2017

Update of the Contra Costa Congestion Management Program

CONTRA COSTA
transportation
authority

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2017 Congestion Management Program for Contra Costa

Executive Summary

As the designated Congestion Management Agency (CMA) representing the jurisdictions of Contra Costa County, the Contra Costa Transportation Authority (the Authority) is responsible for preparing and adopting a Congestion Management Program (CMP) and updating it every other year. The Authority adopted the county's first CMP in October 1991. This document — the 2017 Contra Costa CMP — comprises the thirteenth biennial update.

This update, which was prepared with help from and consultation with representatives of local, regional and State agencies, transit operators and the public, responds to changes in regional transportation planning, projects, and programs made since 2015. The 2017 CMP focuses primarily on bringing the required seven-year Capital Improvement Program (CIP) up-to-date, while also responding primarily to technical changes and corrections from the 2015 CMP, including:

- **Level-of-Service Standards** – Updated to document changes in the use of LOS as a finding of significant impact in CEQA under Senate Bill 743.

- **Performance Element** – Updated service frequencies, standards, and performance measures from the five Contra Costa transit service providers have been incorporated to reflect current policies.
- **Capital Improvement Program (CIP)** – The seven-year CIP (Appendix E) project listing has been updated with current information from project sponsors via the CTP update process and calls-for-projects to support the RTP, OBAG and TEP updates.
- **Appendix H (Travel Demand Forecasting Model Development)** has been updated to reflect refinements made to the Countywide Model, as well as policy decisions about the future direction of the model.

The State CMP legislation requires each CMP to contain the following components:

- **Traffic level-of-service (LOS) standards** that apply to a system of designated CMP routes that includes at least all State highways and principal arterials (Chapter 2);
- A **performance element** that includes performance measures to evaluate current and future multimodal system performance for the movement of people and goods (Chapter 3);
- A **seven-year capital improvement program (CIP)** that maintains or improves the performance of the multi-modal system for the movement of people and goods or mitigates regional transportation impacts identified in the land use evaluation program (Chapter 4 and Appendix E);
- A **program to analyze the impacts of local land use decisions** on the regional transportation system, including an estimate of the costs associated with mitigating those impacts (Chapter 5); and
- A **travel demand element** that promotes transportation alternatives to the single-occupant vehicle. (Chapter 6 and Appendix H).

The CMP legislation also requires each CMA to prepare and maintain a computerized travel demand model, including a land use database. To meet this requirement, the Authority has developed and maintains a countywide model that runs using TransCAD® software. In 2010, the Authority undertook a comprehensive update of its model inputs and processes, and in 2014 completed an update of the model with the adopted Plan Bay Area land use forecasts (*Projections 2013*) for use in the 2017 Countywide Transportation Plan, (CTP), the Supplemental Environmental Impact Report for the CTP, and other planning efforts. The status of the travel demand model is discussed further in Chapter 7 and Appendix H. Appendix H also describes the approach taken for the current CMP model update, including consistency of the Authority's CMP model to the modeling guidelines of the Metropolitan Transportation Commission (MTC) and to the new modeling requirements of SB 375.

The Authority adopted detailed Deficiency Plan Procedures in 1996. These procedures, which are summarized in Chapter 8, are contained in a separate document.

The CMP overlaps considerably with the Contra Costa Growth Management Program (GMP) established by county voters through Measure C (1988) and Measure J (2004). Both programs contain similar requirements and have similar structures. Under the GMP, jurisdictions that comply with the program are allocated 18 percent of total sales tax revenues to maintain or improve local streets and roads. Under the CMP, local jurisdictions that meet the CMP compliance requirements receive a portion of the gas tax revenues established in Proposition 111. In both cases, the Authority evaluates local compliance through the Measure J Checklist. While State and regional agencies do not have a role in evaluating local compliance, MTC does play an important role in the establishment of regional conformance guidelines, with an emphasis on modeling and land use data consistency.

Further background on CMP legislative requirements is contained in Appendix A and background on the components of the GMP and Measure J is described in Appendix B.

Following its adoption, the Authority will submit the 2017 CMP to MTC. As the regional transportation planning agency in the San Francisco Bay Area, MTC is required to evaluate the CMP's consistency with MTC's Regional Transportation Plan (RTP) and with the CMPs of other counties in the Bay Area. If it finds that the Contra Costa CMP is consistent with the RTP, MTC will incorporate the projects listed in the CMP's seven-year CIP into MTC's Regional Transportation Improvement Program.

Summary of CMP Components and Changes from the 2015 CMP

CHAPTER ONE: INTRODUCTION AND OVERVIEW

Chapter 1 describes the adopted Regional Transportation Plan, Plan Bay Area (PBA) 2040, which was adopted by MTC in July 2017. Pursuant to SB 375, the 2017 RTP includes a Sustainable Communities Strategy (SCS) – which is aimed at achieving a 15% reduction in greenhouse gas (GhG) emissions from cars and light trucks by 2035. The 2017 CMP update documents consistency with the recently adopted 2017 RTP.

Changes from the 2015 CMP – The chapter has been updated to discuss the relationship between the CMP and the July 2017-adopted Plan Bay Area 2040 RTP.

CHAPTER TWO: LEVEL OF SERVICE STANDARDS

Chapter 2 describes the designated CMP network of State highways and principal arterials, and the level-of-service standards that apply to that network. Consistent with the CMP legislation, the CMP network includes all State highways within Contra Costa. "Principal arterials" are also part of the CMP network. These are defined as arterials that are at least four lanes wide for a mile in length, carry at least 20,000 vehicles each day, and have been designated by the appropriate regional transportation planning committee (RTPC). Also consistent with the CMP legislation, the Authority has established a level-of-service standard of LOS E for all parts of the CMP network except those that were already operating at worse levels of service in 1991. LOS and its use in CEQA documents is currently being re-examined by the California Office of Planning and Research due to passage of SB 743 in September 2013, and is discussed further in this chapter.

Changes from the 2015 CMP – The 2017 CMP Update discusses the changes to LOS statewide under SB 743, as well as potential changes to the CMP legislation .

CHAPTER THREE: PERFORMANCE ELEMENT

Chapter 3 outlines measures to evaluate the current and future performance of the multimodal system for the movement of people and goods. To build on and take advantage of the cooperative planning effort required under the Measure J GMP, the performance measures established in the CMP are taken from the Multimodal Transportation Service Objectives (MTSOs) in the recent update of the Action Plans for Routes of Regional Significance. These measures apply to the CMP network, all of which are also Regional Routes. Performance measures used in the recently released Draft 2017 CTP have also been included in the update. Changes to standards for transit performance, routing and measures of frequency made since 2015 have been incorporated.

Changes from the 2015 CMP – The 2017 CMP has incorporated the latest performance measures used by the Authority in various planning efforts, as well as changes to the transit measures as indicated by the County's five transit providers.

CHAPTER FOUR: CAPITAL IMPROVEMENT PROGRAM

To emphasize the programming objectives of the CMP legislation, Chapter 4, the CMP CIP, contains projects that the Authority proposes for programming through the State and federal funding cycles. The CIP includes projects already programmed; those proposed for programming through MTC's Regional Transportation Improvement Program and federal processes; Transportation Fund for Clean Air

(TFCA) bicycle projects; and developer-funded projects where funding through fee programs is imminent.

Changes from the 2015 CMP – The Comprehensive Transportation Project List, or CTPL, is the financially unconstrained repository of projects and programs that agencies in Contra Costa and the region are interested in pursuing. The 2017 CMP CIP outlined in this chapter and in Appendix E are derived from the projects included in the CTPL database, which has been updated through early 2017 as part of the update of the Countywide Transportation Plan and Transportation Expenditure Plan development processes. The CIP includes projects to be funded through several different sources. These sources include the RTIP, MTC's OBAG and MAP-21-based programs, TFCA bicycle projects, and developer-funded projects where funding through fee programs is imminent as well as the Authority's own Strategic Plan. Local projects may also see an influx of funding due to passage of California's Senate Bill 1, which provides for a 12-cent increase in the state gas tax, and a new vehicle license fee, with revenues being directed towards local street maintenance and transit operations. In addition, recent legislation was passed to allow for the inclusion of a new toll bridge increase in the Bay Area ("Regional Measure 3") on the ballot in 2018 in order to fund major regional projects that serve the seven toll bridge corridors.

In total, the CMP CIP has a total estimated cost of nearly $16.3 billion. Of this, the actual total is greater since some projects are in early stages of planning and design and sponsors have not yet estimated the full project concept. The project types are summarized below under the following more general categories: freeways (including projects in the freeway and interchange categories, plus operations, goods movement, and new technology "innovation" transportation investments); the arterial and roadway category; transit (including bus, rail and rapid transit, and ferry); bicycle and pedestrian (including Transportation for Livable Communities, Safe Routes to Schools projects, and studies); and intermodal/park & ride projects.

Project Type	*Total Cost*	*Share of Total*
Arterial/Roadway	$2,504,486,138	15.2%
Bike/Pedestrian/Safe Routes to School/TLC/Studies	$1,966,119,461	11.9%
Transit	$8,551,723,754	52.5%
Freeway/Interchanges/Innovation/Operations/ Goods Movement	$3,299,981,856	20.0%
Intermodal & Park-and-Ride	$198,329,000	1.2%
Total	$16,520,640,209	100.0%

CHAPTER FIVE: LAND USE-TRANSPORTATION EVALUATION PROGRAM

Chapter 5 responds to the CMP requirements to include a "program to analyze the impacts of land use decisions made by local jurisdictions on regional transportation systems, including an estimate of the costs associated with mitigating those impacts." For short-range analysis of land use impacts, the CMP relies on the traffic impact analysis required by the Measure J GMP. That program requires every jurisdiction to conduct a traffic impact analysis for any proposed development project, development plan, or General Plan Amendment that would generate more than 100 net new peak hour vehicle trips (RTPCs may choose to specify a lower trip threshold). This analysis must evaluate the impacts of the proposed development on the regional transportation system and estimate the cost of mitigating those impacts.

For long-range planning, the CMP includes two options: the first builds on the existing process for reviewing General Plan amendments under Measure J, as described in CCTA's Growth Management Implementation Guide, while the second focuses on the impact of a land use change on CMP LOS standards and performance measures, including affected public transit operations.

Changes from the 2015 CMP – No substantial changes have been made to this chapter.

CHAPTER SIX: TRANSPORTATION DEMAND ELEMENT

The Travel Demand Element in Chapter 6 builds on the transportation demand management activities established through the GMP, continued under Measure J. The program requires local jurisdictions to adopt a Transportation Systems Management (TSM) Ordinance that establishes policies for participation with other jurisdictions or resolution in efforts to achieve TSM goals, and to incorporate these TSM goals into the jurisdiction's land use review and planning process.

Changes from the 2015 CMP – The section has been updated to include references to Housing Protection and Surplus Lands Act requirements under OBAG and the adoption of Priority Development Areas (PDAs) and Priority Conservation Areas (PCAs) by local jurisdictions as part of the SCS. An update to the descriptions of TDM activities in Contra Costa has also been included.

CHAPTER SEVEN: TRANSPORTATION DEMAND MODELING

Chapter 7 describes the Authority's travel demand model and the updates undertaken to maintain consistency with the regional model and database.

Changes from the 2015 CMP – This chapter has been updated to reflect changes made to the Countywide Model since 2015, including the recent decision to migrate to an activity-based modeling platform during the 2020 Decennial Model Update process.

CHAPTER EIGHT: DEFICIENCY PLAN PROCEDURES

The CMP legislation requires Deficiency Plans to be prepared when a LOS standard established on the CMP network is exceeded, after calculating required exclusions. Chapter 8 describes the three basic steps in the process of deficiency planning: (1) identification of the deficiency and which jurisdictions must be involved in the plan preparation, (2) preparation of the Deficiency Plan itself, and (3) review, adoption and implementation of the Deficiency Plan.

Changes from the 2015 CMP – No changes to the Deficiency Planning chapter have been made.

CHAPTER NINE: LOCAL COMPLIANCE REQUIREMENTS

Chapter 9 outlines how the Authority will monitor local compliance with the CMP requirements. The Authority evaluates local conformance with the CMP through its biennial monitoring of the CMP network and through local responses to the GMP Compliance Checklist. This evaluation of local conformance looks at the achievement of CMP level of service standards; steps taken to implement the recommendations of any Deficiency Plan that were incorporated into the Action Plans; and applying the Land Use-Transportation Evaluation Program as an alternative to the GMP evaluation process.

Changes from the 2015 CMP – No changes to this chapter were made.

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Chapter 1

Introduction and Overview

Passage of Proposition 111 in 1990 put into effect a legislative package that included a statewide increase in the gasoline tax and a number of changes in transportation financing and planning. It specified among other things that each county designate a countywide body, i.e. a Congestion Management Agency (CMA), to put programs in place to keep traffic levels manageable. The CMA was charged with helping to coordinate land use, air quality and transportation planning among the local jurisdictions and to prepare a Congestion Management Program (CMP) to spend the funds. In the fall of 1990, the County and Contra Costa cities and towns designated the Contra Costa Transportation Authority (the Authority) as the CMA for the County, with the responsibility for preparing and monitoring the preparation of the Contra Costa CMP.

Although a county can "opt out" of the CMP process, the Authority continues to function as the CMA. While its voter-approved Measure J Growth Management Program (GMP) provides many of the same functional benefits as the CMP, the Authority has found that serving as Contra Costa's CMA provides institutional roles that would not otherwise be given to the Authority. As CMA, the Authority's role in programming State and federal funds is protected by statute. The Authority also represents Contra Costa jurisdictions in regional transportation forums with Caltrans, the Metropolitan Transportation Commission (MTC) and other CMAs. Being a CMA gives the Authority a "seat at the table" when addressing issues such as MTC's Regional Transportation Plan (RTP) criteria for project prioritization, transportation modeling, implementation of regional projects, and air quality conformity.

The Authority adopted its first CMP in 1991, and has updated it ten times since then. This document is the eleventh update. The 2015 CMP responds primarily to key changes that have happened since the 2013 CMP was adopted.

