure W

In 2018, San Mateo County voters approved Measure W, which authorized a half-cent sales tax increase to improve transit and relieve traffic congestion. 50% of the funds are administered by SamTrans and utilized for county public transportation services. The remaining 50% is administered by SMCTA and is used for countywide highway congestion relief (22.5%), local safety, pothole, and congestion relief improvements (12.5%), bicycle/pedestrian improvements (5%), and regional transit connections (10%).

Projects/programs implemented under Measure W most follow its core principles:

- Relieve traffic congestion countywide
- Invest in a financially sustainable public transportation system that increases ridership, embraces innovation, creates more transportation choices, improves travel experience, and provides quality, affordable transit options for youth, seniors, people with disabilities, and people with lower incomes

- Implement environmentally-friendly transportation solutions and projects that incorporate green stormwater infrastructure and plan for climate change
- Promote economic vitality, economic development, and the creation of quality jobs
- Maximize opportunities to leverage investment and services from public and private partners
- Enhance safety and public health
- Invest in repair and maintenance of existing and future infrastructure
- Facilitate the reduction of VMT, travel times and greenhouse gas emissions
- Incorporate the inclusion and implementation of complete street policies and other strategies that encourage safe accommodation of all people using the roads, regardless of mode of travel
- Incentivize transit, bicycle, pedestrian, carpooling and other shared-ride options over driving alone
- Maximize traffic reduction potential associated with the creation of housing in high-quality transit corridors

5.3 Current TSM/TDM Programs in San Mateo County

C/CAG recognizes that as a result of regional job and population growth patterns and increased travel demand, the peak-period travel speeds will continue to deteriorate on freeways and arterials within the County. Due to limited availability of funds and opportunities for system expansion, it is critical that various TDM strategies are utilized to address the growing transportation needs of County residents and businesses. Along with improving roadway operations and improving local transit service in response to this forecasted growth in traffic, it is also important to implement TDM measures to improve the operating efficiency of the existing county transportation system. The TDM element of the CMP encourages an on-going process that promotes local and regional planning to reduce traffic congestion.

Local governments in San Mateo County implement trip reduction programs in response to the requirements under Measure A to, among other things, maintain eligibility for Measure A funds. Most cities/towns in San Mateo County are members of the Peninsula Traffic Congestion Relief Alliance, also known as Commute.org. Commute.org is the TDM agency in San Mateo County and operates a number of TDM programs/services, such as shuttles, carpool/vanpool matching services, bicycle commuting incentives, and employer services. Working directly with employers, commuters, and residents, Commute.org helps people switch from driving alone to using sustainable transportation modes, thus reducing traffic congestion and improving air quality.

Below is a list of TDM services/programs offered by Commute.org.

Shuttles

Commute.org operates shuttle services that connect commuters to transit stations throughout San Mateo County. These shuttles provide critical “first and last mile” transportation that makes commuting via public transit a viable alternative to and from the county.

Funding is provided through a combination of grants and the financial contributions of employers, property managers, cities/towns, and transit agencies. Commute.org’s commuter shuttles serve BART and Caltrain stations as well as the South San Francisco ferry terminal. As of September 2021, there are 29 shuttle routes in operation in Brisbane, Burlingame, Foster City, Menlo Park, Millbrae, Redwood City, San Mateo, and South San Francisco. The shuttles primarily operate during Monday-Friday during AM and PM peak commute periods. All shuttles are free and open to the general public.

Shuttles are not just confined to Commute.org. San Mateo County overall has a total of 40 shuttle services offered by a various service providers and operators, including SamTrans, Commute.org, and individual cities/towns. Funds to operate shuttle services come from a variety of sources including SMCTA, C/CAG, Bay Area Air Quality Management District (BAAQMD), Caltrain, and SamTrans. 52% of the shuttles receive funding from employers whereas 41% receive funding from individual cities/towns.

SMCTA hosts a call for projects every two years to disperse Measure A fund many of these shuttles. In FY 21-22, 30 shuttles received funding from this call for projects.

Employer Programs

Commute.org’s Employer Outreach team works with employers to address commute-related issues, including local and regional TDM regulations and commuter pre-tax benefit programs. By developing strong relationships with employers and becoming a trusted partner, Commute.org can leverage those relationships and reach significantly more commuters in San Mateo County.

The Employer Programs team is the conduit between the employer and the TDM programs that are offered by the agency. Services provided by the team include:

- **Transportation Surveys** - Commute.org assists employers with the creation and distribution of transportation surveys to obtain data necessary to design or update effective transportation programs.

- **Employee Consulting During On-Site Events** - Commute.org participates in health and benefits fairs, open enrollment events, and special programs, assisting employees one-on-one at employer worksites.
- **Bay Area Commuter Benefit Program Compliance** – Commute.org works with employers in San Mateo County to make sure that they register for the program and remain compliant.
- **Best Workplaces for Commuters** – Commute.org works with employers to achieve recognition in this prestigious program. In order to receive this designation an employer is required to meet very stringent criteria which translates into more employees having better options for commuting.
- **Bicycle Incentive** - Reimbursement for Infrastructure - Commute.org reimburses employers who install bicycle racks, or lockers, at their work sites to accommodate employees who bicycle to and from work. Employers are reimbursed up to 50% of the cost of any bike parking, from basic bike racks to high-security lockers (maximum \$500 per unit).
- **Bike to Work Workshops** – Commute.org offers free virtual and on-site bicycle safety and bike-to-work workshops at workplaces or other locations in San Mateo County. These can be tailored to meet the needs of the worksite and includes marketing assistance to employees.
- **Telecommuting/Hybrid Workplaces** – As the COVID-19 pandemic has evolved the workplace, Commute.org has been providing support for employers in navigating telecommuting and hybrid workplace formats through free webinars and tips.

Commuter Programs

The Commuter Programs team develops, promotes and supports a wide range of incentives, rewards, challenges and insurance programs aimed at any who commutes to or from San Mateo County.

Most of the commuter programs operate on the STAR (Support, Track and Reward) platform. STAR is an online platform and that is available to commuters and employers to encourage commuters to use alternatives to driving alone to work. STAR is accessed online at my.commute.org and on the Commute Tracker app.

With STAR, commuters can discover and plan commute options to work, which include carpool, vanpool, transit, shuttle, bicycling and walking. When STAR commuters log their commute trips in their STAR account, they gain access to rewards, incentives, programs and challenges.

Employers can also use the STAR platform with a private network for their employees to encourage carpooling, load specific incentives or challenges for their employees and run commute impact reports for their network.

Other programs provided by the Commuter Programs team include:

- **Guaranteed Ride Home (GRH) Program** - The GRH program is intended to address a common commuter concern about using alternative modes, which is that it can be difficult to leave quickly in an emergency. GRH reimburses commuters who chose to carpool, vanpool, take transit, bicycle or walk to work or college in San Mateo County with a free trip home, up to \$60 per trip (four times a year), in the event of a qualified emergency.
- **Carpool/Vanpool Matching** - Commute.org facilitates the process of finding carpool and vanpool partners using the STAR platform's trip planning tools.
- **Vanpool Incentive** – Commuters who agree to drive a new vanpool for six consecutive months can earn a \$500 incentive. Other commuters who agree to participate as vanpool passengers for three consecutive months are also eligible to receive an incentive (maximum of \$100 per month for three months).
- **Carpool Incentive** – Employees, residents, and college students who carpool can receive up to \$100 per year in e-gift cards. For each 10 days that someone carpools (driver or passenger), they can receive a \$25 reward up to four times in each calendar year.
- **Bike to Work Incentive** – Commuters who live, work, or go to school in San Mateo County can receive up to \$100 when they log their bicycle commutes on STAR. For each 10 days of bicycle commuting logged, commuters can be eligible to earn a \$25 e-gift card, up to four times per year.
- **Try Transit Program** - Employees and residents who do not currently use public transit to commute can try transit for free under this program. Commute.org distributes tickets provided by public transit agencies such as Caltrain, SamTrans, and San Francisco Bay Ferry, to encourage people to try transit as an alternative to driving alone.
- **Bicycle Safety Program** - In partnership with employers, property managers and municipalities, Commute.org sponsors bicycle safety training sessions to promote bicycling as a commute alternative. A certified bicycle instructor from the League of American Cyclists provides information on bicycle riding tips, laws, repairs and maintenance. Commute.org also offers printed San Mateo County Bicycle Safety guides which are available in Spanish and English.

- **STAR Store** – By logging alternative mode commutes on the STAR platform, commuters can earn points that can be exchanged for items in the STAR store or a donation in the commuter’s name to a non-profit organization. Drawings are also held quarterly for additional e-gift cards of \$100 (up to three per quarter).

Annual Events

Commute.org also coordinates several large-scale annual events in San Mateo County. The events include:

- **Employer Symposium** - An annual symposium for San Mateo County employers where TDM best practices and techniques are shared by industry professionals and employers who have successfully deployed programs.
- **Commuter Challenge** - During the months of April and May, Commute.org gives hundreds of prizes away to commuters who discover and use transportation options other than driving alone to work. Trips are logged on the STAR platform and reward recipients are selected at random from qualifying participants.
- **Bike to Work Day** – This event is celebrated across the Bay Area and is typically held in early May. It promotes bicycling as an alternative way to commute by encouraging commuters to try it on Bike to Work Day. Commute.org is the county-wide coordinator, serving thousands of cyclists at dozens of Energizer Stations across San Mateo County.

In addition to services and programs offered by Commute.org, other agencies are operating programs to reduce car trips and promote alternative modes of transportation.

Safe Routes to School (SR2S)

The San Mateo County Office of Education (SMCOE) operates the SR2S Program in San Mateo County. The goal of the program is to enable and encourage children to walk or bike to school by implementing projects and activities to improve health and well-being, safety, and reduce traffic congestion due to school-related trips. The program helps to improve safety, promote a healthy lifestyle among youth, and enhance the sense of community in neighborhoods. Typical activities of the SR2S program include classroom education, special events (such as bike rodeos), infrastructure projects near schools, crossing guards, countywide events (such as International Walk to School Day), and more.

The SR2S program has been in operation in San Mateo County for over a decade and partners with 13 school districts, as well as cities/towns, regional and state agencies, and organizations to implement its vision. In the 2019-2020 school year, the program hosted eight bike rodeos, held 166 assemblies/classes and 130 encouragement events, conducted four walk audits, and developed six route maps. Funding for SR2S is provided by C/CAG through various grant sources.

Bicycle and Pedestrian Planning

Bicycling and walking is a critical component of reducing single-occupancy vehicle usage and is a sustainable mode to commute to work. C/CAG, the cities/towns, and the County are active in implementing the vision for more bicycling and walking infrastructure in San Mateo County. The San Mateo County Comprehensive Bicycle and Pedestrian Plan was recently updated in 2021 and adopted by the C/CAG Board at their June 2021 meeting. The updated plan proposes 250 miles of bicycle projects and pedestrian projects that address gaps to transit, between jurisdictions, or are within pedestrian priority areas. In addition to the C/CAG plan, many cities/towns in San Mateo County have their own bicycle/pedestrian plans. At the time of writing (September 2021), 13 of the 20 cities/towns in San Mateo County have an adopted bicycle, pedestrian, or active transportation plan, plus the unincorporated County. Three more are under development.

5.4 Local TSM/TDM Programs

Measure A includes a Local Transportation Services element, which provides funding to increase the use of public transit by the residents of each local community, thereby reducing local congestion. Local jurisdictions are encouraged to participate in experimental efforts to provide transportation services for its residents that meet the unique characteristics and needs of that jurisdiction. The following section details some of the TSM/TDM being implemented by local agencies/employers:

City of Menlo Park Shuttles

The City of Menlo Park has always strived to enhance the quality of life for its residents, employees and visitors by encouraging commute alternatives. Menlo Park was the first city along the Peninsula to establish a shuttle program, which transports employees from the Caltrain station to business parks. It was also the first city to launch a Midday shuttle program, which has become a popular local service for many.

The City of Menlo Park manages the following services/programs:

- Two Caltrain shuttles (M3 Marsh Rd and M4 Willow Rd shuttles): Operates during AM and PM peak hours taking passengers from Caltrain to their businesses, schools, shopping or appointments.
- M1 Crosstown Shuttle: Operates from Belle Haven to Sharon Heights approximately every 1-2 hours between 8am and 5pm.
- Shoppers Shuttle: Picks up passengers door-to-door to drive to shopping, medical appointments, the library, etc. Operates in Menlo Park on Wednesdays and Saturdays, and travels to Redwood City on Tuesdays.

City of South San Francisco TDM Ordinance

The City of South San Francisco has adopted a comprehensive and enforceable TDM ordinance. C/CAG recognizes the value of the City of South San Francisco's efforts and will consider the City of South San Francisco's TDM ordinance for use in future update of the guidelines for the land use component of the CMP.

City of Belmont

The City of Belmont has implemented a TDM program to address transportation related impacts of new development by requiring projects to provide amenities and features that will foster a better bicycle/pedestrian environment, support transit, and make it easier and more appealing for residents, employees, and visitors to use alternatives to driving or driving alone. Most new developments in Belmont will need to incorporate TDM measures.

The City has adopted a points-based system to evaluate proposed projects, which must achieve a points target based on their type and size. TDM measures are each worth a certain number of points and new projects must include a combination of measures whose total points meet the target for its proposed uses.

City of Foster City

The City of Foster City operates the Connect Foster City website, which provides residents and commuters with information on shuttles, bicycling, Caltrain, carpooling, and bus service within Foster City.

Connect, Redwood City!

Connect, Redwood City! implements a suite a mobility options within Redwood City. The goal of the program is to change travel habits away from single-occupancy vehicle travel, thereby reducing VMT and greenhouse

gas emissions. The program received a \$1.5 million grant from MTC through its Climate Initiatives Grant Program. New mobility options developed under the grant include car share, short distance vanpools, and a revamped telework program for County employees. These strategies will be marketed with existing mobility options including transit, carpooling, and Emergency Ride Home.

San Francisco International Airport (SFO)

SFO initiated a successful BART discount program for all badged Airport employees in October 2010. The discount card was further expanded to all Airport employees in summer of 2019. The Airport successfully worked with BART to reestablish weekday direct service to Millbrae station in early 2019. The BART Red Line connects the SFO Station directly to Millbrae on Monday-Saturday during the day. The Yellow Line connects the two stations on Sundays and evenings. Employees also have the option of taking the new Route SFO SamTrans bus, which connects all terminals with Caltrain at Millbrae.

The Airport works closely with its tenants, the San Francisco Department of the Environment, and Commute.org toward participation of tenants in the mandated SFO Commuter Benefits Program, offering employers a choice of subsidizing part of their employees' transit or vanpool costs, or offering employees a pretax savings through payroll deduction. The Airport is also looking at promoting and incentivizing more vanpools, shuttles, and other non-single occupancy vehicle modes to get employees to work.

5.5 Jobs and Employed Residents Balance

An important component of managing transportation demand is to strive for a good balance between jobs and employed residents in a city or county. Counties that have more jobs than employees to fill them tend to import more commuters from other surrounding counties, while counties with more employees than jobs export their commuters to other areas. This section explores commute modes among San Mateo County residents, projected jobs/employees, and where work trips to, from, and through San Mateo County are coming from/going to.

Data for mode of transportation to work by San Mateo County employed residents from the US Census Bureau are presented in **Table 13**.

Table 13: San Mateo County Employed Residents – Commute to Work by Mode

Mode	2019	% of Total	2017	% of Total	2015	% of Total
Drive Alone	274,524	67%	274,829	67%	268,211	68%
Carpool	38,805	9%	44,651	11%	39,855	10%
Public Transportation	49,538	12%	46,772	11%	41,533	11%
Walked	9,495	2%	11,565	3%	10,775	3%
Motorcycle	15,274	4%	12,763	3%	10,556	3%
Bicycle						
Other Means						
Work at Home	25,182	6%	19,341	5%	21,575	5%
Total Employed Residents	412,818		409,921		392,505	
Total Population	764,442 (2020)		769,545		748,731	

The table shows that over time, the percentage of employees who are commuting by single-occupancy vehicle is slowly decreasing. Public transportation, bicycle/motorcycle/other means, and worked from home all saw increases from 2017 to 2019, while carpooling and walking decreased in percentage.

Another of the actions recommended in AB 471 to reduce roadway congestion is to try to improve an area's (in this case, San Mateo County's) balance between available jobs and housing opportunities. The intent of this legislative requirement is to reduce the number of long-distance commute trips that have to be made when individual jurisdictions or groups of jurisdictions offer more employment opportunities than affordably priced housing to accommodate the work force.

The Association of Bay Area Governments (ABAG) projected, as shown in **Table 14**, the number of jobs to be in San Mateo County will grow faster than the number of county residents seeking employment. An ideal "Employment-to-Employed Residents" ratio is 1.0, which indicates that every resident seeking a job can find one within the community. An "Employment-to-Employed Residents" ratio greater than 1.0 indicates that the community provides more jobs than it has residents seeking jobs. Conversely, a ratio of less than 1.0 indicates

a community has fewer jobs than Employed Residents demanding employment. As the table below shows, the current balance between jobs and employed residents is 1.04, but is projected to steadily decrease over the next two decades to 0.94.

Out of balance conditions in either scenarios would likely result in traffic congestion associated with either more people coming to jobs from outside the County or more residents needing to commute outside the County for employment.

Table 14: Projected Jobs and Employed Residents in San Mateo County

	2020	2025	2030	2035	2040
Employment (Total Jobs)	399,275	415,305	423,005	436,205	472,045
Employed Residents	415,275	420,235	433,655	437,190	446,040
Ratio of Employment to Employed Residents	1.04	1.01	1.02	1.0	0.94

Notes: Source: ABAG/MTC Projections 2040 from Plan Bay Area 2040.

Table 13 does not take into account the fact that not all San Mateo County employed residents work in the county and not all jobs in San Mateo County are filled by its residents. **Tables 15, 16, and 17** present the different types of work-related trips in San Mateo County which include people commuting within San Mateo County, people commuting from San Mateo County to other counties, people commuting from outside counties into San Mateo County, and people commuting through San Mateo County. All data is based on the C/CAG-VTA Model.

Table 15: Trips to Work by San Mateo County Residents

	2015	% of Total	2040	% of Total	Increase in Trips	Percent Change
Within San Mateo County	307,957	57.9%	364,483	56.6%	+ 56,526	+ 18.4%
To North	117,859	22.2%	155,235	24.1%	+ 37,376	+ 31.7%
To East	22,937	4.3%	28,946	4.5%	+ 6,009	+ 26.2%
To South	82,989	15.6%	94,900	14.8%	+ 11,911	+ 14.4%
Total Trips	531,742		643,564		+ 111,822	+ 21.03%

Table 16: Trips to Work in San Mateo County Originating from Outside the County

	2015	% of Total	2040	% of Total	Increase in Trips	Percent Change
From North	75,542	34.7%	88,860	34.1%	+ 13,318	+ 17.6%
From East	75,652	34.7%	82,409	31.7%	+ 6,757	+ 8.9%
From South	66,666	30.6%	89,028	34.2%	+ 22,362	+ 33.5%
Total Trips	217,860		260,297		+ 42,437	+ 19.5%

Table 17: Trips to Work through San Mateo County

	2015	% of Total	2040	% of Total	Increase in Trips	Percent Change
Through to North & to East	20,733	34.6%	36,256	46.5%	+ 15,523	+ 74.9%
Through to South	39,176	65.4%	41,670	53.5%	+ 2,494	+ 6.4%
Total Trips	59,909		77,926		+ 18,017	+ 30.1%

Source: C/CAG-VTA Model

One thing that can be observed by these tables is that while there is a significant increase in the number of trips that will be generated in 2040, the change in the distribution of those trips is not projected to significantly change, with the exception being trips through San Mateo County. Residents commuting to other areas outside the county will slightly increase in 2040, but not significantly when compared to the number of trips being added (over 111,000 in total).

TDM is critical to encouraging alternative modes and shorter commutes, where possible. The data in this section shows that San Mateo County is going to increase in the amount of jobs, but not in the amount of employees to fill them. TDM can help to assist new commuters in utilizing different modes, and thereby, reducing the amount of vehicle congestion.