The CMP is one part of an aggressive overall strategy to reduce congestion, improve mobility, and increase overall sustainability of the transportation system in the county. Action Plans for Routes of Regional Significance and the Authority's Countywide Comprehensive Transportation Plan (CTP) establish basic policies while updates to the Authority's Strategic Plan and involvement in corridor studies, such as the West County High Capacity Transit Study, I-680 Corridor System Management Plan, and the State Route 4 Integrated Corridor Analysis study, have helped refine programming and policy decisions. The Authority has also participated in major projects in the county, including the eBART extension to Pittsburg Center and Hillcrest Avenue (Antioch) stations in East County and the new interchanges on State Route 4 at Sand Creek Road and Balfour Road. Other large projects such as improvements to the I-80/San Pablo Dam Road interchange are also underway. Local governments receive street maintenance and improvement funds — from both Measure J and Proposition 111 — that can be put to work in relieving local problems.

1.1 Required Components of the CMP

This CMP fulfills the requirements of California Government Code Section 65088 et seq. As described below, it has been prepared by the Authority in consultation with local jurisdictions, other public agencies and members of the public. Consistent with State law, the program contains five elements:

1. **Traffic Level of Service (LOS) standards** applied to a designated system of State highways and principal arterial streets (Chapter 2);
2. A **performance element** that includes performance measures to evaluate current and future multi-modal system performance for the movement of people and goods (Chapter 3);
3. A **seven-year capital improvement program (CIP)** whose projects will maintain or improve the performance of the multimodal system for the movement of people and goods (Chapter 4);
4. A **program to analyze the impacts of land use decisions** made by local jurisdictions on regional transportation systems (Chapter 5); and
5. A **travel demand element** that promotes transportation alternatives to the single-occupant vehicle (Chapter 6).

In addition to preparing, adopting and implementing a CMP, each CMA is required to develop a countywide computerized travel demand model that uses a uniform database. Activities satisfying this requirement are discussed in Chapter 7 of this

document. The CMA must also establish procedures for preparing Deficiency Plans when level-of-service standards are violated. The Deficiency Plan process is summarized in Chapter 8. (The detailed Deficiency Plan Procedures are contained in a separate document.)

1.2 Relationship of CMP to MTC's Regional Transportation Plan

The CMP legislation requires MTC to review each CMP in the Bay Area for its conformance with MTC's RTP. MTC will assess the conformance of a county's CMP in the following areas:

- Conformance with the goals and objectives established in the RTP;
- Consistency of the CMP network with adjoining counties;
- Consistency with federal and State air quality plans;
- Consistency with the data and methodologies in MTC's travel demand model; and
- Recognition of financial assumptions in the RTP.

MTC adopted its most recent RTP — called "Plan Bay Area 2040"— on July 20, 2017, including a Sustainable Communities Strategy for the Bay Area, as required by SB375 (Steinberg). Plan Bay Area establishes ten performance targets that MTC hopes to achieve through its programs and policies (Table 1.2.1). The principles chosen are principles of sustainability, and reflect transportation planning agencies' responsibility to balance potentially competing interests, while reducing greenhouse gas emissions over the short (2020) and long (2040) terms. The goals of MTC's RTP are consistent with the vision of the Authority first established in the 2000 CTP Update and refined in the 2004, 2009 and 2017 CTPs:

> *Strive to preserve and enhance the quality of life of local communities by promoting a healthy environment and a strong economy to benefit the people and areas of Contra Costa sustained by 1) a balanced, safe and efficient transportation network; 2) cooperative planning; and 3) growth management. The transportation network should integrate all modes of transportation to meet the diverse needs of Contra Costa.*

Table 1.2.1 MTC Plan Bay Area 2040 Performance Targets

Goal/Outcome	*Target #*	*Adopted Target*
Climate Protection	1	Reduce per-capita CO2 emissions from cars and light-duty trucks by 15 percent

Table 1.2.1 MTC Plan Bay Area 2040 Performance Targets

Goal/Outcome	*Target #*	*Adopted Target*
Adequate Housing	2	House 100 percent of the region's projected growth without displacing current low-income residents and with no increase in in-commuters over the Plan baseline year
Healthy and Safe Communities	3	Reduce adverse health impacts associated with air quality, road safety, and physical inactivity by 10%
Open Space and Agricultural Preservation	4	Direct all non-agricultural development within the urban footprint (existing urban development and UGBs)
Equitable Access	5	Decrease the share of lower-income residents' household income consumed by transportation and housing by 10%
Equitable Access	6	Increase the share of affordable housing in PDAs, TPAs, or high-opportunity areas by 15%
Equitable Access	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
Economic Vitality	9	Increase by 35%** the number of jobs in predominantly middle-wage industries
Economic Vitality	10	Reduce per-capita delay on the Regional Freight Network by 20%
Transportation System Effectiveness	11	Increase non-auto mode share by 10%
Transportation System Effectiveness	12	Reduce vehicle operating and maintenance costs due to pavement conditions by 100%
Transportation System Effectiveness	13	Reduce per-rider transit delay due to aged infrastructure by 100%

The Authority's vision for the future of Contra Costa addresses the goals of the RTP by promoting a healthy environment and a strong economy for all of the people and areas of Contra Costa. This vision underlies the Authority's many activities, from support for paratransit and transit services to development of new roadways, and from involvement in growth management to management of the Transportation Funds for Clean Air (TFCA) program in Contra Costa. The four goals of the 2017 CTP further define the Authority's intent:

- Enhance the movement of people and goods on highways and arterial roads,
- Manage the impacts of growth to sustain Contra Costa's economy and preserve its environment,
- Expand safe, convenient and affordable alternatives to the single-occupant automobile, and
- Maintain the transportation system.

While the Authority's CTP doesn't set overall numeric objectives, it does incorporate the Multimodal Transportation Service Objectives (MTSOs) set in the Action Plans for Routes of Regional Significance. These plans, developed and adopted by the four Regional Transportation Planning Committees (RTPCs), set MTSOs, adopt actions to achieve them, and outline a process for sharing information on the impacts of larger projects and General Plan amendments. While the focus of the Action Plans is on the operation of the Regional Routes (which include the entire CMP network), some of the MTSOs apply more generally throughout the subarea. For example, among the many MTSOs it establishes, the West County Action Plan includes an MTSO for I-80 of "Maintain a Delay Index of 3.0 or less on I-80 during weekday morning and evening peak hour" and an MTSO for San Pablo Avenue of "Maintain LOS "E" or better at all signalized intersections along San Pablo Avenue." It also includes several region-wide MTSOs including increasing HOV lane usage by 10% over 2013 levels. All of the Action Plans have a similar mix of regional and route-specific MTSOs for all modes of travel.

The 2017 CMP uses the updated MTSOs from the Action Plans to provide the performance measures in Chapter 3, the Performance Element.

The Authority's CTP outlines strategies to achieve its goals. Many of those strategies correspond to and will help achieve the objectives in MTC's RTP. For example, MTC policies encourage: creating livable communities; transit-oriented development; safe ways for more people to walk and bicycle, especially to connect to transit; and partnering with local communities to support community vitality. In the CTP, under the goal of "manag[ing] the impacts of growth to sustain Contra Costa's economy and preserve its environment, and support its communities" the Authority has strategies to "participate in a regional cooperative land use planning process with agencies both within and outside of Contra Costa" and "support land use patterns within Contra Costa that make more efficient use of the transportation system, consistent with the General Plans of local jurisdictions." Under the goal to "provide and expand safe, convenient and affordable alternatives to the single-occupant automobile," the Authority has established strategies to "require local jurisdictions to incorporate policies and standards for "Complete Streets" that support transit, bicycle and pedestrian access in new developments" and in-fill areas, and to "support transit-oriented and pedestrian-friendly developments." These examples are only some of

the correspondences that could be identified between MTC's RTP and the Contra Costa CTP and its supporting plans and programs.

The CMP is one of those supporting plans and, as such, helps achieve both the Authority's goals and MTC's objectives. The CMP includes projects that address many RTP goals, especially those that maintain streets and roadways, improve transit service, enhance safety on Contra Costa's transportation system, increase the operational efficiency of the transportation system, and develop facilities that provide alternatives to the single-occupant vehicle, including bicycle and pedestrian projects. The CMP also outlines transportation demand management efforts and a land use evaluation program — both of which are built on the Authority's Growth Management Program established by Measure J (described in more detail in Section 1.4) — that strive to enhance sensitivity to the environment, improve air quality, reduce greenhouse gas emissions, and promote livable and sustainable communities.

If MTC finds a CMP to be consistent with the RTP, it will, as described in more detail in Chapter 4, incorporate the CIP of the CMP into the regional capital programming process for the Regional Transportation Improvement Program (RTIP), subject to specific programming and funding requirements. Under the CMP legislation, in counties that continue to prepare a CMP, all highway and transit projects seeking State funds — as well as any project that will increase the capacity of the multimodal system — must be included in the CMP. These funds include federal Surface Transportation Program (STP) and Congestion Mitigation and Air Quality (CMAQ) program funds, funds programmed through the State Transportation Improvement Program, and bicycle projects funded through the TFCA.

The CMP will be submitted to MTC so that it can evaluate consistency with MTC's RTP and with the CMPs of other counties in the region. Beyond MTC's evaluation of the CMP, all other implementation responsibilities rest with the Authority and local jurisdictions. Regional and State agencies do not have a role in evaluating local compliance with the program.

Bay Area Climate-Protection Context: The Joint Policy Committee and MTC

On July 20th, 2007, the Bay Area Joint Policy Committee (JPC) approved a Bay Area Regional Agency Climate Protection Program. This program has as a key goal: "To be a model for California, the nation and the world." Following from this key goal is a supporting goal: "Prevention: To employ all feasible, cost-effective strategies to meet and surpass the State's targets of reducing greenhouse gas emissions to 1990 levels by 2020 and to 80% below 1990 levels by 2050."

In pursuit of these goals, MTC's RTP has evaluated transportation strategies and investment programs relative to a target of reducing per capita GHG emissions from cars and light trucks in the year 2035 by 15 percent compared to 2005 levels. ABAG has established the same target for assessing alternative land use scenarios in the development of the latest iteration of the region's policy-based forecast of population and employment: the SCS Preferred Scenario (aka Projections 2017). The Bay Area's regional agencies recognize the primacy of the climate change challenge as a driver of public transportation and land use policy, and are embracing the urgency of GHG reduction. The momentum established by these policies and actions to date will carry over into implementation of SB 375, in part through support and cooperation with local governments, CMAs, and others who are critical stakeholders in the development and maintenance of the transportation and land use system.

See Chapter 6: Travel Demand Element for more about the CMA role in implementing SB 375.

1.3 Local Jurisdiction Consistency with the CMP

Local governments must implement some portions of the CMP consistent with the countywide approach described here. The Authority, as Contra Costa County's designated CMA, will evaluate local conformity to the CMP biennially. The Authority will determine if jurisdictions are conforming to the CMP, including, at a minimum:

1. Consistency with LOS standards (the legislation includes provisions for some exceptions);
2. Adoption and implementation of a program to analyze the impacts of land use decisions on the regional transportation system and estimate the costs of mitigating those impacts; and
3. Participation in the development and implementation of a Deficiency Plan when LOS standards are exceeded.

All of these requirements are discussed in detail in this volume.

Under State law, if a CMA finds that a jurisdiction is not conforming with the CMP, and that jurisdiction does not come into conformance with the program within 90 days after receiving a notice of non-conformance, the State Controller will withhold apportionments of gas tax funds to that city or county. The local jurisdiction has 12 months to bring its programs into conformance. If after those 12 months it remains out of compliance, the State Controller will allocate its gas tax allocation to the Authority. The Authority may use the allocation for projects of regional significance that are in the seven-year CIP. The process by which the Authority will evaluate local conformity is described in Chapter 9.

1.4 Relationship between the CMP and the Authority's Growth Management Program

In November 1988, Contra Costa voters passed Measure C, the county's Transportation Improvement and Growth Management Program. Measure C had two main components: a twenty-year half-cent sales tax generating revenues for transportation improvement projects and programs; and a GMP designed to help Contra Costa County plan for and accommodate continued regional growth and development. The GMP outlined a number of steps that each jurisdiction must comply with to receive certain funds through Measure C. (The Authority's GMP Implementation Documents, updated in June 2010, outline how the GMP would be carried out.) Measure J, approved by the voters in 2004, continues the program for an additional 25 years, through 2034.

Two important components of the GMP are the Action Plans for Routes of Regional Significance (Action Plans) and the Countywide Comprehensive Transportation Plan (CTP). The Action Plans assess existing and future travel conditions on regional routes and identify specific actions to be undertaken by each participating agency to achieve the objectives set for each Regional Route. Regional Transportation Planning Committees (RTPCs) are responsible for developing the Action Plans. Action Plans are further described in Chapter 5 and Appendix C.

The CTP is the Authority's broadest policy and planning document. In addition to describing the Authority's vision and goals, the CTP outlines various strategies for addressing transportation and growth management issues within Contra Costa County. The CTP also "knits together" the various Action Plans. The first Action Plans were completed in 1995 and incorporated into the Authority's first CTP. The RTPCs recently updated their Action Plans as part of the 2017 update of the CTP.

SIMILARITIES AND DIFFERENCES BETWEEN THE PROGRAMS

Many of the components of the Authority's GMP are similar to the State's CMP requirements (GMP requirements are summarized in Appendix B.). Also similar is the structure of the two programs: allocation of funds for transportation improvements to local jurisdictions is contingent on local participation in each of the programs. In the GMP, sales tax revenues are allocated annually; in the CMP, compliance with this countywide program is required for a jurisdiction to continue to receive its annual portion of gas tax revenue.

Compliance with the GMP is to be evaluated by the Authority biennially using a Compliance Checklist. In preparing the CMP, an effort has been made to emphasize the similarities in the two programs to create a unified set of Authority policies and to simplify implementation.

The CMP and the CTP required by the Measure J GMP differ in their focus. The CMP focuses on the more short-term, programmatic aspects of operating, maintaining and improving the transportation system. The CTP focuses more on the Authority's longer-term policies and programs for the transportation system and growth management. For example, the CMP addresses operation of the transportation network through the monitoring of current levels of service, while the Action Plans and the CTP look at future achievement (or non-achievement) of the MTSOs established for transportation system in Contra Costa. Where there is overlap, such as in the required evaluation of land use changes and their effect on the transportation system, the Authority has tried, to the extent possible, to use the same process. The integration of the two cannot be total, however. The Joint Powers Agreement that established the Authority as the CMA for Contra Costa provided a clear delineation between the two programs.

UPDATING THE ACTION PLANS, CTP AND CMP

Unlike the State requirement for biennial updates of a county's CMP, Measure J does not set a specific schedule for updating the CTP. We expect that major updates of the CTP will occur every four or five years following, roughly, the schedule of the RTP. This schedule will continue the pattern of major updates of the CTP. Following the adoption of the first CTP and Action Plans in 1995, the plan had major updates in 2000, 2004, and 2009. The Action Plans were also comprehensively updated in 2000 and 2009. Updates to the Action Plans commenced in early 2013 and were completed in early 2015, with final updates provided in early 2017. These updated Plans are incorporated into the 2017 CTP, adopted in September 2017.

1.5 CMP Preparation, Review and Adoption

CMPs are developed with the participation of several groups, including:

Contra Costa Transportation Authority As the CMA, the Authority reviewed and approved circulation drafts of the CMP and adopted the final CMP at a noticed public hearing. The Authority's Planning Committee has reviewed all sections of the CMP.

Technical Coordinating Committee (TCC) The TCC and its various subcommittees provided the first level of review of the CMP. In addition to Authority and local government staff, the TCC includes members representing the State Department of Transportation (Caltrans), MTC, and the County's five transit operators (listed below).

Regional Transportation Planning Committees (RTPCs) Drafts of the CMP components were circulated to the County's four RTPC's as the principal means of involving local decision-makers in the process. The RTPCs have also appointed staff members to the TCC. Figure 2.2 in the following chapter shows the boundaries of the RTPCs and the Routes of Regional Significance.

Citizen's Advisory Committee (CAC) The CAC, which serves as the Authority's citizen's advisory committee, provides oversight on key CMP policies.

Transit Agencies Representatives of the five transit agencies serving Contra Costa County (AC Transit, County Connection, Tri Delta Transit, WestCAT and BART) have participated in preparation of the CMP in several ways. Agency staff members have been active in the Bus Transit Coordinating Council and the TCC, and agency board members participate as members of some of the RTPCs.

Other Public Agencies Consultation with the Bay Area Air Quality Management District (BAAQMD) and with Alameda, Solano and San Joaquin counties has occurred at the staff level. CMP Appendix F describes the relationship between the CMP and the BAAQMD's Transportation Control Measures. MTC staff has participated in the TCC, and has provided general assistance relating to the interpretation of CMP requirements.

Local jurisdictions, transit agencies and other potential project sponsors were asked to review their projects listed in the CTPL, and add or edit accordingly, as a basis for updating the CMP CIP to ensure that all projects and programs that they hoped to pursue over the next seven years are included. Transit agencies were also asked to review the transit standards for routing and frequency included in the performance element in Chapter 3. The TCC has reviewed the draft components of the CMP up-

date, including the CIP. The Authority then will adopt the final 2017 CMP Update at a noticed public hearing.

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Chapter 2

CMP Network and Standards

STATE REQUIREMENTS

The State CMP legislation requires each CMA to designate a system of highways and roadways and establish traffic LOS standards for that transportation network. At a minimum, this CMP network must include all State highways and principal arterials. Once designated, a CMA cannot remove a roadway from the network.

Levels of service must be measured by either Circular 212, the most recent version of the Highway Capacity Manual, or by a uniform methodology adopted by the CMA that is consistent with the Highway Capacity Manual. MTC is responsible for determining whether any alternative method is consistent with the Highway Capacity Manual. Level-of-service standards cannot be set below the LOS E or the current level, whichever is farthest from level of service A. Failure to attain the established LOS standard, after required exclusions are made, will trigger the need for a deficiency plan (see Chapter 8 on Deficiency Planning).

Each CMA must monitor, at least every other year, whether these LOS standards are being met on the designated CMP network. Caltrans is responsible for collecting data on State highways and the Authority is responsible for collecting data on other components of the CMP network.

CHANGES FROM THE 2015 CMP

The 2017 CMP Update has kept the CMP network and LOS standards previously established. As part of its update of the *Technical Procedures* in 2012, the Authority changed its LOS methodology from the Circular 212 method ("CCTALOS"), to the delay-based 2010 Highway Capacity Manual (HCM) methodology. Recent legislation, SB 743, passed by the California State Senate in September 2013, affects the use of LOS as a finding of significance in CEQA analysis. Since CMP is not a CEQA document, the change under SB 743 has no immediate impact on the use of LOS in the CMP. However, upon adoption of the updated CEQA Guidelines by the California Department of Natural Resources, it is anticipated that the LOS requirement currently found in the CMP legislation may be amended to more closely match the changes in CEQA law.

2.1 CMP Network

DESCRIPTION OF CMP NETWORK

The CMP must include a road network designated by the Authority that includes, at a minimum, all State highways and principal arterials. Because of its importance as part of the county's transportation system, BART is included in the CMP network. Once designated, no road may be removed from the system, although roads may be added as part of the required biennial CMP update.

In accordance with the legislation, all State highways in the county are shown on the map of the CMP network (Figure 2.1). The mandatory inclusion of "principal arterials" is more difficult to interpret because there is no statutory definition of the term for the purposes of the CMP. MTC has noted that while the federal functional classification system defines principal arterials, other definitions exist. MTC will require consistency on facilities that cross county boundaries and will use its Metropolitan Transportation System (MTS) as a basis for its review.

RELATIONSHIP BETWEEN CMP NETWORK AND ROUTES OF REGIONAL SIGNIFICANCE

The CMP network is a subset of the network of Routes of Regional Significance adopted by the Authority. The network of Regional Routes is shown on Figure 2.2. With adoption of the 2017 Update to the CTP and related updates to the Action Plans for Routes of Regional Significance, the CMP includes new or refined projects and programs from the Action Plans. The adopted system of Routes of Regional Significance for the GMP is included in the CMP to underscore the Authority's current

efforts to address land use decision impacts and transportation service objectives on a comprehensive route system.

Figure 2-1: Contra Costa CMP Network

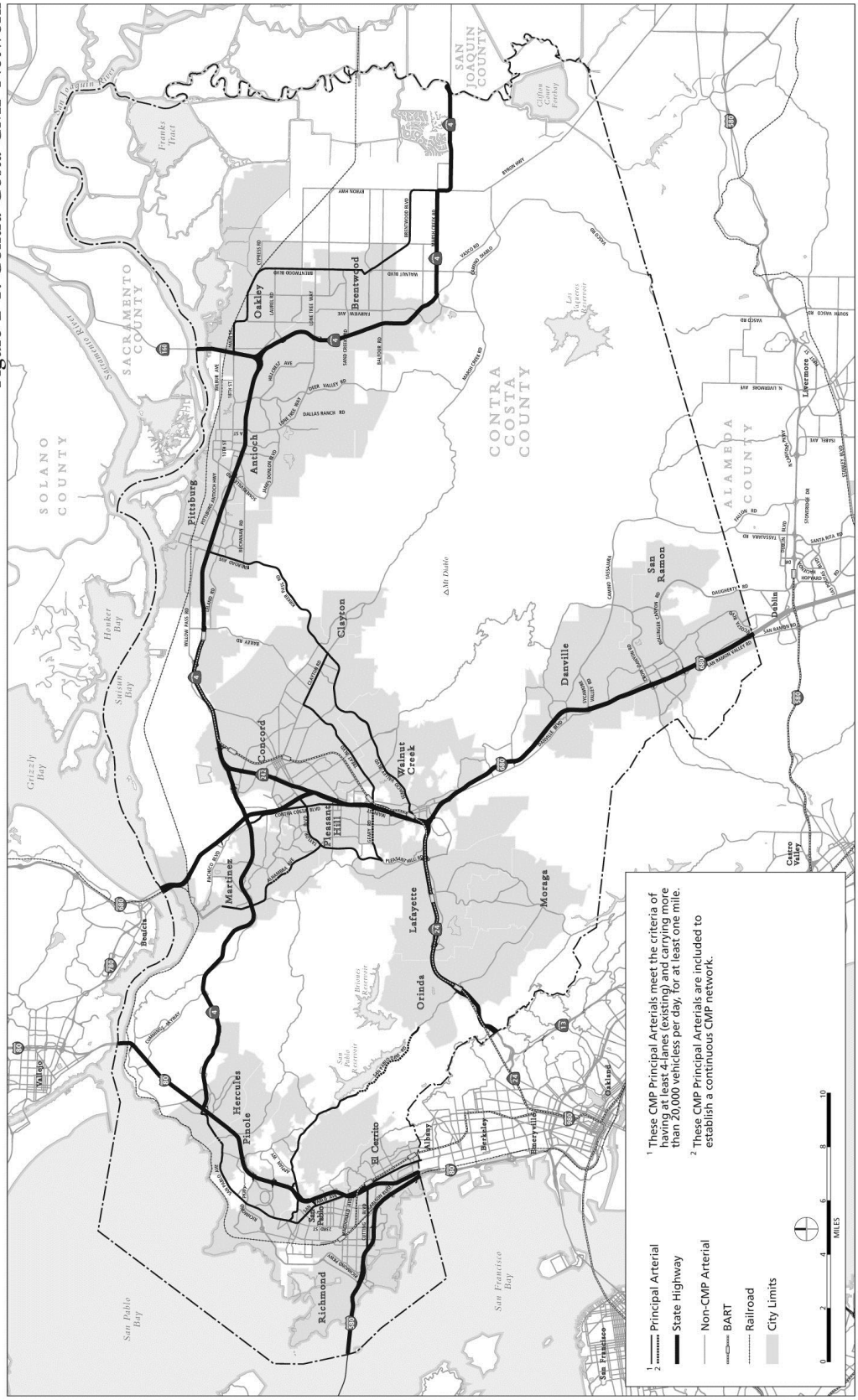
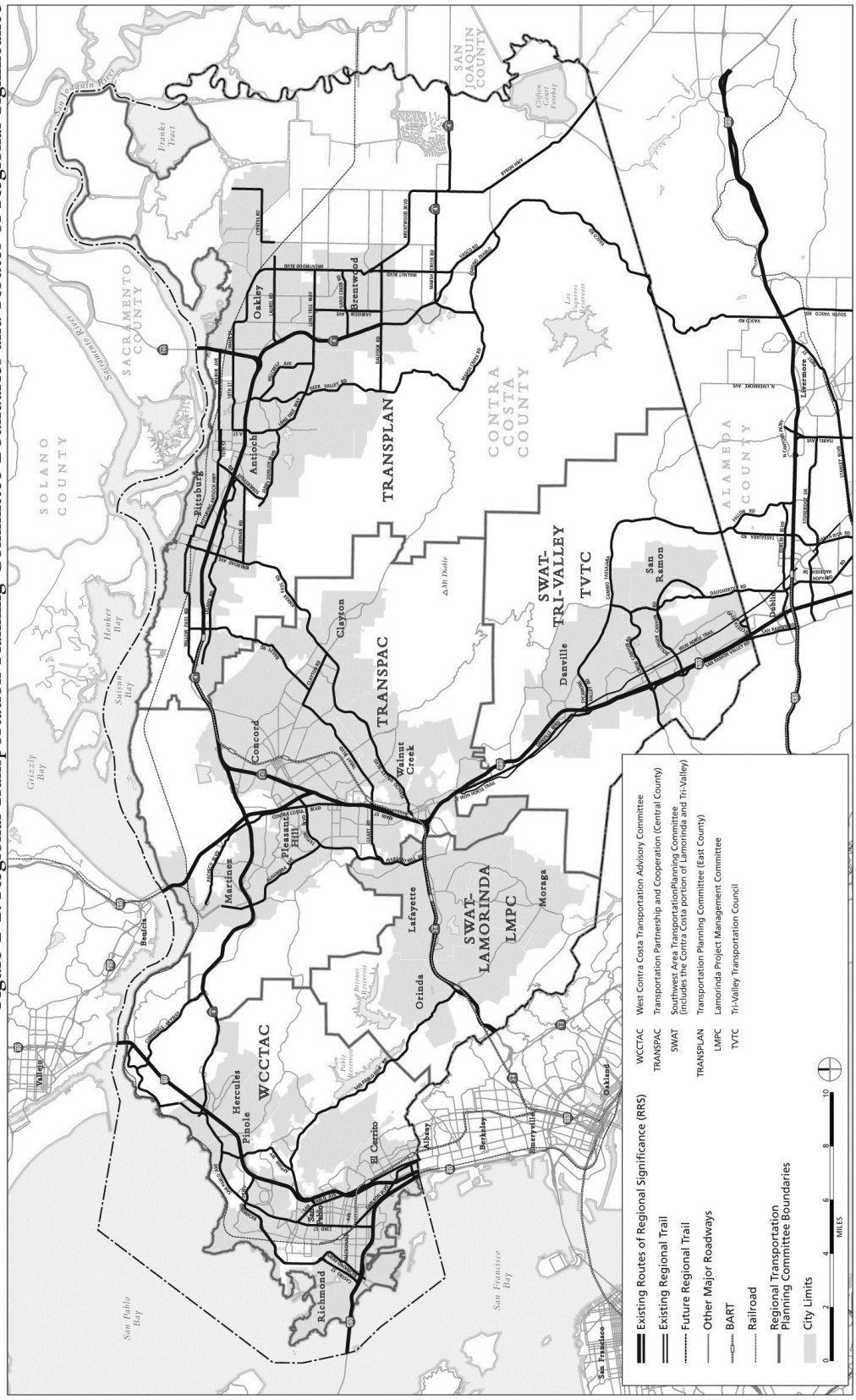


Figure 2-2: Regional Transportation Planning Committee Boundaries and Routes of Regional Significance



SIGNIFICANCE OF CMP NETWORK DESIGNATION

For all of the roads on the CMP network, the CMP must establish traffic level-of-service standards. The Authority, as the CMA, will monitor the implementation of all elements of the CMP, partly by conducting a biennial determination of local conformity with the program. This conformity determination must include analysis of consistency with the CMP's level-of-service standards.

The other part of the CMP statute that refers to the adopted standards (and indirectly to the designated network) is the requirement for a seven-year capital improvement program (CIP) that "maintain[s] or improve[s] the performance of the multimodal system for the movement of people and goods." This requirement suggests that the CIP need not be limited to projects on roads included on the designated CMP network; projects on other, non-designated roads may be included if they maintain or improve performance on the multimodal system.