CHAPTER 6: LAND USE IMPACT ANALYSIS PROGRAM

6.1 Legislative Requirements



Land use decisions can have regional impacts, such as to congestion on major freeways (Shown: US 101 in Burlingame; LOS F in PM peak period in 2021 without interregional reduction)

Section 65089(b)(4) of the California Government Code requires that a CMP include a program to analyze the impacts of land use decisions made by local jurisdictions on the regional transportation system (both highways and transit).

The Land Use Analysis Program must include an estimate of the cost to mitigate impacts of development on the highway and transit systems. The legislation allows the cost of mitigating interregional travel

(trips that do not begin in San Mateo County or trips that travel entirely through San Mateo County) to be excluded from the mitigation cost estimate. Public and private (developer) contributions to regional transportation improvements may be credited.

The legislation does not modify the role of local jurisdictions in making land use decisions and in determining the responsibilities of project proponents to mitigate those impacts. The legislation, however, does place the C/CAG in the role of monitoring congestion on the CMP network and requiring the preparation of deficiency plans when LOS has been degraded below adopted standards. Further guidance on the Land Use Analysis Program is found in the Congestion Management Resource Handbook (Caltrans, November 1990, pages 36-38).

The Land Use Analysis Program is particularly important because it affects, or is affected by:

- The CMP Designated Transportation System and Roadway LOS standards (see Chapters 2 and 3);
- Performance Measures (see Chapter 4);
- C/CAG-VTA Model, which can be used to analyze the impacts of land use changes on both highways and transit (see Chapter 9); and

- The CIP (see Chapter 8).

The intent of the Land Use Analysis Program is to improve the linkage between local land use decisions and regional transportation facility decisions; to better assess the impacts of development in one community on another; and to promote information sharing between local governments when the decisions made by one jurisdiction have an impact on another.

6.2 TDM Policy Update

In September 2021, the C/CAG Board voted to adopt an updated TDM Policy and incorporate it into the CMP Land Use Impact Analysis Program. The 2019 CMP Document will be revised to include this updated policy. As such, where it is relevant, the details of the revised policy have been incorporated into Tier 2: Individual Large Development Analysis for this 2021 CMP Update. The policy will become effective countywide on January 1, 2022. Below is a brief summary of the changes made to the Tier 2 Analysis:

- The threshold for the number of trips generated by a proposed development has been revised from 100 net new peak hour trips to 100 Average Daily Trips (ADT).
- Projects are classified as either Small (100-499 ADT), or Large (500+ ADT), and will be subject to different goals, monitoring, and reporting requirements.
- Projects are now required to meet vehicle trip reduction goals of between 25-35%, depending on the size and type of project.
- A set of required baseline TDM measures has been set for all projects. Once these are fulfilled, developers can select from additional (recommended) TDM measures that are most appropriate to the site and will help the site to achieve its mode share and vehicle trip reduction goals.
 - a. C/CAG developed a TDM Checklist as part of the TDM Policy Update that can be used to account for these TDM measures, and submitted to the governing jurisdiction's Planning Department. Each measure in the checklist is assigned a point value and trip reduction percentage.
- The TDM Checklist also categorizes development projects according to their proximity to "high quality" transit, defined as a transit station or stop with a maximum 15-minute frequency during weekday peak hours (6am-10am and 3pm-7pm). Some measures will only be required of projects meeting one of the above three geographic criteria. The categories are:
 - a. Transit-Oriented Development (max distance: 0.5 miles)
 - b. Transit Proximate (distance of 0.5 miles to 3 miles)

- c. Non-Transit Proximate (more than 3 miles)
- The new policy will require periodic reporting post-occupancy for developers/tenants, the requirements of which will vary by project ADT and land use. The purpose is to capture the completeness of TDM implementation and to follow up with projects that fall short of TDM Policy goals or reporting requirements (no fines are proposed; it would simply be to convene with the other/tenant and local jurisdiction to strategize a path toward adequate TDM implementation and ultimately, TDM Policy compliance).
- C/CAG will conduct a biennial review of the efficacy of the C/CAG Land Use Policy Program as part of the CMP monitoring process.
- C/CAG's member agencies may request an exemption from the policy if it has an adopted TDM program and can sufficiently prove that their adopted TDM measures meet or exceed trip mitigation impacts required by C/CAG and will mitigate traffic impacts on the CMP network.

6.3 Land Use Impact Analysis Program

C/CAG has adopted a three-tiered process to analyze the impact of land use developments on the regional transportation network. The three different tiers will provide C/CAG and jurisdictions with the technical and policy-making means necessary to determine the impacts of land use proposals on the CMP network. These tiers are as follows:

- Tier 1: Long Range Planning Analysis
- Tier 2: Individual Large Development Analysis
- Tier 3: Cumulative Development Analysis

Each tier has been broken down into steps to follow, which are described each in turn below.

Tier 1: Long Range Planning Analysis

Step 1: Testing the Impact of Future Land Use Changes

Tier 1 Analysis will determine what transportation improvements will be needed on the CMP network in the year 2040 based on a county wide land use plan, which reflects desired levels and types of development. This analysis will be conducted for both the CMP and the Countywide Transportation Plan (CTP).

The C/CAG-VTA Model will be used to identify the impacts of future land use and transportation alternatives on the CMP network. Specifically, it will test what the impacts are of ABAG 2040 population and employment projections. These ABAG projections will be modified on a city-by-city basis to reflect more realistically existing and future land use conditions based on recently collected data from all jurisdictions in the County.

Step 2: Development of CIPs and Financial Plan

The CTP indicates which projects should be included in future CIPs to relieve congestion the most effectively. C/CAG will make recommendations to the cities/towns, County, SamTrans, SMCTA, and the Joint Powers Board when they formulate future CIPs. The C/CAG Board adopted the most recent San Mateo County Transportation Plan 2040 (SMCTP 2040) at the February 2017 meeting.

The SMCTP 2040 Follow-up Implementation Phase includes the effort of convening a Working Group. It is anticipated that the Working Group will discuss and refine strategies by learning, obtaining, providing input, and advising C/CAG staff on the following key follow-up items:

- Alignment of funding with vision statement established by the SMCTP 2040;
- Consider additional strategies to analyze equity; and
- Consider potential additional performance measures and targets to support goals, vision, and objectives set out by the SMCTP 2040.

Tier 2: Individual Large Development Analysis

Step 1: Notification

Local jurisdictions will notify C/CAG at the beginning of the CEQA process of all development applications or land use policy changes (i.e., General Plan amendments) that are expected to generate 100 or more weekday Average Daily Trips (ADT) on the CMP network, within ten days of completion of the initial study prepared under the California Environmental Quality Act (CEQA). Projects will be divided into two groups (Small Projects and Large Projects) depending on the size of the project and the number of ADT. **Table 18** details the thresholds for various land use types and typical project sizes (in sq. ft., number of employees, or number of units).

Table 18: ADT Thresholds, Correlated with Project Size Characteristic

	Small Projects	Large Projects
Non Residential: Office, R&D, Industrial, & Institutional	100-499 ADT (10,000-49,999 sq. ft.)	500+ ADT (50,000+ sq. ft.)
Non-Residential: Medical & Lodging	100-499 ADT (10,000-49,999 sq. ft.)	500+ ADT (50,000+ sq. ft.)
Non-Residential: Retail & Restaurant	100-499 ADT (30-99 employees)	500+ ADT (100+ employees)
Residential: Multi-Family	100-499 ADT (20-49 units)	500+ ADT (50+ units)

Small projects and large projects will be subject to different goals and monitoring and reporting requirements. The tiered approach allows C/CAG to expand the reach of the TDM policy, improve monitoring and reporting, and minimize financial and administrative burdens to developers, property managers, local agencies, and C/CAG staff.

Step 2: Testing of Large Development Proposals

In addition to local streets and roads, local jurisdictions will assess the impacts of large development proposals on the CMP network during their CEQA review process. All jurisdictions will report the findings of their analyses to C/CAG.

Jurisdictions may use their own site TIAs, their own travel forecasting models, or the C/CAG-VTA Model to assess the impacts of large development proposals on the CMP network. If a jurisdiction uses its own travel forecasting model to assess impacts, it must be consistent with MTC’s regional model and C/CAG’s modeling and measurement standards. C/CAG will make consistency findings as needed.

Step 3: Mitigation and Conformance

Local jurisdictions must ensure that the developer and/or tenants will mitigate all the ADT generated by the project by selecting one or more of the options that follow. It is up to the local jurisdiction working together with the project sponsor to choose the methods that will be compatible with the intended purpose of the

project. This list is not all inclusive. Additional measures may be proposed for consideration by C/CAG in advance of approving the project.

- Reduce the scope of the project so that it will generate less than 100 ADT.
- Build adequate roadway and/or transit improvements so that the added trips will have no measurable impact on the CMP roadway network.
- Contribute an amount per trip to a special fund for improvements to the CMP roadway network. This amount will be set annually by C/CAG based on a nexus test.
- Require the developer and all subsequent tenants to implement TDM programs that mitigate the ADT. A list of acceptable programs and the equivalent number of trips that are mitigated will be provided by C/CAG annually. Programs can be mixed and matched so long as the total mitigated trips is equal to or greater than the ADT generated by the project. As part of the new update in 2021, projects will be required to meet trip reduction measures of 25-35% dependent on the size of the project (as noted below in Table 19). These programs, once implemented, must be on-going for the occupied life of the development. Programs may be substituted with prior approval of C/CAG, so long as the number of mitigated trips is not reduced. Additional measures may be proposed to C/CAG for consideration. Also, there may be special circumstances that warrant a different amount of credit for certain measures. These situations can also be submitted to C/CAG in advance for consideration.
 - a. In 2021, C/CAG updated its TDM Policy to streamline the point based system, include updated best practices, revise the TDM measures, and include a more data driven methodology. The full updated policy, as well as an implementation guide is included in **Appendix I**.