CMP NETWORK POLICY

The Authority recognizes that designation of an arterial within a jurisdiction might place a financial or socio-economic hardship upon that jurisdiction if it were held responsible for major capital improvements. Therefore, it is the intent of the Authority to:

- Grant special priority for State or federal funding to CMP network or related improvements;
- Recognize that jurisdictions with a concentration of CMP routes deserve special consideration in the development of Action Plans and Deficiency Plans, (Authority staff would work closely with local jurisdictions to facilitate the preparation of Deficiency Plans to meet statutory requirements);
- Give first funding priority to projects that address deficiencies in the CMP network as defined in adopted Deficiency Plans; and
- Recognize that improvements to local arterials within a jurisdiction will be made only with the approval of the local jurisdiction.

DESIGNATION OF PRINCIPAL ARTERIALS

The flow chart in Figure 2.3 illustrates the methodology used in designating CMP routes. All roads meeting three conditions are included in the network:

1. The road is four lanes or wider for at least one mile;
2. Average daily traffic on the road equals or exceeds 20,000 vehicles per day for a segment of one mile or greater; and

3. The road has been designated by the appropriate RTPC as a Route of Regional Significance.

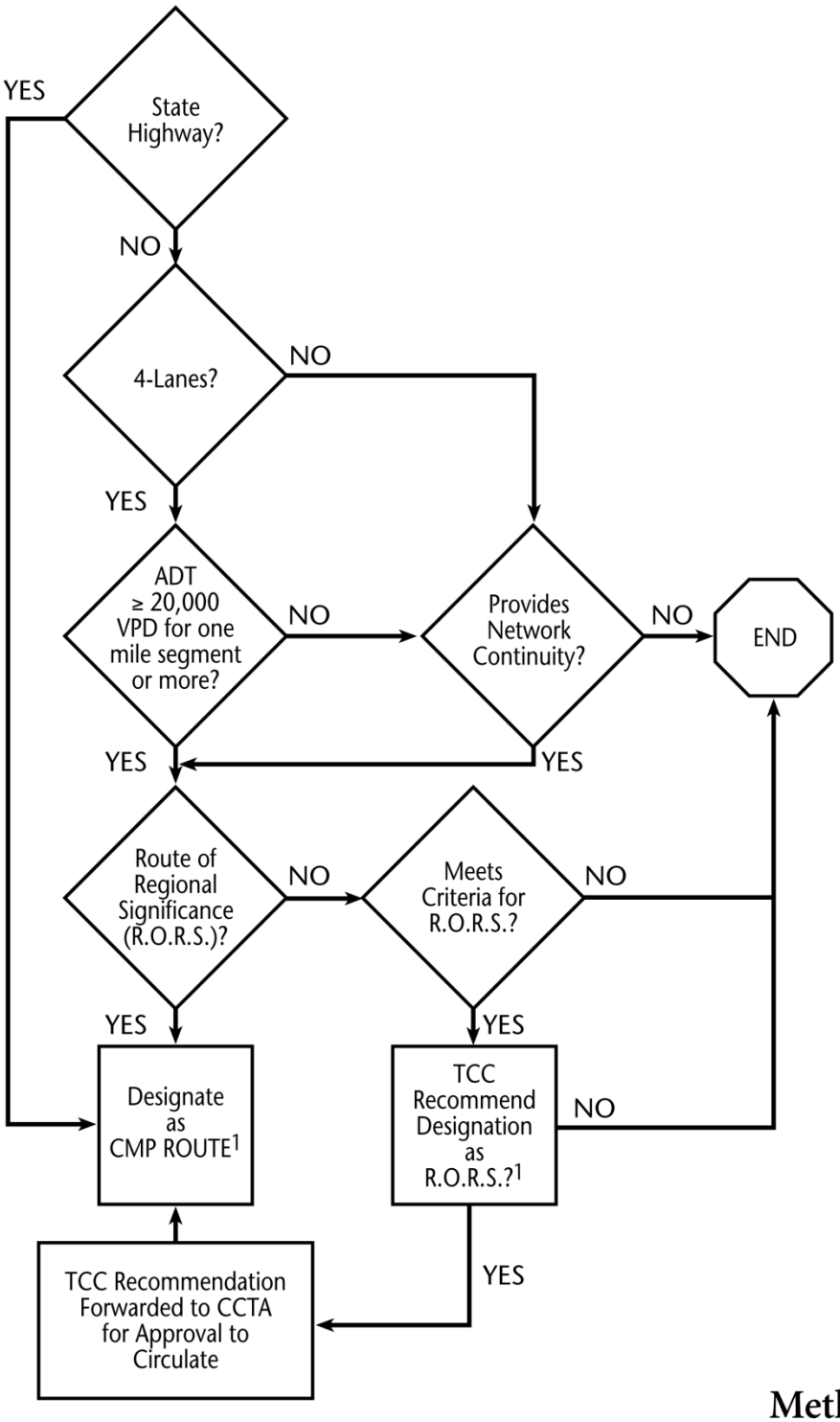
After reviewing the network of roadways that met these criteria, additional roads were added because they provide CMP network continuity. The CMP network was reviewed by the TCC and the RTPCs. Subsequent to the "State Route 4 Bypass" being adopted into the State Highway System, the Authority began biennial monitoring of the 4-6 lane freeway segment between SR-160 and Sand Creek Road starting in 2015, and will expand monitoring to the south as the freeway segments are constructed and completed.

DESIGNATION OF CMP MONITORING INTERSECTIONS

The Authority monitors the functioning and performance of principal arterials on the CMP network through a series of CMP Monitoring Intersections. These CMP Monitoring Intersections were designated according to the following criteria:

1. Considered a major intersection on the CMP Network (that is, the crossing of two arterials and representative of local traffic conditions);
2. The intersection of two CMP routes, including signalized freeway ramp locations; or
3. At the end of the CMP route or within the route such that there was no data available for nearby adjacent intersections.

The Authority may add new CMP Monitoring Intersections that meet the criteria for designation, either on a short- or long-term basis. These new intersections would be added as necessary if new CMP routes are designated, or when traffic impacts from significant new development or new transportation projects within the county or region significantly change the performance of the CMP network. Level-of-service standards for new Monitoring Intersections will be established using the standards for signalized intersections between Monitoring Intersections outlined in Appendix D. Jurisdictions may be able to establish a LOS standard of F for intersections on the CMP network if they can show that the intersection operated at LOS F in or before 1991.



[1] Designation subject to approval by Regional Transportation Planning Committees.

Figure 2.3
Methodology for Designating CMP Network

2.2 Level-of-Service Standards

STATE REQUIREMENTS FOR LOS STANDARDS

CMP legislation requires that every CMA adopt LOS standards for the designated CMP network. The CMP legislation states that, "In no case shall the LOS standards established be below level of service E or the current level, whichever is farthest from level of service A…." (Govt. Code 65089[b][1][B]) Therefore, if the current level of service is F, representing significant congestion, the LOS standard can be set at level of service F. Alternatively, if the current level of service is A, the CMA has the option of setting the LOS standard between the existing level A and the lowest allowable level of service E.

After reviewing the network of roadways that met these criteria, additional roads were added because they provide CMP network continuity. The CMP network was reviewed by the TCC and the RTPCs.

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The Authority may add new CMP Monitoring Intersections that meet the criteria for designation, either on a short- or long-term basis. These new intersections would be added as necessary if new CMP routes are designated, or when traffic impacts from significant new development or new transportation projects within the county or region significantly change the performance of the CMP network. LOS standards for new Monitoring Intersections will be established using the standards for signalized intersections between Monitoring Intersections outlined in Appendix D. Jurisdictions may be able to establish a LOS standard of F for intersections on the CMP network if they can show that the intersection operated at LOS F in or before 1991.

DETERMINATION OF LEVELS OF SERVICE

The CMP establishes two types of LOS standards: standards for freeway segments and standards for CMP Monitoring Intersections on principal arterials. The first Contra Costa CMP adopted in 1991 described in detail the process used to establish these LOS standards (Please refer to the 1991 CMP for this description). For both freeway segments and CMP Monitoring Intersections, an analysis of existing conditions was used to identify locations at LOS F and to determine appropriate standards.

Freeways The Authority initially established freeway LOS standards in 1991 by comparing traffic volumes, travel speeds and Caltrans' 1990 Congested Highways Locations Map. Where any of these data indicated LOS F, the 1991 CMP assumed that the freeway segment operated at LOS F. Since speed is a controlling factor in determining LOS F locations, new travel speed measurements were subsequently made on those segments with a preliminary assessment of LOS E. Table 3-1 of the 1985 Highway Capacity Manual was used to determine the level of service corresponding to the given freeway segments, and all freeway segments where LOS F was detected were so assigned.

CMP Monitoring Intersections The Authority used available traffic count information and the procedures outlined in the Authority's Technical Procedures to determine intersection LOS (see methodology change discussion below). Un-signalized CMP Monitoring Intersections were analyzed as signalized intersections. Where it was suspected that the calculated LOS did not accurately reflect existing levels of congestion, supplemental field observations were conducted. Observations of LOS E were changed to LOS F where the field observation found long traffic signal cycle length or long queues. (See Section 2.4 below for a description of the frequency and method of monitoring levels of service on the CMP network.)

FREEWAY SEGMENT LEVEL OF SERVICE STANDARDS

The LOS standards for freeway segments on the CMP network are shown in Figure 2.4 and listed in Appendix D. The LOS standards were set by direction for each freeway segment and are based on the peak period LOS results for that segment. For example, for State Route 24 between Interstate 680 and Pleasant Hill Road, the peak period for westbound traffic occurs in the morning and the peak period for eastbound traffic takes place in the evening. The LOS standards reflect these peak period conditions accordingly. Freeway segments were set at LOS E standard unless any of the available data indicated LOS F.

THE 2017 CMP UPDATE KEEPS THE FREEWAY SEGMENT LOS STANDARDS THE SAME AS IN PREVIOUS CMPS. THE MONITORED LEVEL OF SERVICE ON FREEWAY SEGMENTS, HOWEVER, CAN CHANGE BASED UPON THE

AUTHORITY'S BIENNIAL WILL OF REVIEW TRAVEL TIME AND SPEED DATA COLLECTED BY CALTRANS AND SUPPLEMENTED BY FIELD COLLECTION OF DATA.INTERSECTION LEVEL OF SERVICE METHODOLOGY CHANGE

MTC guidance from the 2011 CMPs recommended Bay Area CMAs consider adopting the most recent Level-of-Service methodologies from the 2010 Highway Capacity Manual (HCM), in order to have a consistent platform with which to determine traffic service levels across jurisdictions. The 2011 CMP indicated that the Authority's technical committees - the Technical Modeling Working Group (TMWG) and Technical Committee - would consider the HCM methodologies.

Starting in mid-2012, as part of the update of the Authority's *Technical Procedures*, the TMWG began looking into the HCM methodology, its advantages, disadvantages, and compatibility with current practices and policies. The TMWG received a comparison of calculations on 65 Contra Costa CMP intersections, and in the majority of locations, the results were the same or comparable with the existing CCTALOS methodology, with no locations becoming deficient.

TMWG members supported the transition away from CCTALOS to the HCM methodology, and this recommendation was approved by the TCC, and ultimately, the Authority upon adoption of the *Technical Procedures* update in December 2012. Guidelines were developed for using the HCM methodology and are included as an appendix in the *Technical Procedures*.

Changes to the use of LOS in future CMPs will be subject to the adoption of changes to the CEQA guidelines' transportation metric under SB743. At that time, LOS will no longer constitute a "finding of significance", and it is expected that CMP legislation will be amended to address the new metric, presumed to be Vehicle Miles Traveled (VMT). See discussion below.

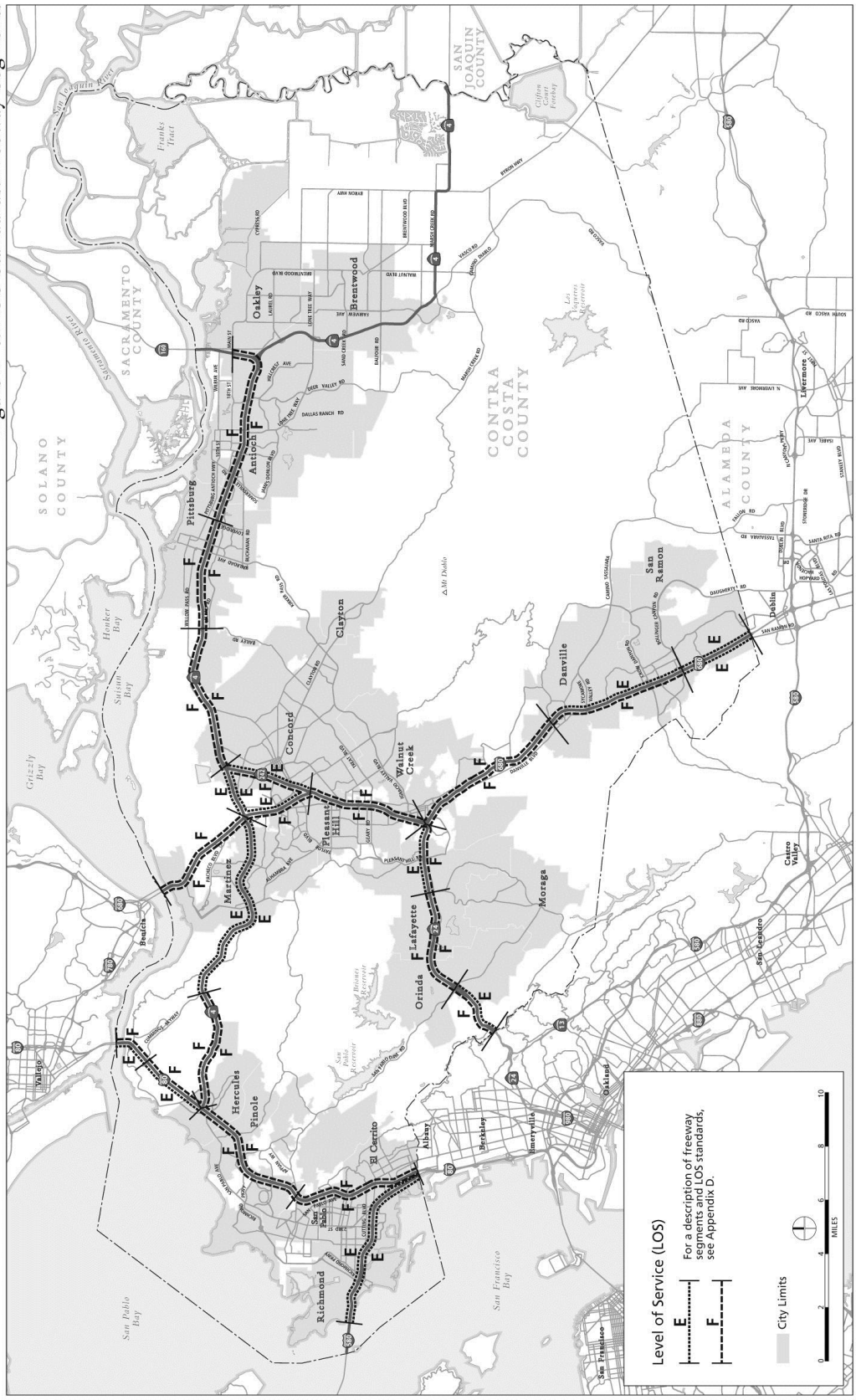
SB 743 IMPACT ON USE OF INTERSECTION LEVEL OF SERVICE

Passed by the California legislature in September 2013, SB 743 removed Level of Service (LOS) as a standard of significance under CEQA. The legislation called for the Governor's Office of Planning and Research (OPR) to revise the CEQA Guidelines and provide an alternative measure for determining the impact of new development and transportation improvements. The rationale for the change in traffic impact analysis under CEQA is that in in-fill locations, LOS standards primarily impact the "last in", or the latest development in a particular location, due to cumulative impacts, while earlier developments don't exceed the LOS standard. As part of its initial discussion paper on the change in CEQA guidelines issued in July 2014, OPR has recommended the use of Vehicle Miles Traveled (VMT) as the new measure that would serve as the replacement for LOS. VMT could be measured as on a per capita

basis, or on the entire project, but the specifics are still being refined as affected agencies and interested parties continue to provide feedback to OPR staff.