Table 19: Vehicle Trip Reduction Targets for TDM Plans

	Small Projects	Large Projects	Transit Oriented Development (Small & Large)
Non-Residential: Office, Industrial, & Institutional	35%	35%	25%
Non-Residential: Medical & Lodging	35%		
Non-Residential: Retail	35%		
Residential: Multi-Family	25%		

Step 4: Credit for Contribution

If a jurisdiction is required to prepare a deficiency plan for a CMP roadway segment or intersection for which it has previously used local public or private funds to help prevent the degradation of LOS, then C/CAG will give that jurisdiction credit for its prior contribution and appropriately reduce the amount of mitigation required by the deficiency plan. C/CAG will develop and adopt a procedure for calculating the amount of credit to be provided.

Tier 3: Cumulative Development Analysis

Step 1: Notification

Once every two years, local jurisdictions will inform C/CAG of all development proposals or land use changes that will replace or add to current or projected levels of development. This process will update the land use data base used by the C/CAG-VTA Model every two years.

Step 2: Testing of Cumulative Impacts

Each update of the C/CAG-VTA Model (generally done every two to four years) will include a test of the impacts of cumulative development as projected by ABAG throughout the County on the CMP network. Results of this analysis will be reported to C/CAG and local jurisdictions in San Mateo County.

Step 3: Analysis of Results

This cumulative analysis may be used to determine existing LOS on the CMP network or to project future LOS. This analysis may be used for several purposes: (1) identifying where existing LOS has been degraded, (2) anticipating future congested hot spots on the CMP network, (3) shifting project priorities in CIPs, and (4) providing data for jurisdictions to use in the development of site TIAs and environmental assessments.

Step 4: Reporting Changes

The results of the analysis in Step 3 will be provided to local jurisdictions to alert them of locations within their boundaries where the amount of congestion is approaching the LOS standard. Hopefully this information can be used to avert the need for the development of some deficiency plans.

Compliance Monitoring

A copy of the Guidelines for implementing the land use component of the CMP, the revised TDM Policy, and the status of the land use impact analysis compliance monitoring is in **Appendix I**.

New to the CMP will be a biennial monitoring of the Land Use Analysis Program to determine its efficacy. It's anticipated that this will begin with the 2023 CMP Update.

DRAFT

CHAPTER 7: DEFICIENCY PLAN GUIDELINES

California Government Code Sections 65089.3, 65089.4, and 65089.5 govern the conformance process. These sections require that C/CAG determine every two years whether San Mateo County, including cities/towns within the county, conform to the requirements of the CMP based on information obtained through monitoring. A CMP roadway segment or intersection can be found to violate the LOS standard when levels of service are monitored biennially.



Scenic section of I-280 Northbound approaching SR-92

The monitoring program occurs during the AM (7am-9am) and PM (4pm-6pm) peak periods. For the 2021 CMP Update, traffic counts were taken in April-May 2021. The LOS analysis based on these counts is consistent with the LOS methods outlined in the highway LOS standards (Chapter 3). Full details of the results of the monitoring program are in **Appendix F**.

The LOS standards for the roadway segments and intersections included in San Mateo County's CMP are presented in Chapter 3. When deterioration of the LOS on a given CMP roadway segment or intersection has not been prevented and a violation is identified through the monitoring process, the legislation provides local jurisdictions with the following two options for them to remain in conformance with the CMP:

- Implementation of a specific plan to correct the LOS deficiency on the affected network segment; or
- Implementation of other measures intended to result in measurable improvements in the LOS on the system-wide CMP network and to contribute to significant improvements in air quality.

With regard to the second option, in some situations, meeting the CMP's LOS standards may be impossible or undesirable. For these situations, deficiency plans allow local jurisdictions to adopt innovative and comprehensive transportation strategies for improving the traffic LOS on a system-wide basis rather than adhering to

strict, site-specific traffic LOS standards that may contradict other community goals. In other words, deficiency plans allow a violation of the traffic LOS to occur on one particular CMP roadway segment or intersection in exchange for improving other transportation facilities or services (e.g., transit, bicycles, walking, or TDM). For example, it may be impossible to modify a CMP roadway to meet its LOS standard because there is insufficient right-of-way available to add the number of lanes that would be necessary for that roadway segment or intersection to operate acceptably at the desired LOS. Should deficiency plans need to be prepared, alternate goals, such as higher density development near transit stations or better transit service, can be pursued.

Deficiency plans provide local agencies with an opportunity to implement many programs and actions that will improve transportation conditions and air quality. Some of these programs and actions include:

- Directly coordinating the provision of transportation infrastructure with planned land uses;
- Building new transit facilities and enhancing transit services;
- Providing bicycle facilities connecting with other transportation systems (transit stations, park-n-ride lots);
- Strengthening TDM programs; and
- Encouraging walking by providing safe, direct, and enjoyable walkways between major travel generators.

In addition, having to produce deficiency plans will affect the local land use approval process. For example, a local jurisdiction may have the discretion to deny approval of a development project if it is shown to negatively affect an already deficient CMP system roadway or intersection. Alternatively, to be approved, the sponsor of the development project could participate in the implementation of those actions emanating from a deficiency plan.

It is the intent of C/CAG to encourage local jurisdictions that may be responsible for the preparation of deficiency plans to connect the actions of deficiency plans with the overall countywide transportation planning process. Doing so will ensure that the action items in the deficiency plan are consistent with the goals of the CMP to increase the importance of transit, ridesharing, TDM measures, bicycling, and walking as ways to improve air quality and reduce congestion.

More information on the legislative requirements surrounding deficiency plans, as well as details on how/why a deficiency plan should be prepared, are located in **Appendix D**.

7.1 Current Deficiencies

C/CAG retained TJKM Transportation Consultants to conduct the 2021 congestion monitoring of the 53 roadway segments and 16 intersections that comprise the CMP Roadway System in San Mateo County. A copy of the *2021 CMP Monitoring Report* is included in **Appendix F**.

The results of the 2021 Monitoring indicate the following roadway segments and intersections exceeded its LOS standard before the reduction of interregional trips:

- SR-84 from I-280 to Alameda de las Pulgas – AM Peak Period
- US 101 from I-380 to Millbrae Avenue – PM Peak Period
- US 101 from Millbrae Avenue to Broadway - PM Peak Period
- US 101 from Broadway to Peninsula Avenue – PM Peak Period
- US 101 from SR-92 to Whipple Avenue – PM Peak Period
- Intersection of SR-84/Middlefield Road – PM Peak Period

Tables 20 and **21** detail the current 2021 LOS for all CMP roadway segments and intersections.

Table 20: 2021 CMP Roadway Segment LOS

Route	Roadway Segment	LOS Standard	2021 LOS		With Interregional Reduction - AM	With Interregional Reduction - PM
			AM Peak Period	PM Peak Period		
SR-1	San Francisco County Line to Linda Mar Boulevard	E	A	C	-	-
SR-1	Linda Mar Boulevard to Frenchmans Creek Road	E	D	D	-	-
SR-1	Frenchmans Creek Road to Miramontes Road	E	E	E	-	-
SR-1	Miramontes Road to Santa Cruz County Line	D	B	C	-	-
SR-35	San Francisco County Line to Sneath Lane	E	A	A	-	-
SR-35	Sneath Lane to I-280	F	B	C	-	-
SR-35	I-280 to SR-92	B	B	B	-	-
SR-35	SR-92 to SR-84	B	B	B	-	-
SR-35	SR-84 to Santa Clara County Line	E	B	B	-	-
SR-82	San Francisco County Line to John Daly Boulevard	E	A	A	-	-
SR-82	John Daly Boulevard to Hickey Boulevard	E	A	A	-	-
SR-82	Hickey Boulevard to I-380	E	A	A	-	-
SR-82	I-380 to Trousdale Drive	E	A	A	-	-
SR-82	Trousdale Drive to 3 rd Avenue	E	A	A	-	-
SR-82	3 rd Avenue to SR-92	E	A	A	-	-

Route	Roadway Segment	LOS Standard	2021 LOS		With Interregional Reduction - AM	With Interregional Reduction - PM
			AM Peak Period	PM Peak Period		
SR-82	SR-92 to Hillsdale Avenue	E	A	A	-	-
SR-82	Hillsdale Avenue to 42 nd Avenue	E	A	A	-	-
SR-82	42 nd Avenue to Holly Street	E	A	A	-	-
SR-82	Holly Street to Whipple Avenue	E	A	A	-	-
SR-82	Whipple Avenue to SR-84	E	A	B	-	-
SR-82	SR-84 to Glenwood Avenue	E	A	A	-	-
SR-82	Glenwood Avenue to Santa Cruz Avenue	E	A	A	-	-
SR-82	Santa Cruz Avenue to Santa Clara County Line	E	A	A	-	-
SR-84	SR-1 to Portola Road	C	C	C	-	-
SR-84	Portola Road to I-280	E	C	B	-	-
SR-84	I-280 to Alameda de las Pulgas	C	D	C	C	-
SR-84	Alameda de las Pulgas to US 101	E	B	C	-	-
SR-84	US 101 to Willow Road	D	A	A	-	-
SR-84	Willow Road to University Avenue	E	B	C	-	-
SR-84	University Avenue to Alameda County Line	F	D	D	-	-
SR-92	SR-1 to I-280	E	E	E	-	-

Route	Roadway Segment	LOS Standard	2021 LOS		With Interregional Reduction - AM	With Interregional Reduction - PM
			AM Peak Period	PM Peak Period		
SR-92	I-280 to US 101	D	D	D	-	-
SR-92	US 101 to Alameda County Line	E	E	E	-	-
US 101	San Francisco County Line to I-380	E	A	D	-	-
US 101	I-380 to Millbrae Avenue*	E	A	F	-	D
US 101	Millbrae Avenue to Broadway*	E	D	F	-	D
US 101	Broadway to Peninsula Avenue*	E	D	F	-	D
US 101	Peninsula Avenue to SR-92*	F	F	E	-	-
US 101	SR-92 to Whipple Avenue*	E	D	F	-	D
US 101	Whipple Avenue to Santa Clara County Line	F	D	D	-	-
SR-109	Kavanaugh Drive to SR-84 (Bayfront Expressway)	E	A	A	-	-
SR-114	US 101 to SR-84 (Bayfront Expressway)	E	A	A	-	-
I-280	San Francisco County Line to SR-1 (north)	E	A	D	-	-
I-280	SR-1 (north) to SR-1 (south)	E	A	E	-	-
I-280	SR-1 (south) to San Bruno Avenue	D	A	A	-	-
I-280	San Bruno Avenue to SR-92	D	A	A	-	-
I-280	SR-92 to SR-84	D	A	A	-	-

Route	Roadway Segment	LOS Standard	2021 LOS		With Interregional Reduction - AM	With Interregional Reduction - PM
			AM Peak Period	PM Peak Period		
I-280	SR-84 to Santa Clara County Line	D	A	A	-	-
I-380	I-280 to US 101	F	E	E	-	-
I-380	US 101 to Airport Access Road	C	A	A	-	-
Mission Street	San Francisco County Line to SR-82	E	A	A	-	-
Geneva Avenue	San Francisco County Line to Bayshore Boulevard	E	A	A	-	-
Bayshore Boulevard	San Francisco County Line to Geneva Avenue	E	A	A	-	-

*Note: Construction of the US 101 Express Lanes between I-380 and Whipple Ave was ongoing at the time of monitoring, and could potentially have an impact on traffic in the area.