Implementation of the new measure would initially take place in Transit Priority Areas (TPAs), which are locations currently served by frequent, "quality" transit. Many of the TPAs in Contra Costa are around BART stations and already established Priority Development Areas (PDAs). Adoption of the CEQA Guidelines using the new VMT-based metric is scheduled for adoption in 2017 by the California Natural Resources Agency, with full implementation statewide expected in 2019. An Assembly bill was introduced in February 2015, AB 1098 (Bloom), which sought to make changes to CMP legislation, and would incorporate the new measure (to be determined by OPR) into the CMP process, replacing the long-standing LOS standard in CMPs. However, this bill has been inactive since 2016 and a replacement bill is expected once CEQA guidelines are adopted.

Figure 2-4: LOS Standards: Freeway Segments



LEVEL OF SERVICE STANDARDS FOR CMP MONITORING INTERSECTIONS

Figures 2.5, 2.6 and 2.7 identify the LOS standards for CMP Monitoring Intersections in West, Central and East County, respectively. (Standards for each CMP Monitoring Intersection are also listed in Appendix D.) As with the freeway segments, the intersection LOS standards were based on peak period (A.M. or P.M.) conditions.

The standard for intersections operating at LOS F in 1991 was set at LOS F; the standard at all remaining intersections was set at LOS E.

LEVEL-OF-SERVICE STANDARDS FOR OTHER INTERSECTIONS ON THE CMP NETWORK

Level-of-service standards apply to all signalized intersections on the CMP network, not just to CMP Monitoring Intersections. LOS standards for both CMP Monitoring Intersection and signalized intersections that lie between CMP Monitoring Intersections are shown in Appendix D. A LOS standard of E has been applied to intersections that lie between Monitoring Intersections that have an LOS E standard. A LOS standard of F has been applied to intersections that lie between Monitoring Intersections that have a LOS F standard.

Table 2.4-1 Frequency Of CMP Monitoring

LOS Standard	*LOS in Most Recent Monitoring Report*	*Period of Monitoring*
E	LOS A–D (≤v/c 0.9)	Biennial
E	LOS E (> v/c 0.9)	Annual
E	LOS F (≥ v/c 1.0)	Annual
F	Already at LOS F	Biennial*

* For informational purposes only; Deficiency Plans not required.

2.3 Level-of-Service Methodology

Different methods of calculating LOS are needed for the two types of roads: one that applies to signalized intersections and one that applies to freeway segments. For CMP monitoring purposes, un-signalized intersections will be analyzed as signalized intersections.

The method for basic freeway levels of service established in the Highway Capacity Manual is used to monitor LOS standards on the freeways in Contra Costa. The method of calculating intersection LOS outlined in the Authority's Technical Procedures is used to monitor intersection LOS.

Figure 2.5 – LOS standards: CMP Monitoring Intersections, West County

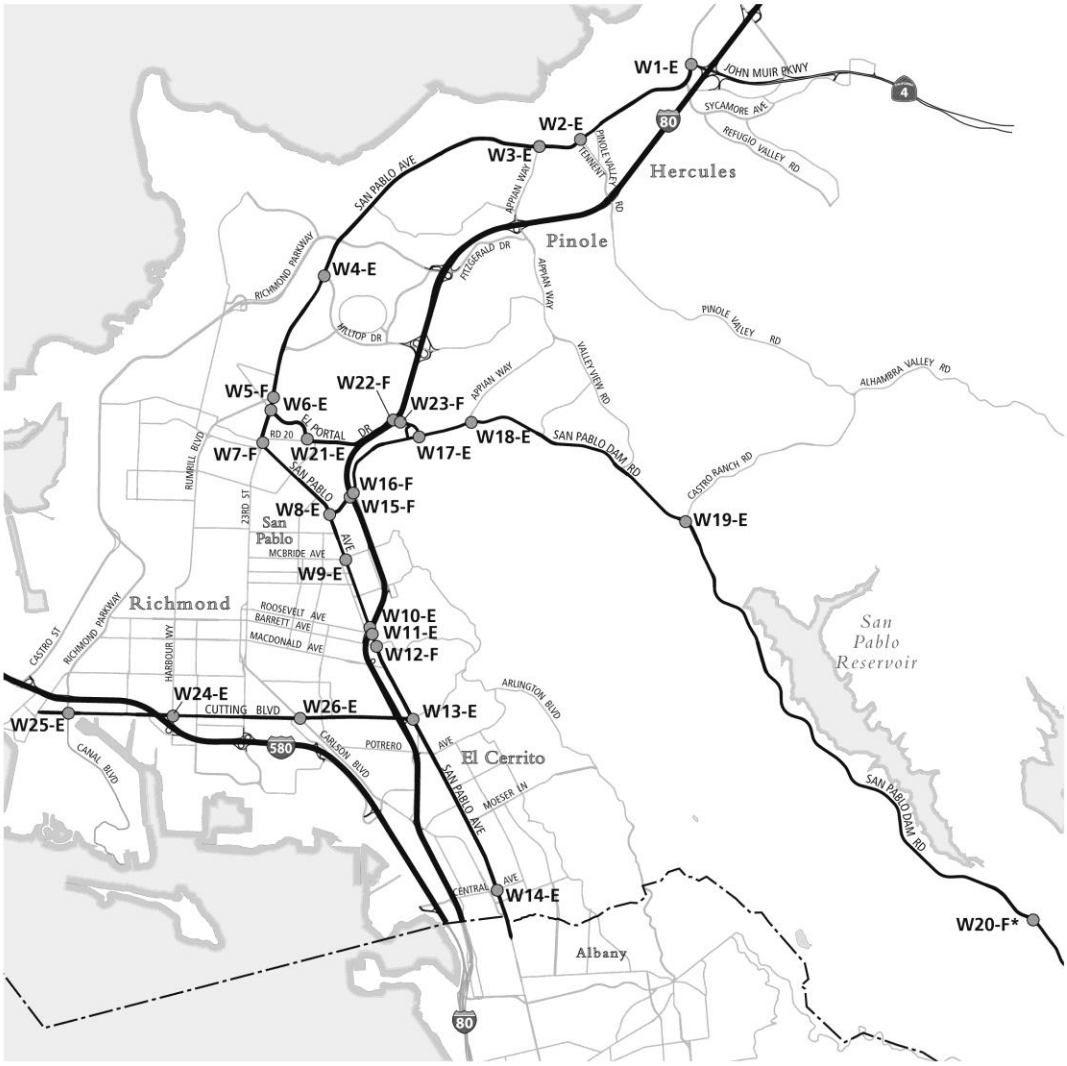


Figure 2.6 – LOS standards: CMP Monitoring Intersections, Central County

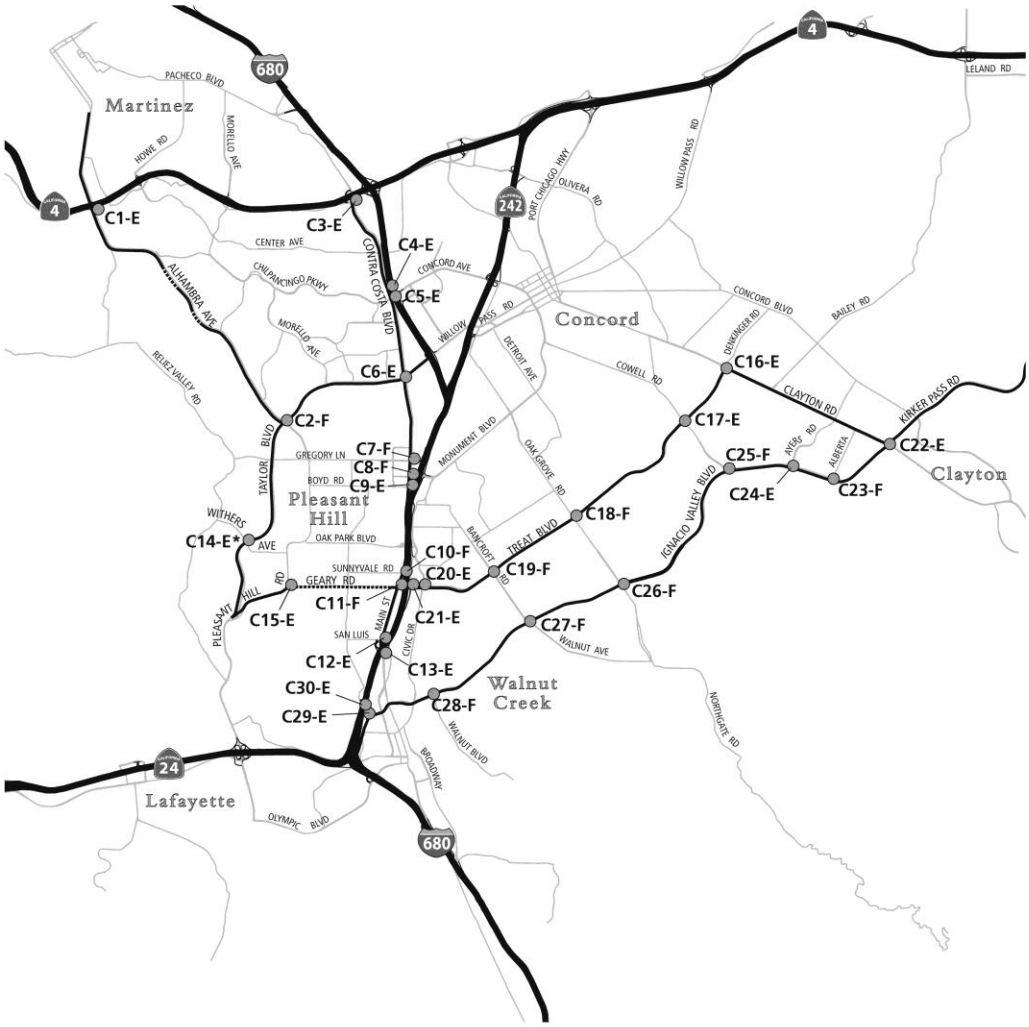
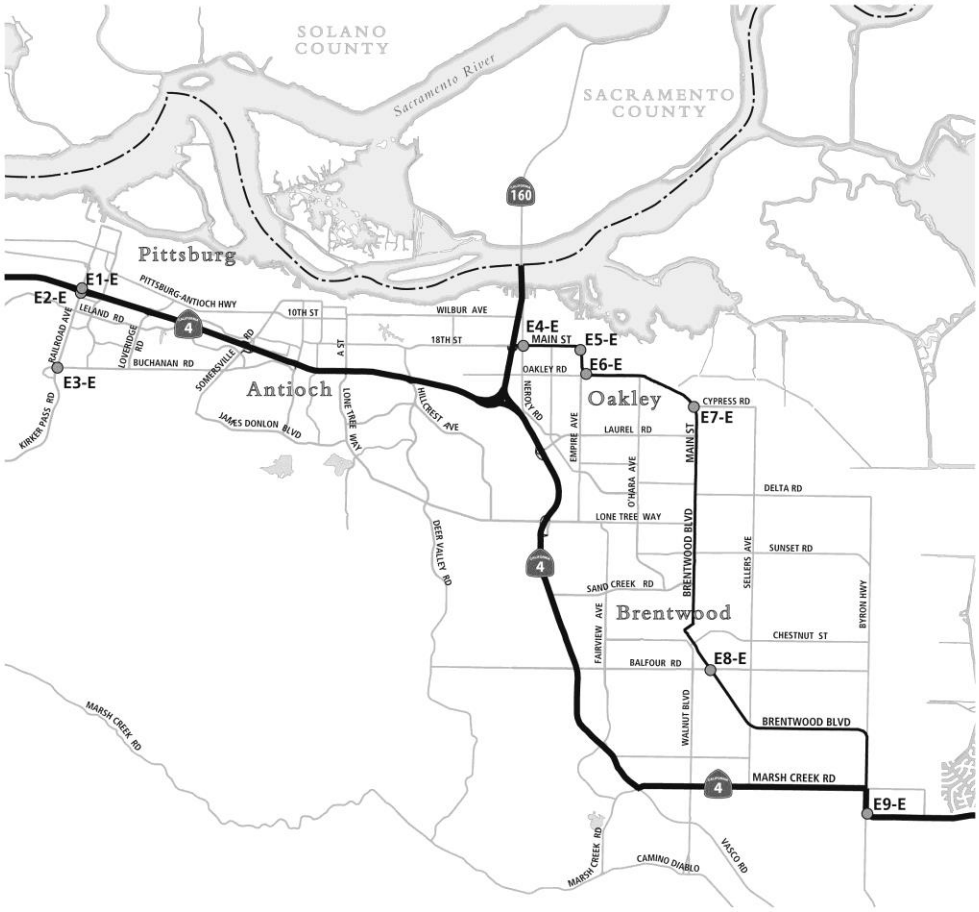


Figure 2.7 – LOS standards: CMP Monitoring Intersections, East County



2.4 Monitoring of LOS Standards

Levels of service on most freeway segments and CMP Monitoring Intersections on the CMP network are monitored biennially to determine if the standards are being met. Monitoring data for the current CMP cycle was collected in the March-May 2017 timeframe. Annual monitoring may also occur on freeway segments where speeds of less than 35 miles per hour are measured or at CMP monitoring intersections where the level of service standard is exceeded.