Table 21: 2021 CMP Intersection LOS

ID	Intersection	Methodology	LOS Standard	AM Peak		With Interregional Reduction - AM		PM Peak		With Interregional Reduction - PM	
				Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS
1	Bayshore Boulevard/Geneva Avenue	HCM 2000	E	15.6	B	-	-	19.9	B	-	-
2	SR-35/John Daly Boulevard	HCM 2000	E	17.3	B	-	-	19.6	B	-	-
3	SR-82/John Daly Boulevard/Hillside Avenue	HCM 2010	E	28.8	C	-	-	33.1	C	-	-
4	SR-82/San Bruno Avenue	HCM 2010	E	23.9	C	-	-	29.3	C	-	-
5	SR-82/Millbrae Avenue	HCM 2010	E	33.9	C	-	-	39.0	D	-	-
6	SR-82/Broadway	HCM 2010	E	12.2	B	-	-	12.4	B	-	-
7	SR-82/Park Road/Peninsula Avenue	HCM 2000	E	24.5	C	-	-	34.1	C	-	-
8	SR-82/Ralston Avenue	HCM 2000	E	41.6	D	-	-	40.4	D	-	-
9	SR-82/Holly Street	HCM 2010	E	27.5	C	-	-	33.9	C	-	-
10	SR-82/Whipple Avenue	HCM 2010	E	35.1	D	-	-	43.0	D	-	-
11	University Avenue/SR-84	HCM 2000	F	16.6	B	-	-	45.7	D	-	-
12	Willow Road/SR-84	HCM 2010	F	23.7	C	-	-	35.7	D	-	-
13	SR-84/Marsh	HCM 2000	F	63.1	E	-	-	62.6	E	-	-
14	SR-84/Middlefield Road	HCM 2010	E	59.1	E	-	-	96.2	F	74.4	E

ID	Intersection	Methodology	LOS Standard	AM Peak		With Interregional Reduction - AM		PM Peak		With Interregional Reduction - PM	
				Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS
15	SR-1/SR-92	HCM 2000	E	29.1	C	-	-	36.5	D	-	-
16	Main Street/SR-92	HCM 2010	F	51.3	D	-	-	48.1	D	-	-

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After the reduction of interregional trips, all of the failing segments and intersections rose to acceptable LOS above their standards. Therefore, ***no CMP roadway segment or intersection is considered deficient for the 2021 CMP***. The lack of deficient segments and intersections could be attributed to the COVID-19 pandemic's effect on traffic. Stay-at-home orders, increased telecommuting, and remote school have reduced traffic across the county and reflects in the results of the CMP monitoring.

7.2 San Mateo County Congestion Relief Plan (CRP)

The C/CAG Board approved the CRP, which is a countywide deficiency plan to address any future deficiencies. The Plan, which was initiated in July 1, 2002 and updated July 1, 2019, will relieve all San Mateo County jurisdictions - 20 cities/towns and the County - from having to fix the specific congested locations that triggered the development of this Plan, and any new ones that may be detected for the next four years.

This Congestion Relief Plan is necessary because several locations throughout the County have been determined through traffic counts to have congestion that exceeds the standards that were adopted by C/CAG as part of the CMP. Although the Plan is a legal requirement and enforceable with financial penalties, it is more important that the Plan be viewed as an opportunity to make a real impact in congestion that has been allowed to go unchecked for many years. A key factor in developing the Plan has been for C/CAG to respect and support the economic development done by local jurisdictions to make San Mateo County prosperous and to ensure a sound financial base to support local government. Economic prosperity however, has created severe traffic problems, which if not properly addressed, will threaten that same prosperity. Therefore, this plan aims to find ways to improve mobility countywide and, in every jurisdiction, while not putting a halt to this economic growth.

Full details of the CRP, including its elements, funding amounts, and assessments on member jurisdictions, is included in **Appendix D**.

CHAPTER 8: CAPITAL IMPROVEMENT PROGRAM

8.1 Purpose and Intent of Legislation



One of the STIP projects: US 101 Express Lanes under construction at 3rd Avenue in San Mateo.

CMPs are required by California Government Code Section 65089(b)(5) to include a seven-year CIP to maintain or improve the performance of the multimodal system for the movement of people and goods and to mitigate regional transportation impacts identified through the Land Use Analysis Program. Capital improvement projects must conform to transportation-related vehicle emissions and air quality mitigation measures. In the Bay Area, such TCMs

are contained in the Bay Area 2017 Clean Air Plan.

Any project depending on State or Federal funding must be included in the CMP CIP. This part of the CMP must be submitted first to the MTC in the Bay Area and then to the CTC and/or the FHWA so that funding from State and Federal programs will be allocated for the projects included in the CIP.

8.2 Federal and State Funding Sources

Funding is made available under the CMP from the State and Federal governments for transportation system maintenance and improvement projects. The CIP that is included in each CMP may be somewhat different from the CIP included in previous CMPs because of changes in the funding programs or the evaluation criteria. (The status of prior years' CMP CIP projects is discussed in the Monitoring Report in **Appendix G**.) The following paragraphs present a summary of the current federal and state funding sources available for the current CMP.

Federal Transportation Funding

The current federal transportation funding bill is the Fixing America’s Surface Transportation (FAST) Act, authorized in 2015. It includes two primary funding sources for local projects: the Surface Transportation Block Grant Program (STBG; formerly the Surface Transportation Program) and the Congestion Mitigation and Air Quality Program (CMAQ).

Projects that are currently funded under these programs are listed in **Appendix G**. The STBG and CMAQ programs are expected to continue.

State Transportation Funding

State funding for local transportation projects is available primarily through the STIP. The California Transportation Commission (CTC) adopted the 2020 STIP in March 2020. C/CAG recommends a list of projects to the MTC for incorporation into a regional recommendation (also known as the Regional Transportation Improvement Program (or RTIP) to the California Transportation Commission (CTC).

The STIP includes allocations for each of California’s counties. The share for San Mateo County includes both general program and specific project amounts. The most recently adopted CTC allocations for San Mateo County projects are shown in **Table 22**. The most recent STIP (adopted in March 2020) has allocations from FY 2020/21 until FY 2024/25. A mid-cycle STIP was adopted in March 2021 to allocate federal COVID relief funds to agencies for transportation-related programs, of which San Mateo County received \$3,260,185.

Table 22: 2020 STIP Programming in San Mateo County (\$1,000’s)

Project	Agency	Program Amount	Prior	FY 21	FY 22	FY 23	FY 24	FY 25
Programmed or Voted since July 1, 2018								
Planning, Programming, and Monitoring	MTC	74	74	-	-	-	-	-
Planning, Programming, and Monitoring	C/CAG	338	338	-	-	-	-	-
ITS Improvements in Daly City, Brisbane, Colma	C/CAG	600	600	-	-	-	-	-
US 101/Willow Road Interchange Reconstruction	Caltrans	12,465	12,465	-	-	-	-	-
Countywide ITS Improvements - South San Francisco	C/CAG	240	240	-	-	-	-	-

Project	Agency	Program Amount	Prior	FY 21	FY 22	FY 23	FY 24	FY 25
Countywide ITS Improvements - South San Francisco	C/CAG	4,058	4,058	-	-	-	-	-
AB 3090 Reimb. (Willow Road IC Reconst. Phase 1)	SMCTA	8,000	4,000	4,000	-	-	-	-
US 101/Produce Avenue Interchange Reconst.	South San Francisco	5,000	0	5,000	-	-	-	-
US 101 Managed Lanes	Caltrans	33,500	16,000	17,500	-	-	-	-
SR-92/US 101 Interchange Improvements	Caltrans	5,628	2,411	3,217	-	-	-	-
US 101/Woodside Road Interchange Improvements	Redwood City	8,000	0	-	8,000	-	-	-
ITS Improvements in Daly City, Brisbane, Colma	C/CAG	1,000	0	-	1,000	-	-	-
ITS Improvements in Daly City, Brisbane, Colma	DC/Bris/Colma	6,900	0	-	-	6,900	-	-
Planning, Programming, and Monitoring	MTC	246	0	79	82	85	-	-
Planning, Programming, and Monitoring	C/CAG	787	0	263	262	262	-	-
Subtotal, Highway Projects		86,836	40,186	30,059	9,344	7,247	-	-
Total Programmed or Voted since July 1, 2018		86,836						
2020 STIP Programming								
ITS Improvements in Daly City, Brisbane, Colma	C/CAG	-1,000	-	-	-1,000	-	-	-
ITS Improvements in Daly City, Brisbane, Colma	C/CAG	300	-	300	-	-	-	-
ITS Improvements in Daly City, Brisbane, Colma	DC/Bris/Colma	-6,900	-	-	-	-6,900	-	-
ITS Improvements in Daly City, Brisbane, Colma	DC/Bris/Colma	7,600	-	-	-	7,600	-	-
SR-92/US 101 Interchange Improvements – Phase 2	Caltrans	-3,217	-	-3,217	-	-	-	-

Project	Agency	Program Amount	Prior	FY 21	FY 22	FY 23	FY 24	FY 25
SR-92/US 101 Interchange Improvements – Phase 2	Caltrans	3,217	-	-	3,217	-	-	-
US 101 Managed Lanes	C/CAG	7,177	-	-	-	-	7,177	-
Planning, Programming, and Monitoring	MTC	-246	-	-79	-82	-85	-	-
Planning, Programming, and Monitoring	MTC	425	-	79	82	85	88	91
Planning, Programming, and Monitoring	C/CAG	-787	-	-263	-262	-262	-	-
Planning, Programming, and Monitoring	C/CAG	1,034	-	263	262	262	46	201
Subtotal, Highway Proposals		7,603	-	-2,917	2,217	700	7,311	292
TOTAL PROPOSED 2020 STIP PROGRAMMING		7,603	-					

Note: Funds are in \$1,000's

Source: California Transportation Commission, 2020 STIP

Regional Measure 3 Funding

Regional Measure 3 (RM3) is a voter approved measure to increase tolls on all Bay Area bridges (except the Golden Gate Bridge) from \$5 to \$8 in one dollar increments over six years. Funds raised by the measures would be used to pay for congestion relieving projects across the nine county Bay Area. This includes region-wide projects such as BART improvements, ferry enhancements, express lanes, Capitol Corridor, SF Bay Trail, and Clipper Transit fare payment systems. The measure was approved by a majority of Bay Area voters in June 2018. Funding from the measure is currently on hold, pending litigation.

Identified projects in San Mateo County as part of RM3 are listed below in **Table 23**.

Table 23: Regional Measure 3 Projects in San Mateo County (\$ in millions)

Project	Project Cost
Dumbarton Corridor Improvements	\$130
US 101/SR-92 Interchange	\$50

Source: Regional Measure 3 Expenditure Plan, MTC, 2018

8.3 Other Funding Sources for San Mateo County

There are several other sources of funds for transportation projects in San Mateo County. One of the major sources of funds is the Measure A sales tax passed in San Mateo County on June 7, 1988. The ballot measure created the SMCTA and authorized an increase in the retail sales/use tax of one-half of one percent for 20 years to finance the construction of certain transportation improvements. In November 2004, voters in San Mateo County also approved the reauthorization of Measure A to be in effect from 2009 to 2033.

Improvements funded by Measure A include public transit and highway projects, alternative congestion relief, and local programs. In addition, the extension of Measure A also includes bicycle and pedestrian improvements. A summary of the Transportation Expenditure Plan for Measure A extension is included in **Appendix H**.

In 2018, San Mateo County voters approved Measure W, which authorized a half-cent sales tax increase to improve transit and relieve traffic congestion. 50% of the funds are administered by SamTrans and utilized for county public transportation services. The remaining 50% is administered by SMCTA and is used for countywide highway congestion relief (22.5%), local safety, pothole, and congestion relief improvements (12.5%), bicycle/pedestrian improvements (5%), and regional transit connections (10%).

Other sources of potential funding for transportation improvements and maintenance projects are as follows:

- Measure M - \$10 Vehicle Registration Fee (Details in Chapter 11)
- Proposition 111 - Gas tax revenues allocated to local jurisdictions
- Transportation Fund for Clean Air (TFCA) – Funds programs and infrastructure to enhance air quality, revenue is generated from increased vehicle registration fees
- One Bay Area Grant (OBAG) – Federal transportation funding from the FHWA distributed by MTC to the nine Bay Area counties
- Bridge Replacement and Rehabilitation funds
- Transportation Development Act (TDA) funds
- State Transit Assistance (STA) funds
- Transit Capital Improvement funds
- Transit operator funds

In addition to these, many competitive grant programs will pay for transportation projects, such as (but not limited to): the Highway Safety Improvement Program (HSIP), Active Transportation Program (ATP), Transit and Intercity Rail Capital Program (TIRCP), and more.

8.4 Regional Planning Efforts

Goals and Objectives Established in the RTP

In July 2017 MTC adopted Plan Bay Area 2040, which is the RTP/SCS for the nine-county Bay Area. It represents the transportation policy and action statement of how the Bay Area will approach the region’s transportation needs over the next 25 years. Plan Bay Area is a vision of what the Bay Area transportation network should look like in 2040. The purpose and goals of the Plan Bay Area is to provide the framework for this vision. It was prepared by MTC in partnership with ABAG, BAAQMD, and the Bay Conservation and Development Commission (BCDC), and in collaboration with Caltrans, the nine county-level CMAAs or substitute agencies, over two dozen Bay Area transit operators, and numerous transportation stakeholders and the public. The purpose of Plan Bay Area is to encourage and promote the safe and efficient management, operation and development of a regional intermodal transportation system that will serve the mobility needs of people and goods.

Plan Bay Area 2050, the next iteration of the RTP, is currently in draft form and expected to be adopted in late 2021 or early 2022.

Plan Bay Area 2040 incorporates a set of performance targets for each performance objective as quantifiable measures against which progress may be evaluated, as shown below:

Table 24: Plan Bay Area 2040 Goals

Goal	#	Target
Climate Protection	1	Reduce per-capita CO2 emissions from cars and light duty trucks by 15%
Adequate Housing	2	House 100% of the region’s projected growth by income level without displacing current low-income residents and with no increase in in commuters over the Plan baseline year
Healthy & Safe Communities	3	Reduce adverse health impacts associated with air quality, road safety, and physical inactivity by 10%
Open Space & Agricultural Preservation	4	Direct all non-agricultural development within the urban footprint (existing urban development and UGBs)

Goal	#	Target
Equitable Access	5	Decrease the share of lower-income residents' household income consumed by transportation and housing by 10%
	6	Increase the share of affordable housing in PDAs, TPAs, or high opportunity areas by 15%
	7	Do not increase the share of low- and moderate-income renter households in PDAs, TPAs, or high-opportunity areas that are at risk of displacement
Economic Vitality	8	Increase by 20% the share of jobs accessible within 30 minutes by auto or within 45 minutes by transit in congested conditions
	9	Increase by 38% the number of jobs in predominantly middle-wage industries
	10	Reduce per-capita delay on the Regional Freight Network by 20%
Transportation System Effectiveness	11	Increase non-auto mode share by 10%
	12	Reduce vehicle operating and maintenance costs due to pavement conditions by 100%
	13	Reduce per-rider transit delay due to aged infrastructure by 100%

Source: Final adopted goals and performance targets for Plan Bay Area 2040.

C/CAG, along with other CMAs and regional agencies, including MTC, ABAG, and the BAAQMD, will be addressing new requirements from Senate Bill 375 (SB 375) in addressing reduction in Green House Gas (GHG) emissions generated by cars and light trucks. The following will be taken into consideration in future planning processes.

Senate Bill 375 (SB 375)

SB 375 request metropolitan transportation organizations to develop a Sustainable Communities Strategy (SCS) – a new element of the RTP – to strive to reach the GHG reduction target established for each region by the California Air Resource Board. The target for the Bay Area is a 7% per capita reduction by 2025 and a 15% per capita reduction by 2035. Plan Bay Area 2040 is the current SCS for the nine-county Bay Area.

Plan Bay Area (adopted in 2017) promotes compact, mixed-used commercial and residential development that is walkable, bikeable and close to mass transit, jobs, schools, shopping, parks, recreation and other amenities. The San Mateo County CMP acknowledges the SCS process, along with the regional FOCUS approach, and specifically recognizing the planned and potential Priority Development Areas (PDAs) and Priority Conservation Areas (PCAs) within San Mateo County.

Bay Area 2017 Clean Air Plan (CAP)

The Bay Area 2017 CAP provides a comprehensive plan to improve Bay Area air quality, protect public health, and protect the climate. The CAP defines a control strategy that the Air District and its partners will implement to:

- Reduce emissions of criteria air pollutants and toxic air contaminants from all key sources;
- Reduce emissions of “super-GHGs” such as methane, black carbon, and fluorinated gases;
- Decrease demand for fossil fuels (gasoline, diesel, and natural gas)
 - a. Increase efficiency of our industrial processes, energy, and transportation systems
 - b. Reduce demand for vehicle travel, and high-carbon goods and services
- Decarbonize our energy system
 - a. Make the electricity supply carbon-free
 - b. Electrify the transportation and building sectors

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CHAPTER 9: DATABASE AND TRAVEL DEMAND MODEL

9.1 Purpose and Intent of Legislation

California Government Code Section 65089(c) requires that every CMA, in consultation with the regional transportation planning agency (MTC in the Bay Area), cities, and the county, develop a uniform database on traffic impacts for use in a countywide travel demand model. The State statute also requires the countywide model to be the basis for transportation models used for county sub-areas and cities, and that all models be consistent with the modeling methodology and databases used by the regional transportation planning agency. The CMA also approves sub-county area transportation models and models used by local jurisdictions for land-use impact analysis, if local jurisdictions decide to develop them.



Intersection of SR-1 at SR-92 in Half Moon Bay

9.2 Discussion

This chapter describes the C/CAG-VTA Model and Database Element. It contains the following sections:

- C/CAG-VTA Model and Database Legislative Requirements
- Overview of the C/CAG-VTA Model

Transportation models are analytical tools that can be used to assess the impacts of land use and development decisions on the transportation system. Transportation models are based on a complex interaction of relationships between variables: for example, the relationship between the price of gasoline and the number of vehicle-miles traveled or transit ridership. They are tools that can be used to project future transportation conditions, and the need for and effectiveness of transportation projects and infrastructure improvements. If the basic relationships established in a base year model validation remain well behaved over time, a well-

designed and validated transportation model should predict transportation conditions with some degree of confidence.

The CMP transportation database consists of data that in effect document existing and future transportation network conditions and socioeconomic characteristics in a quantitative manner. The databases are a basic input for the C/CAG-VTA Model and are typically updated based on updates to the regional socioeconomic data sets provided by ABAG and through periodic updates of the transportation networks through development of long-range planning efforts and for specific projects and corridors.

The C/CAG-VTA Model serves several purposes:

- Evaluating the transportation impacts of major capital improvements and land use developments on the countywide CMP System.
- Establishing transportation system characteristics for use by member agencies in performing transportation impact analyses, developing local transportation models, and preparing deficiency plans.
- Developing roadway vehicle volume and transit ridership to support planning studies for C/CAG and member agencies for corridor and project analysis.