Annual monitoring may also be conducted where historic traffic patterns have been significantly altered. For example, traffic conditions would be considered "significantly altered" adjacent to major new development projects where the traffic impact analysis performed for the development predicts a potential exceedance of the adopted level of service standard at a monitoring intersection upon project occupancy.

The Authority manually collects turning movement counts at CMP Monitoring Intersections with LOS E standards. The CMP legislation requires that data collection and analysis be conducted by Caltrans for freeways and State highways. To meet this requirement, the Authority has historically used travel-time runs using "probe" vehicles. More recently, the Authority has used data obtained from the California Freeway Performance Management System (PeMS - internet-based Caltrans operations data), supplemented by Bluetooth™ (proprietary third-party vendor-based) data to evaluate freeway LOS. Beginning with the 2015 CMP, the Authority is using Inrix™ data as the input for its freeway LOS calculation. This data was provided to the Bay Area CMAs by MTC, and is used to determine average speed on Contra Costa freeways. Prior to using the Inrix™ data as part of the 2015 CMP system monitoring, the Authority prepared a full validation report comparing the Inrix™ data for 2013 with the monitoring results from the 2013 CMP and MTSO monitoring results.

Some trips — interregional travel, trips not originating in Contra Costa County, trips generated by low- and very-low- income housing or high-density development near fixed-rail passenger stations — must be excluded when calculating whether a deficiency exists on the CMP network. (See Chapter 8 for a summary of how exclusions would be made; see the Deficiency Plan Procedures for a detailed explanation of how exclusions are calculated.)

(Results from the most recent monitoring of LOS standards are reported in Appendix J[1]).

2.5 Local Compliance with CMP Level-of-Service Standards

At least every other year, the Authority must determine if the County and cities are in compliance with the CMP, including consistency with LOS standards described in this chapter. If these standards are not met and the deficiency remains even after making required exclusions, local jurisdictions may be required to work together to prepare a Deficiency Plan. The Deficiency Plan must identify the most effective strategies for improving current and future system performance. The conditions of and method for determining local compliance with the CMP are described in Chapter 9.

1 Forthcoming

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Chapter 3

Performance Element

Each CMP must include a performance element that includes measures to evaluate the current and future performance of the multi-modal system for the movement of people and goods. At a minimum, the performance measures must address highway and roadway system performance, the frequency and routing of public transit, and the coordination of transit service provided by separate operators. The performance measures must support mobility, air quality, land use, and economic objectives. Each CMA must use the performance measures in the development of the capital improvement program, deficiency plans, and the land use analysis program.

The CMP legislation defines a performance measure as "an analytical planning tool that is used to quantitatively evaluate transportation improvements and to assist in determining effective implementation actions, considering all modes and strategies." Unlike LOS standards, the exceedance of a performance measure will not require the preparation of a deficiency plan.

3.1 The Multimodal Transportation System

The multimodal transportation system that serves Contra Costa includes roadways, transit systems, and pedestrian and bicycling facilities as well as other programs to improve the efficiency and operation of the system.

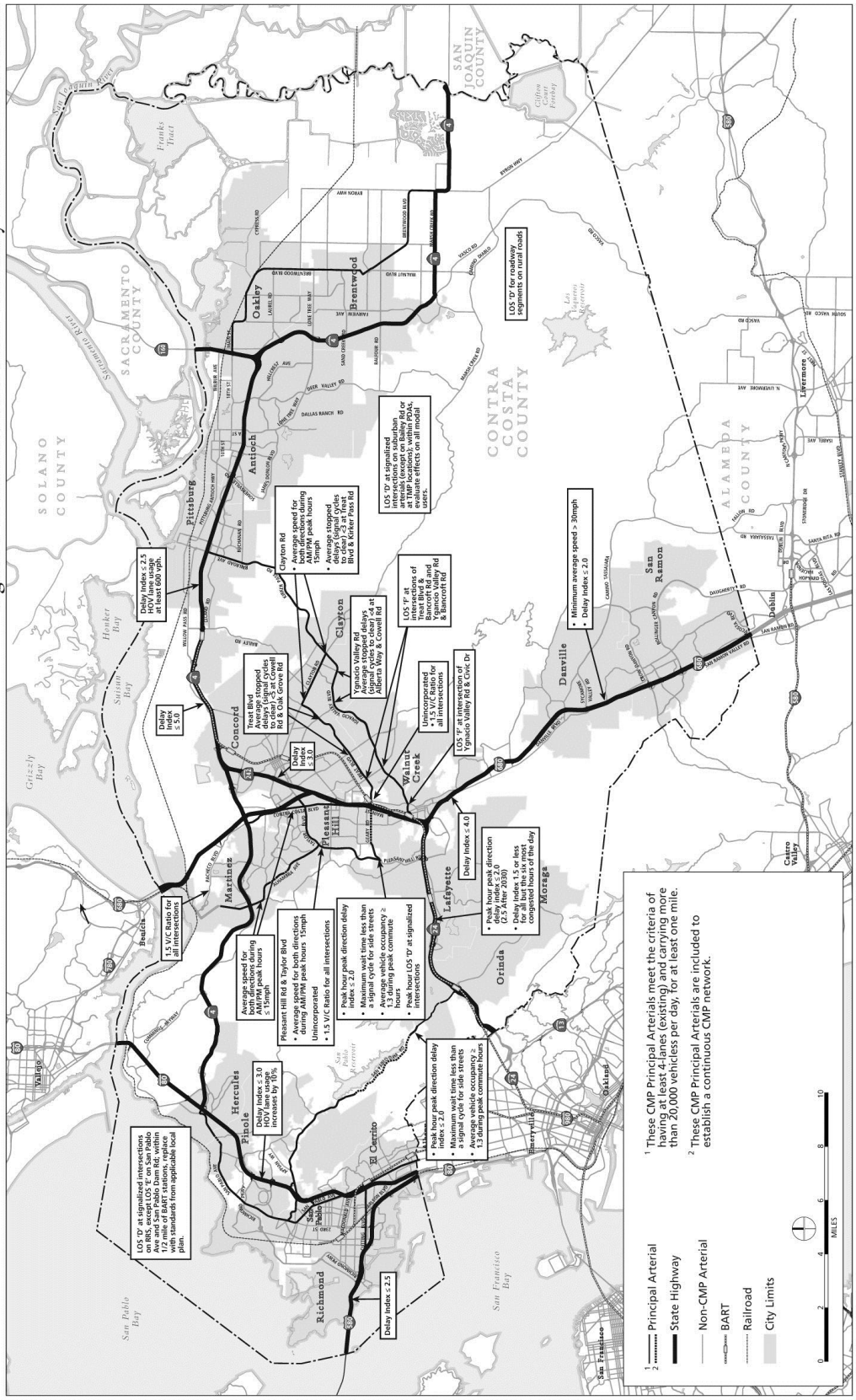
ROADWAY COMPONENT

The hundreds of miles of roads and streets that make up the roadway system of Contra Costa County range from freeways and major arterials to local collector streets and rural roads. The county's freeways include portions of both the federal interstate system (I-80, I-580 and I-680) and State freeways (State Routes 4, 24, 160 and 242). State highways also include the non-freeway portions of State Route 4 in West and East County as well as State Route 123 (San Pablo Avenue) in El Cerrito and Richmond. These freeways and other State highways are designated as both Routes of Regional Significance (in the sub-regional Action Plans) and as part of the CMP network. Performance measures on the combined CMP and Routes of Regional Significance networks are shown in Figure 3.1.

Contra Costa also includes many arterial and collector streets. The most important of these streets are designated as part of the CMP network, Routes of Regional Significance or both. These two networks of streets and highways are shown in Figures 2.1 and 2.2, respectively.

The majority of roadway miles, however, are either local streets or rural roads. Many of these streets and roads individually carry relatively little traffic but are essential for access and mobility throughout the county and region. The State CMP legislation does not require LOS standards for these more local streets. While the Measure C GMP required each jurisdiction to set local LOS standards for these non-regional routes, Measure J discontinues this requirement.

Figure 3-1: Contra Costa CMP Roadway Performance Measures



TRANSIT COMPONENT

Contra Costa County is served by five public transit operators. Four of these operators — AC Transit, County Connection, Tri Delta Transit, and WestCAT — provide bus service in various parts of the county. The fifth, BART, serves many of the county's urban areas with frequent fixed-rail mass transit services.

Alameda-Contra Costa Transit District (AC Transit) AC Transit, the largest bus system within Contra Costa County, provides services within the western portions of the county. The Contra Costa communities served directly by AC Transit include the cities of El Cerrito, Richmond, San Pablo and Pinole, as well as the unincorporated areas of Kensington, East Richmond Heights, Rollingwood, North Richmond, and El Sobrante. Its service links the County to the older parts of the East Bay in Alameda County, to San Francisco through its express bus service to the Transbay Terminal and to the BART system through its service to stations in Contra Costa and Alameda Counties.

AC Transit operates 72 local routes, 31 Transbay lines to San Francisco and the peninsula, six overnight routes (generally between midnight and 5am), 50 supplemental school-day routes, and two contracted services (downtown Oakland shuttles).

Bay Area Rapid Transit District (BART) The BART rail system encompasses 112 miles of double mainline track serving Alameda, Contra Costa, San Mateo and San Francisco Counties. In total there are 46 stations in the system. The BART system is designed to provide rail access to the major employment centers of these three counties from adjoining residential areas. BART also provides connections to the regional rail network, including the Capitol Corridor at Richmond and Coliseum Stations, the San Joaquins at Richmond Station, and Caltrain at Millbrae Station.

10 stations are sited in Contra Costa, including Richmond, El Cerrito del Norte and El Cerrito Plaza in West County; Orinda an d Lafayette in Lamorinda; Walnut Creek, Pleasant Hill/Contra Costa Centre, Concord, and North Concord/Martinez in Central County; and Pittsburg-Bay Point in East County. A transfer station is currently under construction as part of the eBART project, which will ultimately include new stations along SR-4 at Railroad Avenue in Pittsburg and at Hillcrest Avenue in Antioch upon opening of the line in 2018. The Railroad Avenue station will be known as the "Pittsburg Center Station" and will have no parking facilities, while a large parking lot has been constructed for the Hillcrest Avenue Station, and is currently being utilized as a park and ride lot for Tri-Delta Transit riders.

County Connection County Connection provides bus service within central Contra Costa County from Martinez to San Ramon and from Orinda to Clayton. Most of its 33 bus routes connect with one of the seven BART stations within the service area. The County Connection also provides seven express bus routes within its service area, including service in the I-680 corridor to Bishop Ranch in San Ramon from the Walnut Creek and Dublin BART Stations, the Pleasanton ACE station, and from Martinez and Antioch to Walnut Creek BART.

Eastern Contra Costa Transit Authority (Tri Delta) Tri Delta Transit serves the eastern parts of Contra Costa. Its service area includes the cities of Pittsburg, Antioch, Oakley, Brentwood, and Bay Point as well as all unincorporated areas in eastern Contra Costa County. Tri Delta Transit operates 32 fixed routes, including 28 weekday-only routes (a few limited to peak hour service) and four weekend- or holiday-only routes. Tri Delta Transit's fixed routes include two commuter routes serving Concord and Martinez. It also includes a dedicated express route to the Pittsburg/Bay Point BART station. Tri Delta Transit also provides door-to-door paratransit services for senior citizens and people with disabilities. Tri Delta Transit coordinates their services with BART, AMTRAK, County Connection, WestCAT, Wheels, and the Delta Breeze.

Western Contra Costa Transit Authority (WCCTA or WestCAT) WestCAT serves the northwestern part of Contra Costa, providing local, express, and regional service to the cities of Pinole and Hercules and the unincorporated areas of Rodeo and, Crockett and Port Costa, with fixed-route bus service. Demand-response service also includes the unincorporated area of Port Costa. It operates eight localfifteen local fixed-stop routes Monday through Friday, which are coordinated with arrival and departure times of WestCAT Express express buses at major locations. Seven local routes operate Monday to Friday, and tTwo local routes operate on Saturdays. Four Express express routes operate with timed connections to BART at Del Norte BART station. Three rRegional service is operatedroutes travel to Martinez, San Francisco's Transbay Terminal (LYNX) and Contra Costa College, with connections to AC Transit at this location.

NON-MOTORIZED MODES OF TRAVEL

Besides roadways and transit systems, Contra Costa is served by a variety of pedestrian and bicycle facilities. Contra Costa has a well-developed system of bicycle and pedestrian trails, including the Iron Horse Trail, Delta de Anza Trail, Contra Costa Canal Trail, Ohlone Greenway, Richmond Greenway, and the SF Bay Trail, as well as many bike lanes and bike routes, although significant gaps remain in several locations. Recent projects are working to close major gaps in the SF Bay Trail in West County, including segments through the Hercules Waterfront area, and recently open segments near Point Richmond and Point Pinole, and on development of the

Mokelumne Coast-to-Crest Trail, including a trail overcrossing at SR-4, between Lone Tree Way and Sand Creek Road in Brentwood.