9.3 CMP Transportation Model and Database Legislative Requirements

The CMP Statute requires C/CAG to develop a uniform database and model for evaluating transportation impacts. The Statute specifies the following three requirements for the CMP database and model:

- The CMP must develop a uniform database and model for use throughout the County.
- The CMP must approve local jurisdictions' computer models that are used to determine transportation impacts of land use decisions on the CMP System.
- The CMP database and model must be consistent with the MTC regional transportation database and model.

Each of these requirements is discussed below.

Uniform Database and Model

The legislative requirement for a uniform countywide model and database is critical to the success of the overall CMP. The C/CAG-VTA Model is used to assist in the land use impact analysis program, evaluate projects for inclusion in the CIP, evaluate system-level improvements to the CMP System due to deficiency plans and assist with C/CAG and member agencies in project planning and transit service planning.

Local Model Consistency

In addition to the requirement for developing a countywide model, the CMP Statute requires that models developed by member agencies for local transportation analysis be consistent with the C/CAG-VTA Model and database. This is a logical requirement that helps assure that all member agencies are using uniform techniques to evaluate the impacts of development projects.

Returning to the concept of transportation models as tools, local transportation models will serve a similar purpose. Local models, however, operate on a different scale. While a countywide model may be able to predict future traffic volumes on a roadway, a local model would can predict the number of vehicles at a much finer detail, for example traffic turning movements at specific intersections. In general, since local transportation models can include more background information they provide more detailed “city-specific” information than a countywide model.

Regional Transportation Model and Database Consistency

Consistency with the regional transportation model and database is one of the most important requirements of the CMP Statute. This section describes the regional model and database and consistency requirements.

9.4 Regional Models

MTC Regional Transportation Model

MTC is responsible for developing the Bay Area’s regional transportation model. MTC has been developing a series of transportation models since the mid-1960s. MTC has recently converted the regional models from trip-based to tour-based models (MTC Travel Model One) and is expected to refine the full transition to activity-based models in the very near future (Travel Model Two). The C/CAG-VTA Model, however, are based on the previous version of the MTC transportation planning models known as BAYCAST-90. The BAYCAST-90

travel model demand system was originally developed using 1990 Census data and data from the 1990 regional household travel survey incorporating travel diary data from more than 10,000 households.

ABAG Database

The MTC models use input socioeconomic data prepared by ABAG. ABAG projections provide estimates of employment, land use, housing, population, and household income at regional, county and census tract levels. ABAG updates its database forecasts every four years. These updates are based on surveys of local land use and development policies as well as revised national, state, and regional forecasting assumptions. The most recent version of ABAG's officially adopted database for congestion management application is Projections 2040 (P2040). The P2040 series provide forecasts at five-year intervals from year 2010 to the year 2040. The C/CAG-VTA Model uses the ABAG Projections 2013 socioeconomic data as the basis for the 2040 long-range forecasts for San Mateo County as provided by MTC at the MTC 1454 zone level. The MTC zone level allocations were then sub-allocated to the smaller C/CAG zones based on local development characteristics. As such, the C/CAG socioeconomic data inputs are consistent at both the MTC zone level and the ABAG census tract level.

CMP Model and Database Consistency

The C/CAG-VTA Model and database are developed to be consistent with the MTC BAYCAST-90 model and the ABAG 2013 socioeconomic database. MTC recently updated the consistency requirements and key assumptions as part of the 2013 CMP development. The revised MTC Checklist for Modeling Consistency is used to evaluate the 2019 CMP. Summaries of the checklist outputs are provided to MTC in a separate submittal. More details regarding specific consistency issues are described in the following sections.

9.5 Overview of the C/CAG-VTA Model

The current C/CAG-VTA Model is based on the corridor model developed for the Grand Boulevard Initiative (GBI) Multi-modal Corridor Study by the Santa Clara VTA in 2009. The GBI study evaluated the impacts of enhanced transit service (bus rapid transit) and enhanced developed strategies in the El Camino Real corridor to transform an existing auto-oriented commercial transportation corridor into a more transit-oriented mixed-use transportation corridor. The GBI model was essentially the VTA Countywide model with added zone and network detail to improve upon what was network and zone detail based on the MTC regional models for San

Mateo County. The basis for the network and zone refinements applied to the VTA Countywide models within San Mateo County were the previous C/CAG Countywide models originally developed in the mid-1990s.

The addition of zone and network detail in San Mateo County required the recalibration of the trip distribution and mode choice models and a validation of the highway and transit assignments to observed road volumes and transit boarding. Using the VTA Countywide model estimated trips tables for the year 2005 (which were calibrated to year 2000 census journey-to-work for home-based work trips), new trip distribution and mode choice models were estimated for the GBI model.

For the recently updated C/CAG models, the GBI model was applied using ABAG P 2013 socioeconomic data to produce an updated base year 2013 calibration and validation with selected model enhancements. These enhancements included calibration of the auto ownership models to American Community Survey (ACS) 2010 county-level data, addition of bicycle network infrastructure (bike lanes and paths) in the networks, travel time skims, mode choice and bicycle assignments and development of a toll modeling procedure to estimate express lane vehicle volumes. The model was validated to year 2013 screenline volumes for the AM and PM peak periods and to year 2013 observed transit boardings.

Consistency with MTC Model

As noted previously, the C/CAG-VTA Model was designed to be consistent with the previous MTC Travel Demand Model forecasting system BAYCAST-90 model. This section provides a general overview of the C/CAG-VTA Model and describes several basic modeling characteristics that are shared between the models.

Transportation Analysis Zones (TAZ's) - The current C/CAG-VTA Model has a more refined zone system in San Mateo County and Santa Clara County than the MTC regional models. Additional zones were added to more accurately reflect and support the added roadway network and to provide more detail in transit rich corridors and dense central business districts. In all, an additional 156 zones were added in San Mateo County and an additional 1,122 zones were added in Santa Clara County. The new model maintains the use of MTC's zone system in the remaining seven Bay Area counties but enlarges the full model region and zones to include Santa Cruz, San Benito, Monterey, and San Joaquin Counties.

Highway Network and Transit Network - The roadway network used by the C/CAG-VTA Model includes additional detail in both San Mateo and Santa Clara Counties. The current C/CAG-VTA Model also includes detailed stop, station and route detail in the transit network for San Mateo and Santa Clara Counties, and maintains the MTC roadway and transit networks in the remaining Bay Area counties. The Association of

Monterey Bay Area Governments (AMBAG) provided the basis for roadway networks in Monterey, San Benito, and Santa Cruz counties and the San Joaquin County COG provided roadways for San Joaquin County, however, the detailed networks were simplified to match the coarser zone structure in each of those four added counties. Express lane facilities, representing the MTC 'Backbone' express lanes system for 2040, were also coded in the network with a toll facility indicator based on the highway corridor segment and the direction of travel. Differential toll facility codes were required to apply specific toll rates to optimize utilization of the express lanes to preserve level-of-service for free carpool users. The C/CAG-VTA Model also includes a representation of the bicycle network infrastructure in the base year and 2040 forecast year for San Mateo, Santa Clara, San Francisco and southern Alameda Counties, explicitly representing existing and future bike lanes and bike paths in travel time development, mode choice and bicycle assignments.

Capacities and Speed - The current C/CAG-VTA Model incorporates the area type and assignment group classification system published by MTC in BAYCAST-90. Input free-flow speeds for expressways are slightly lower in the C/CAG-VTA Model to more accurately match the travel time for the expressway segments during model validation and improve the assignment match of estimated to observed expressway volumes.

Trip Purposes - The current C/CAG-VTA Model uses the same trip purposes used in the BAYCAST-90 model and uses additional trip purposes not modeled by MTC. C/CAG-VTA Model trip purposes include the following:

- Home-based work trips
- Home-based shop and other trips
- Home-based social/recreation trips
- Non-home-based trips
- Home-based school: grade school, high school, and college trips
- Light, medium and heavy duty internal to internal zone truck trips

The C/CAG-VTA Model uses MTC BAYCAST-90 trip generation equations for trip production and trip attraction functions for all trip purposes listed above. To address special markets not included in the MTC trip purposes, the C/CAG-VTA Model includes several additional trip purposes beyond those modeled by MTC, including:

- Air-passenger trips to San Francisco International Airport (SFO) and San Jose/Mineta International Airport (SJC); and
- Light, medium and heavy-duty external truck trips.

Market Segments - The C/CAG-VTA Model adopts the BAYCAST-90 disaggregate travel demand model four income group market segments for the home-based work trip purpose in trip generation, distribution and mode choice. In addition, the C/CAG-VTA Model also maintains the three workers per household (0, 1 and 2+ workers) and three auto ownership markets (0, 1 and 2+ autos owned) used in the MTC worker/auto ownership models. Trips by peak and off-peak time period are also stratified in the trip distribution, mode choice and highway and transit assignment models.

External Trips - The C/CAG-VTA Model uses a different approach for incorporating inter-regional commuting estimates than MTC. For external zones coincident with the MTC model, MTC interregional vehicle volumes were applied for base year 2000 and adjusted to the future by assuming a 1% growth rate per year. For external gateways from San Joaquin County and Santa Cruz, Monterey and San Benito Counties, the incorporation of those counties as internal modeled areas obviated the development of external vehicle volumes for those areas of the C/CAG-VTA Model.

Pricing - The C/CAG-VTA Model uses MTC pricing assumptions for transit fares, bridge tolls, parking charges, and auto operating costs as assumed in the current MTC RTP Plan Bay Area. All prices are expressed in year 1990 dollar values in the models. The C/CAG-VTA Model also uses regional express lane toll charges for the AM and PM peak periods that are based on optimizing the level-of-service in the carpool lanes. Depending on the level of utilization, these toll charges would vary by direction, time of day and by specific corridor.

Auto Ownership - The current C/CAG-VTA Model applies BAYCAST-90 for auto ownership models to estimate the number of households with 0, 1, and 2+ autos by four income groups in each traffic analysis zone. Walk to transit accessibility measures were incorporated in the auto ownership models consistent with MTC BAYCAST-90 to more logically associate low auto ownership households with transit services. The auto ownership models were recently calibrated to the 2010 American Community Survey to match workers per household and auto ownership by county.

Mode Choice - The mode choice models for BAYCAST-90 include the use of nested structures for most trip purposes, however, explicit estimation of nested structures to consider transit sub modes were not included in the model specification. The C/CAG-VTA Model adds a nesting structure for transit sub modes of local bus, express bus, Bus Rapid Transit (BRT), light rail, heavy rail and commuter rail underneath the MTC BAYCAST-90 nested structures. Consistent with the BAYCAST-90, mode choice coefficients are preserved by constraining the model to the BAYCAST-90 parameters, except those in transit sub mode structure.

Peak Hour and Peak Periods for Highway Assignments - The C/CAG-VTA Model uses a three-hour peak period (6am-9am) as the basis for determining drive alone, shared-ride, and transit travel times for input to the trip distribution and mode choice models. This was assumed since peak hour travel volumes tend to produce extremely congested conditions for forecast years producing unrealistic volume to capacity ratios and travel times, thus significantly overestimating forecast transit probabilities. The highway assignments produce AM and PM peak hour volumes, AM and PM peak period volumes (5am-9am and 3pm-7pm, respectively – each coincident with the time periods of operation for carpools), midday volumes (9am-3pm) and evening volumes (7pm-5am). The four time period volumes are then added together to develop daily vehicle volumes.

Vehicle and Transit Assignments - The current C/CAG-VTA Model incorporates a methodology analogous to the MTC “layered,” equilibrium assignment process, which distinguishes standard mixed-flow lanes from high-occupancy-vehicle (HOV) lanes. The equilibrium assignment process used in the current CMP model is functionally equivalent to the MTC methodology. The C/CAG-VTA Model includes additional vehicle classes in the highway assignments for park-and-ride vehicles and drive-alone and carpool toll vehicles.

Drive-alone and carpool toll vehicles for AM and PM peak periods are estimated using a toll model post-processor that estimates toll volumes based on a comparison of the non-toll and toll travel times and costs. This procedure assumes that toll choice occurs after the decision to choose auto versus transit has already been considered, and therefore does not influence transit mode choice. A toll choice constant for drive-alone and carpool modes was developed based on a calibration of toll volumes estimated by application of the toll model to the I-680 Express Lane facility and comparison of estimated to observed express lane volumes. It should be noted that by 2035, to maintain the operational feasibility of implementing regional express toll lanes, it was assumed that only 3+ occupant carpools would be allowed to travel in the carpool lanes for free. This was assumed for all carpool facilities in the model region.

In the current C/CAG-VTA Model, transit passengers are assigned with a methodology analogous to that used by MTC, with separate assignments for each transit sub mode and access mode. Assignments are also performed separately for peak and off-peak conditions. A total of 18 separate transit assignments are run to cover the full combination of transit sub mode and access modes as well as to estimate transit ridership for air-passengers and external home-based work transit trips from the San Joaquin (ACE, BART, and San Joaquin SMART bus) and AMBAG (Caltrain and Monterey Express) model regions.

Model Validation with 2013 Traffic and Transit Volumes - The current C/CAG-VTA Model is validated to year 2013 traffic volumes for county-level screenlines and specific major transportation facilities. Two time periods are validated for county screenlines: AM peak period (5am-9am) and PM peak period (3pm-7pm). Peak hour validation was performed for US 101 and SR-82 (El Camino Real) using traffic counts provided by Caltrans. Daily transit boardings were validated for the year 2013 at the system level for major regional transit operators (Caltrain, BART, MUNI, VTA, and AC Transit) and at the route level for SamTrans express and local routes.

Compliance and Conformance

To be in conformance with the CMP, member agencies must ensure that their models are consistent with the C/CAG-VTA Model. C/CAG encourages the use of the C/CAG-VTA Model by the local member agencies to ensure consistency, however, member agencies are free to develop their own local models but will be required to produce documentation to demonstrate consistency with the C/CAG-VTA Model. C/CAG must also ensure that the C/CAG-VTA Model is consistent with the MTC regional models. To demonstrate compliance and conformance, MTC has developed a checklist of outputs that are to be produced from the C/CAG-VTA Model and compared to a comparable MTC regional forecast year model run. C/CAG has prepared the checklist outputs from the most recent 2040 model runs and will provide the results in a separate submittal to MTC.

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CHAPTER 10: MONITORING AND UPDATING THE CMP

There are several elements of the CMP that must be monitored. Changes in travel patterns, increases in employment or population, and increases or modifications to the supply of transportation facilities or services could result in changes being made or needing to be made to the following CMP elements:

- Traffic LOS standards (Described in Chapters 2 and 3)
- Trip Reduction and Travel Demand Element (Chapter 5)
- Land Use Impact Analysis Program (Chapter 6)
- Deficiency Plans (Chapter 7)



Intersection of El Camino Real (SR-82) and Holly Street in San Carlos

The processes to be applied to monitor each of these elements are described in its applicable chapter. A jurisdiction may be found in nonconformance with the CMP if these processes are not adhered to. The CMP will be updated every two years.

California Government Code Sections 65089.3, 65089.4, and 65089.5 govern the conformance process. These sections require that C/CAG determine every two years whether San Mateo County, including cities and towns within the county, conform to the requirements of the CMP based on information obtained through monitoring.

If C/CAG believes that a local government is not conforming to CMP requirements, it must then hold a noticed public hearing to determine areas of nonconformance. If after the public hearing C/CAG still believes that the local government is not conforming to CMP requirements, it must provide written notice to the local government citing the specific instances of nonconformance. The local government then has 90 days to remedy the instances of nonconformance. If after 90 days the local government has not remedied the

nonconformance instances, C/CAG will make a finding of nonconformance and notify the State Controller to withhold certain gas tax subvention funds.

Once a finding of nonconformance is made by C/CAG, the local jurisdiction would not receive its funds from the additional gas tax (enacted by California Proposition 111) or (the Federal) FAST Act funding until the jurisdiction is again found to be in conformance. If the city or county does not come into conformance with the CMP's standards or requirements within a 12-month period, its gas tax allocations are forfeited irrevocably.

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CHAPTER 11: MEASURE M - \$10 VEHICLE REGISTRATION FEE PROGRAM

Senate Bill 83 (SB 83) authorizes C/CAG, as the countywide transportation planning agency, to impose an annual fee of up to ten dollars (\$10) on motor vehicles registered in San Mateo County, through a majority vote ballot measure, for transportation-related congestion mitigation and pollution mitigation programs and projects.



*Funding for local streets and roads is a key component of Measure M
(Shown: Millbrae Avenue in Millbrae)*

C/CAG placed Measure M on the November 2, 2010, ballot to impose an annual fee of ten dollars (\$10) on motor vehicles registered in San Mateo County for transportation-related congestion mitigation and water pollution mitigation programs. Measure M, which was approved by the voters of San Mateo County, enables C/CAG to generate an estimated \$6.7 million annually (\$167 million over the next 25 years) to help fund various transportation programs for the 20 cities/towns and the County. Collection of the \$10 fees began May 2011.

On May 12, 2016, the C/CAG Board approved Resolution 16-11 authorizing the adoption of the Measure M 5-Year Implementation Plan for Fiscal year 2017-2021. Under the Expenditure Plan, 50% of the net proceeds will be allocated to cities/towns and the County for local streets and roads and 50% will be used for countywide transportation programs such as transit operations, regional traffic congestion management, water pollution prevention, and safe routes to school programs. An Implementation Plan was developed to provide detailed program information. The Plan defines the percentages breakdown and estimated revenue for the respective categories and programs as follows:

Table 25: Measure M Expenditure Plan

Category / Programs	Approved for FY 2017-2021		
	Allocation	Annual Revenue (Million)	5-Year Revenue (Million)
Program Administration	Up to 5%	\$0.34	\$1.70
Local Streets and Roads	50% of net revenue	\$3.18	\$15.90
Transit Operations and/or Senior Transportation*	22%	\$1.40	\$7.00
Intelligent Transportation System (ITS) and Smart Corridors*	10%	\$0.64	\$3.18
Safe Routes to Schools (SR2S)*	6%	\$0.38	\$1.90
National Pollutant Discharge Elimination System (NPDES) and Municipal Regional Permit (MRP)*	12%	\$0.76	\$3.82
Total		\$6.70	\$33.50

* Countywide Transportation Programs (50% of net revenue)

The allocations for the Countywide Transportation Programs are derived based on anticipated needs and estimated implementation cost to fund each respective programs and projects, annually and over the 5-year implementation period. It is the intent that each countywide transportation program and project will be evaluated at the end of each year to determine whether the initial funding level (allocations) was adequate or whether it requires adjustments based on the actual expenditures incurred during the previous year. The complete Measure M Implementation Plan and 5-Year Performance Report is included in Appendix M.

C/CAG is currently updating the Measure M Strategic Plan, titled *“Modernizing Measure M: Strategic and Implementation Plan for Fiscal Years 2021/22-2025/26”*.⁵ The report is in draft form at the time of writing (September 2021). It proposes a number of adjustments to the allocations above in **Table 25**, namely:

- Reduce Transit Operations/Senior Mobility from 22% to 18%
- Increase Technology/Smart Corridor from 10% to 11%
- Increase Stormwater (NPDES/MRP) from 12% to 15%

⁵ <https://ccag.ca.gov/wp-content/uploads/2021/07/6.2-A2-Modernizing-Measure-M-Strategic-and-Implementation-Plan-FY22-26-1.pdf>

CHAPTER 12: TRAFFIC IMPACT ANALYSIS (TIA) POLICY



SR-1 near Moss Beach in unincorporated San Mateo County

The intent of the TIA policy is to provide uniform procedures to analyze traffic impacts on the CMP network from projects and cumulative traffic impacts on the CMP network from General Plans and Specific Area Plans, and to set thresholds for mitigations. The Policy provides clear direction to local jurisdictions on how to analyze CMP impacts resulting from roadway changes or land use decisions, determine feasible and appropriate mitigations. The purpose of this policy is to

preserve acceptable performance on the CMP roadway network, and to establish community standards for consistent system-wide transportation review.

Adopted by the C/CAG Board in August 2006, the TIA Policy helps agencies determine traffic impacts on the CMP roadway network. The policy applies to the following types of projects:

- Roadway changes
- General Plan Updates/Amendments and Specific Area Plans
- Land Use development projects

The TIA Policy is intended to work together with the Land Use Impact Analysis Program (described in Chapter 6). The TIA Policy can be found in **Appendix L**.