Many surface streets incorporate sidewalks, crosswalks and other pedestrian facilities as part of their design. Local streets in older parts of the county, which were built when auto use was lower, tend to allocate more of the street cross-section to sidewalks and to include a greater separation between sidewalks and roadways. Newer parts of the county tend to have more developed off-street trails and pathways. These facilities provide alternatives for pedestrians to walking along heavily traveled streets. In addition, the county has various recreation trails that connect urban areas with parks, open space and rural lands.

Bicycles may use most roadways in the county including some portions of freeways where alternative roads are not available for bicyclists. To encourage their safe use, cities and the County have also established specific bicycle facilities. These facilities range from bike lanes and bike routes, which are part of the street, to bike paths which provide a separate route — often part of or next to a pedestrian path — for the bicyclist. The county's Iron Horse Trail from Dublin to Martinez represents a combined bicycle-pedestrian facility that is used for both commuting and recreation.

The Authority has developed a Countywide Bicycle and Pedestrian Plan that outlines policies and actions for improving the environment for bicyclists and pedestrians within Contra Costa and, thus, encourage more walking and bicycling. The first plan was adopted by the Authority in December 2003; an update to that plan was adopted in October 2009, and the Plan is currently being updated, due for completion in late 2017. On a regional level, MTC is continuing to plan for improvements to the network bicycle routes and facilities and is updating its Regional Bicycle Plan as part of the next update to the Regional Transportation Plan.

As part of the 2017 update of the Action Plans for Routes of Regional Significance, Discussions were held in early 2017 with the RTPCs to educate them on the changes to CEQA under SB 743, and its removal of LOS and vehicle from the CEQA process. These discussions also looked at how the Action Plans can, in the future, become more consistent with the changes to CEQA. Possible options for the RTPCs include the addition on non-motorized facilities as Routes of Regional Significance and developing MTSOs and associated actions. Lamorinda, in 2009, named BART as a route of regional significance, and in the 2017 update, TVTC added the Iron Horse Trail. Potential new measures discussed included those found in the 2010 Highway Capacity Manual's Multimodal Level of Service (MMLOS) methodology, as a way of quantifying conditions for modes other than the automobile. To date, quantifying the amount of standing patrons on BART (Lamorinda), and bicycle/pedestrian counts, street-crossing wait times, pavement condition, and collision rates for the Iron Horse

Trail (TVTC) are the extent of the metrics used in quantifying the impact to non-motorized facilities.

DEMAND MANAGEMENT STRATEGIES

The county's multimodal transportation system also includes strategies to limit demand for travel, especially automobile travel, on the county's roadways and to make its operation more efficient. Chapter 6 outlines the Travel Demand Element of the CMP. In addition, the CIP includes projects and actions — such as signal synchronization projects — that would improve the efficient movement of traffic on the roadway system.

3.2 Measures of Highway and Roadway System Performance

To build upon the GMP established under Measure C and continued under Measure J, the Authority has drawn the required performance measures for roadways from the Multimodal Transportation Service Objectives (MTSOs) in the Action Plans for Routes of Regional Significance. These measures will apply to the same roadways and corridors they apply to in the Action Plans and the Countywide Plan. Table 3.2-1 lists these performance measures. These performance measures were revised to incorporate the MTSOs included in the Action Plans that were updated in 2009, and those proposed during the ongoing update. As part of the 2017 update, Lamorinda and TVTC added Class 1 bike/pedestrian facilities, Lafayette-Moraga Trail and Iron Horse Trail, respectively, as Routes of Regional Significance. MTSOs for these non-motorized routes include peak loading factor on BART (Lamorinda), and bicycle/pedestrian counts,street-crossing wait times, pavement quality, and collision data for the Iron Horse Trail (TVTC). Data for these MTSOs was collected during the 2017 monitoring in order to establish baseline levels for these metrics.

There is a significant difference between the CMP performance measures and the Action Plan MTSOs. While the performance measures — consistent with the CMP legislation — provide quantifiable measures of the performance of the multimodal system, they do not include specific thresholds to be achieved. That is, they give decision-makers information on changes in the performance of the transportation system, by comparing current monitoring to either earlier monitoring results or to modeling results for future years. The Action Plan MTSOs, on the other hand, set specific targets to be achieved or maintained on the Regional Routes. Both are designed to help the Authority and other agencies evaluate transportation improvements and major development projects that affect the local and regional transportation system and to assist in determining effective implementation actions. The CMP legislation specifically notes that performance measures do not trigger the preparation of deficiency plans. The GMP, on the other hand, requires changes to proposed projects, or

changes to the MTSO or actions to achieve it, if a project would hinder its achievement.

Changes in the performance measures caused by transportation improvements would be quantified using the Authority's computerized travel demand model.

Table 3.2-1 Action Plan Performance Measures

Performance Measures	*Facility*
Average delay for Iron Horse Trail users crossing major arterials	Sycamore Valley Road, Crow Canyon Road, Bollinger Canyon Road, Alcosta Blvd
Average Speed	I-580, I-680, Alhambra Avenue, Clayton Road, Pacheco Blvd/Contra Costa Blvd, Pleasant Hill Rd, Taylor Blvd
Average Stopped Delay	Clayton Road, Treat Blvd, Ygnacio Valley/Kirker Pass Rd
Average Vehicle Occupancy	Camino Pablo, Pleasant Hill Road
Bus Service	San Pablo Dam Road
Collision Rate	Iron Horse Trail
Delay Index	I-680, SR 4, SR 24, SR 242, SR 84, San Pablo Dam Road/Camino Pablo
Duration of Congestion	I-680
Hourly average loading factor on BART	BART
HOV lane utilization	I-80, SR 4
Level of Service	SR 4, Geary Road, N. Main St., Treat Blvd., Ygnacio Valley/Kirker Pass, Railroad Avenue, San Pablo Dam Road, San Pablo Avenue, Bailey Road
Maximum wait time for drivers on side streets	Camino Pablo, Pleasant Hill Road, Treat Blvd, Ygnacio Valley Rd
Pavement Condition Index	Iron Horse Trail
School Bus Service	Pleasant Hill Road
User counts on Iron Horse Trail at major arterial crossings	Sycamore Valley Road, Crow Canyon Road, Bollinger Canyon Road, Alcosta Blvd
Volume-to-capacity ratio	I-80, I-580, SR-4, Pacheco Blvd., Treat Blvd., Ygnacio Valley/Kirker Pass

Adapted from the Multimodal Transportation Service Objectives adopted in the Action Plans for Routes of Regional Significance.

Beginning in 2013, CCTA staff worked with Caltrans and local stakeholders to develop the I-680 Corridor System Management Plan, which was completed in early 2015. The I-680 CSMP was a pilot study for Caltrans, as it incorporated several new planning components to the CSMP process, including a more multi-modal approach to studying freeway corridors, testing of a new operations model (TOPL), and the incorporation of the Smart Mobility Framework (SMF), which aims to improve the movement of people and freight while enhancing California's economic, environmental, and human resources, and also included a Complete Streets assessment of facilities crossing the freeway. Performance measures used as part of the CSMP included:

- Transit, Pedestrian, and Bicycle Mode Shares describe the percentage of transit, bicycle, and pedestrian travel in the region;
- Travel Mobility describes how quickly people and freight move along the corridor. It also quantifies productivity losses during congested periods;
- Travel Time Reliability captures the relative predictability of travel time along the corridor;
- Safety provides an overview of safety along the freeway corridor and discusses bicycle/pedestrian incidents near the corridor; and
- Service Quality balances efficiency and comfort among users of all travel modes. Three approaches are used to evaluate service quality: multi-model level of service (MMLOS), Complete Streets, and pavement condition.

As part of the update of the 2017 Countywide Transportation Plan (CTP), currently in draft format, CCTA has applied performance measures to projects valued at greater than $80 million. The 2017 CTP used performance targets developed as part of the 2013 RTP in its project evaluations including the following:

- Climate Protection -
- Adequate Housing
- Healthy and Safe Communities
- Open Space and Agricultural Preservation
- Equitable Access
- Economic Vitality
- Non-Auto Travel Time/VMT Reduction
- Maintenance

These targets were also analyzed as part of the 2017 CTP large project performance evaluation. Also as part of the 2017 CTP, an analysis of the overall system performance was conducted, using the following measures:

- Single Occupant Vehicle Mode Share
- Carpool Mode Share
- Transit Mode Share
- Combined Bike and Walk Mode Share
- Total Transit Trips
- Total VMT/Day
- VMT per Capita (all vehicles)
- VMT per Capita (passenger vehicles)
- Vehicle Hours of Delay
- Average Speeds
- Percentage of Funding Designated for Local Street Maintenance

In addition, an equity analysis was prepared for the 2017 CTP, using the transit use and mode share, delineated by "average county residents" and those residing in communities of concern, as defined by MTC was conducted, using MTC's Plan Bay Area criteria.

3.3 Measures for Frequency and Routing of Transit Service

AC TRANSIT

The Mission Statement of AC Transit in its FY 2014/15 – 2023/24 Short-Range Transit Plan (SRTP), is "connecting our communities with safe, reliable, sustainable service…we'll get you there." In addition, AC Transit also adopted a new 2040 vision statement for the district:

In 2040, the East Bay will have a great transit system, second to none among similar places. Residents, workers, and visitors will be pleased to rely on transit as their principal mode of travel for trips longer than walking distance. AC Transit will be a leading green transit agency: not only reducing automobile trips by providing its service, but acting as a leader in green business practices in the transit industry. AC Transit will support, and be recognized as supporting, residential and commercial development in the major Priority Development Areas (PDAs) in the District. See Figure 8.1 for the location of the PDAs within the district.

Table 3.3-1 AC Transit Service Span and Frequency

Route Type	*Span of Service*	*Frequency*
Trunk and Major Corridor	5 AM to Midnight	Trunks: 10-20 minute Majors: 15-30 minute
Rapid Services	6 AM to 8 PM	12 minute weekdays 15 minute weekends
Local	6 AM to 8 PM	15-60 minute peak 30-60 minute off-peak
School Serving	School hours only	1-2 round trips daily
Express (Transbay)	Commute periods for most routes	10-30 minute
Owl (modified Trunk route)	Midnight to 5 AM	30-60 minute

Source: FY 2014/15 – 2023/24 Short Range Transit Plan

Table 3.3-2 AC Transit Service Definitions

Route Type	*Description of Service*
Trunk Routes:	The main routes that operate, primarily in a north-south direction, along major streets in high ridership areas, the "backbone" or "spine" routes of the AC Transit system.
Rapid Routes	Routes that operate along trunk corridors with elongated stop spacing and transit signal priority for greater speed.
Urban Crosstown Routes	The secondary routes in the higher density (generally over 10,000 people per square mile) that connect to the trunk routes and form a four direction system.
Suburban Crosstowns Routes	Connectors and feeders similar to urban Crosstown routes in lower density (5,000-10,000 people per square mile) portions of the district.
Very Low Density Routes	Routes that operate in areas with population densities below 5,000 people per square mile.
Transbay Routes	Routes that cross one or more of the San Francisco Bay bridges, operating between the East Bay and San Francisco or other West Bay destinations.

Source: AC Transit, Board Policy No. 550.

The SRTP also established five goals and several supporting objectives that relate specifically to the standards for frequency, routing and coordination required by the CMP legislation:

1. Service - Provide Quality and Reliable Service
2. Safety - Create a Safety Culture
3. Cost Effectiveness - Use Financial Resources Efficiently and Effectively
4. Information - Effective Communication, Messaging, and Marketing
5. Workforce - Attract and Retain a High Quality Workforce

Measures of Frequency AC Transit has established maximum headways (time between buses) by service type and time of day or day of the week. The frequency standards are shown in Table 3.3-1 and the service types are described in Table 3.3-2.

Measures of Routing Bus route spacing, or the average distance between parallel bus lines, is based on residential densities, location of major activity centers, topography and street patterns. Route spacing in commercial areas is determined, on a case-by-case basis, by the location, level of activity and layout of the development.

BART

Measures of Frequency Rail service is provided between the hours of 4:00 A.M. and midnight, Monday through Friday; 6:00 A.M. to midnight on Saturday; and 8:00 A.M. to midnight on Sundays and major holidays. Closings for individual stations are timed with the schedule for the last train beginning at approximately midnight. Service frequencies (in minutes) for individual routes and line segments are outlined in Table 3.3-4.

Measures of Routing In total there are 46 stations in the system providing service in four counties. Average spacing is between 1/2 to one mile within and adjacent to San Francisco, Oakland and Berkeley downtown areas and two to nine miles apart in suburban locations. The rail system routes are designed to provide rail access to major destinations within the four counties from surrounding residential areas.

Table 3.3-4 Measures of the Frequency of BART Service

	Transbay Routes				*CBD Line Segment*		
	Dublin / Pleasanton to Daly City/SFO	Pittsburg / Bay Point to SFO/Millbrae	Fremont to Daly City	Richmond to Daly City/ Millbrae	East Bay	San Francisco	Oakland
Weekday							
Peak	15	5-10	15	15	15	2.5	3.33
Midday	15	15	15	15	15	3.75	5
Night	20	20	0	0	20	10	10

Table 3.3-4 Measures of the Frequency of BART Service

	Transbay Routes				*CBD Line Segment*		
	Dublin / Pleasanton to Daly City/SFO	Pittsburg / Bay Point to SFO/Millbrae	Fremont to Daly City	Richmond to Daly City/ Millbrae	East Bay	San Francisco	Oakland
Saturday							
Daytime	20	20	20	20	20	5	6.7
Night	20	20	0	0	20	10	10
Sunday/Holiday							
All Day	20	20	0	0	20	10	10

COUNTY CONNECTION

County Connection has established the following mission statement:

> *County Connection leads the community by creating a modern, public transportation network that supports a car free, active lifestyle.*

In addition, County Connection established three goals that relate to the standards for frequency, routing and coordination required by the CMP legislation:

- **Efficiency** To operate as efficiently, economically and safely as possible in order to minimize the cost of transit service to both users and taxpayers and ensure the financial security of the system.
- **Effectiveness** To provide an effective, innovative alternative to the use of the private automobile through the administration, finance and operation of various mass transit services.
- **Equity** To contribute to the area's economic well-being by improving access to employment, shopping and other important activity centers through the provision of a transit system to the general public including those without other means of transportation available to them, including the mobility-limited, senior citizens, low-income persons and youth.

Standards for Frequency County Connection shall provide a maximum headway (minimum frequency) of fixed-route service of sixty minutes during peak commute periods during the weekday subject the availability of operating assistance and sufficient ridership with respect to Authority-wide standards for economy (farebox-to-operating cost recovery ratio), effectiveness (passengers per revenue hour) and effi-

ciency (cost per revenue hour and passenger). Currently, frequencies are as follows: during peak commute periods, between 20 and 120 minutes; other weekday times, every 30 to 120 minutes; on weekends, every 20 to 80 minutes.

Measures of Routing County Connection's 31 routes provide fixed-route bus service directly, or in close proximity to, major retail, institutional, and governmental activity centers located within its service area. These activity centers include, but are not limited to, Sun Valley Mall, the seven BART train stations (Orinda, Lafayette, Walnut Creek, Pleasant Hill, Concord, North Concord/Martinez, and Dublin/Pleasanton), the Martinez Intermodal Facility, city central business districts, Kaiser Hospitals (Martinez, Walnut Creek), Veteran's Hospital in Martinez, the Willows Retail center, the Golden Triangle in Walnut Creek, Bishop Ranch, John Muir Medical Center in Walnut Creek, and Diablo Valley College.

EASTERN CONTRA COSTA TRANSIT AUTHORITY (TRI DELTA)

Tri Delta has established the following mission statement:

> *To provide safe, reliable, friendly, high-quality and economical transportation service to the Eastern Contra Costa community; to provide an organizational environment which encourages cooperation, rewards excellence and develops a team of highly motivated staff; to empower employees to function as owners of the ECCTA organization; to develop ECCTA services and facilities to better serve the transit-dependent community and to capture a greater share of the commute market; to secure and manage funds to maintain and expand transit service, and to operate ECCTA according to fiscally sound business practices; to take a leadership role in developing a coherent transportation policy to deal with problems of traffic congestion, air quality and growth management; and to build constituencies at all levels of government that support the ECCTA organization and its programs.*

In addition, Tri Delta established three goals that relate to the standards for frequency, routing and coordination required by the CMP legislation:

1. Provide safe, reliable, high-quality and economical transportation to the residents of the ECCTA service area.
2. Provide efficient public transportation to the residents of the ECCTA service area.
3. Provide an accessible public transportation system to the residents of the ECCTA service area.

Measures of Frequency Tri Delta shall provide a maximum headway (minimum frequency) of one hour on local fixed routes operated in the urban area of Pittsburg, Antioch and Bay Point.

Measures of Routing Tri Delta provides service to the major activity centers in East County, which is divided into three distinct sub-areas where service is provided: the Antioch/ Pittsburg corridor, the cities of Brentwood and Oakley, and Bethel Island/Discovery Bay. Among these major activity centers are Los Medanos Junior College, hospitals, high schools, city halls, city libraries, County facilities and clinic, other medical facilities and shopping centers.

WEST CONTRA COSTA TRANSIT AUTHORITY (WESTCAT)

The West Contra Costa Transit Authority, or WestCAT, has established the following policy for formulating the frequencies of their bus routes:

> *Maintain transit service at a level appropriate for WCCTA area population and, as funding permits, expand the level of transit service offered in response to growth in transit demand and identification of unmet local transportation needs.*

Measures of Frequency WestCAT shall provide a maximum headway (minimum frequency) of 90 minutes on all local fixed routes operating within its service area, with 60 minute maximum for express routes.

Measures for Routing WestCAT shall provide service directly to, or within close proximity to major retail, institutional, schools, and governmental activity centers and shall facilitate local and regional connections within its service area.

3.4 Measures for Coordination of Transit Service

It is the Authority's policy to encourage cooperation among transit providers and to support this coordination through its programs. The following standards for coordination apply to all transit operators within the county. These standards build on the rules and regulations that MTC has developed in response to the requirements of SB 602 (California Government Code Section 66516), which took effect on January 1, 1990.

Overall Coordination Each transit operator within Contra Costa County shall work with connecting transit operators, both within and adjoining the county, to coordinate fares and schedules and to execute fare revenue sharing agreements.

This standard reflects activities that all transit operators in the county have already undertaken.

Coordination of Transfers and Fares Transit operators shall work to maintain established revenue sharing and reciprocal transfer agreements with connecting transit operators. Transit operators shall cooperate in the development of a universal, stored-value ticket for use throughout the county and region.

All of the transit operators in Contra Costa County have established revenue sharing and reciprocal transfer agreements. MTC is currently finalizing the implementation of the Clipper Card, a universal, stored-value ticket, throughout the Bay Area transit network. Currently, Clipper has been fully implemented on AC Transit, BART, Caltrain, County Connection, MUNI, SamTrans, Tri-Delta Transit, VTA, WestCAT, San Francisco Bay Ferries and Golden Gate Transit and Ferry.

Coordination of Schedules All transit operators shall participate in the efforts of the Regional Coordination Task Force to coordinate major schedule changes for transit operators within the county. Each transit operator shall coordinate the schedules of any of its fixed-route lines serving regional transfer points or regional transit lines to ensure quick and convenient transfer between connecting routes and facilities.

The MTC Guidelines for the implementation of SB 602 (California Government Code Section 66516) emphasize the coordination of the schedules of routes serving regional transfer points. In Contra Costa County, these locations are primarily at BART stations or at connections with BART Express Buses. All operators in the county have coordinated the schedules of their fixed routes with the schedules of BART service. All participate on the Regional Coordination Task Force.

3.5 Use of Performance Measures

Under the State CMP legislation, each CMA and the jurisdictions within the county charged with helping to implement the CMP shall use the performance measures in the development of:

1. The seven-year capital improvement program
2. Any deficiency plans required
3. The required land use analysis program

CAPITAL IMPROVEMENT PROGRAM

The Authority may evaluate the effect of changes in the seven-year capital improvement program during each CMP update using these performance measures. The Authority's computerized travel demand model can generate information to evaluate changes in the roadway performance measures set out in Section 3.2, above.

DEFICIENCY PLANNING

Chapter 8 outlines the process for preparing, adopting and implementing Deficiency Plans. As part of this effort, the local jurisdictions that are responsible for the Deficiency Plan shall develop a list of projects that would improve performance of the county's multimodal transportation system. They must use the performance measures set out in the CMP to measure this improvement.

LAND USE ANALYSIS PROGRAM

Chapter 5 outlines the land use analysis program required by the CMP legislation and how the performance measures will be evaluated as part of that program.

See also Chapter 9 for a description of how the compliance requirements of the CMP apply to the use of the performance measures outlined in this chapter.

Chapter 4

Capital Improvement Program

As the CMA for the County, the Authority is required to adopt, on a biennial basis, a seven-year capital improvement program (CIP). According to the State statute, the CIP is intended to:

1. Maintain or improve traffic LOS standards established in the CMP and maintain or improve the performance of the multimodal system using performance measures;
2. Mitigate regional transportation impacts of local land use decisions; and
3. Conform to transportation-related vehicle emission air quality mitigation measures (transportation control measures; discussed in Appendix F).

The Legislature also intended that local project sponsors and CMAs, when roadway projects are identified in the CIP, consider ways to maintain bicycle access and safety at a level comparable to that that existed prior to the proposed improvement or alteration. The CIP may also include safety, maintenance, and rehabilitation projects that do not enhance the capacity of the system, but are necessary to preserve the investment in existing facilities.

FUNDING ELIGIBILITY

Under the CMP legislation, inclusion in the CIP has become an important step in the process for local highway or transit projects to receive State or federal funding. The statute states that, "Local projects not included in a CMP shall not be included in the

regional transportation improvement program" (California Government Code Section 65082(c)) and thus would not be able to receive funds allocated through the RTIP.

State legislation, through Senate Bill (SB) 45, made significant changes in the process for approving funding for new transportation improvement projects. Many of the earlier funding programs were eliminated, including the Flexible Congestion Relief (FCR) and Traffic Systems Management (TSM) programs which were tied to the CMP process. Instead of these various programs, SB 45 established a regional transportation improvement program (RTIP), which in the Bay Area is administered by MTC, and the statewide interregional improvement program, which is administered by Caltrans. To be included in the RTIP, local projects must still be included in a county CMP.

In addition to the significant changes made by SB 45, Congress' adoption of TEA-21 — the Transportation Equity Act for the 21st Century — in 1998 led to other changes in federal funding programs. TEA-21 retained the Surface Transportation Program (STP) and CMAQ programs first established in the Intermodal Surface Transportation Efficiency Act (ISTEA) legislation. State legislation continues to require that, "No [STP] funds or [CMAQ] funds shall be programmed for a project in a jurisdiction that has been found to be in nonconformance with a congestion management program [...] unless the [CMA] finds that the project is of regional significance."

Federal funding legislation continues to evolve. In 2005, Congress adopted SAFE-TEA-LU – the Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users, bringing increased flexibility to the use of federal funds by an MPO. In response, MTC has combined Surface Transportation Program (STP), Congestion Mitigation and Air Quality Improvement (CMAQ), and other funds into two new sets of region-wide funding programs. The first set focuses on improving the operation and safety of the Bay Area's transportation system. These programs include the Freeway Performance Initiative (FPI), One Bay Area Grants (OBAG), PDA Planning Grants, Transportation for Livable Communities (TLC) program, the Lifeline Transit Program, Transportation Planning and Land Use Solutions (T-PLUS) and the Regional Bicycle and Pedestrian Program, portions of which are administered by MTC and portions of which are administered by the various CMAs. The second set of programs funds projects that rehabilitate the regional transportation system; the largest share of this program is allocated by county and administered by the CMAs. Moving Ahead for Progress in the 21st Century Act – Map-21 – continued this trend towards increased flexibility at the MPO level.

In addition to projects funding through the State's RTIP and MTC's programs to allocate federal funds, some projects that are funded by Transportation Funds for Clean Air (TFCA) funds must be included in the CMP. These TFCA funds, which

flow from the BAAQMD, are divided into two categories: "40 percent" or "Program Manager" funds, which are allocated among Bay Area counties; and "60 percent" or "Regional" funds, which are disbursed on a competitive grant basis throughout the region. The Authority serves as Program Manager for the 40 percent funds, which are allocated to the RTPCs. AB 414 requires that TFCA bicycle projects funded with either 40 percent or 60 percent funds be included in the CMP CIP or an adopted Countywide Bicycle Plan to be eligible for TFCA funding. These projects will help improve air quality by improving bicycle access (and encouraging bicycle use), consistent with State TCM 9 adopted by MTC and BAAQMD.

Recent passage of SB1 by the California State Legislature, which increased the state's gas tax by 12 cents per gallon, and also increased the vehicle registration fees to account for increased full-efficiency vehicles, is expected to bring an influx of transportation funding to the State, County, and jurisdictional-levels, which could potentially fund many of the CIP projects in an expedited manner. Future updates of the CIP will seek to capture the impact of this new funding source.

CHANGES FROM THE 2015 CMP

In 2015, as part of the Authority's Transportation Expenditure Plan (TEP) development, and again in 2016 as part of the OBAG/TLC/SR2S open call-for-projects, project sponsors were given the opportunity to update existing projects or add new projects to the Comprehensive Transportation Project List, or CTPL. As mentioned earlier, the CTPL is the repository for projects and programs that agencies in Contra Costa and the region are interested in pursuing. The 2017 CMP CIP outlined in this chapter and in Appendix E are derived from the projects included in the CTPL database. The CIP includes projects to be funded through several different sources. These sources include the RTIP, MTC's MAP-21-based programs and One Bay Area Grants (OBAG), TFCA bicycle projects, and developer-funded projects where funding through fee programs is imminent. The Authority's own Measure J Strategic Plan projects are also included.

4.1 Preparation of the CIP

As noted above, the seven-year CIP described in this chapter and listed in Appendix E contains a variety of different types of projects, from freeway and arterial to bicycle and pedestrian, and from transit to maintenance projects. To develop the updated CIP, the Authority asked local jurisdictions to review the CTPL and submit additional projects or revisions to projects previously included in the CIP. The CIP has been modified to reflect the input received.

Project sponsors were asked to submit projects that:

1. Would seek federal, State or other non-local sources (including Measure J funds)
2. Increased system capacity
3. Were fully funded and significant enough to affect air quality and thus would need to be "cleared" as part of the RTP (this most clearly related to major new roadways to be constructed as part of new land development projects)

RELATIONSHIP TO FINANCIAL ASSUMPTIONS IN THE REGIONAL TRANSPORTATION PLAN

Federal legislation requires that each RTP make realistic projections of revenues that will be available for the projects and programs it proposes and to constrain the implementation of the plan to this available funding. The plan must also recommend how these funds are allocated. MTC's Plan Bay Area 2040, the most recent RTP for the Bay Area, estimates that, during the 23 years from 2017 to 2040, about $303 billion will be available for maintaining, operating, and expanding transportation system. Almost half of these funds — about $168 billion, or 55 percent — will come from local sources, primarily transit fares, dedicated sales tax programs, state gas tax and county sales tax subventions to local streets and roads. The remaining funds are divided among regional ($44 billion or 15 percent), State ($48 billion or 16 percent), federal ($29 billion or 10 percent) and other anticipated but as yet unidentified dollars ($14 billion or five percent). As compared to Plan Bay Area (2013 RTP) revenues, the share of local contributions to Plan Bay Area 2040 increases by $14 billion over the life of the Plan. Plan Bay Area 2040 assumes an average tax growth rate of 3.83%, and also assumes that Measure J would be supplemented by a sales tax renewal after its expiration in 2034 (at least through 2040).

Of the estimated $303 billion in revenues, Plan Bay Area 2040 recommends putting 88 percent ($268 billion) into maintaining and operating the existing system. Most of those funds, $173 billion or 57 percent of all estimated funding, would go to maintain the region's transit systems. The remaining funding for maintenance ($66 billion) would be split between local streets, freeways, and bridges. Even with $268 billion set aside for system maintenance and operations, Plan Bay Area 2040 estimates that significant shortfalls will occur, both for transit and roadway maintenance. A total of $5 billion (2%) has been identified for use as contingency funds and for debt servicing.

Under Plan Bay Area, only 10 percent ($31 billion) would go towards expanding the transportation system. Most of these funds would go to expand the transit system with lesser amounts going towards new highways and local streets. The Plan in-

cludes several important expansion projects that would address growing demands on the transportation system in Contra Costa. On the transit side, they include the completion of eBART to Hillcrest Avenue in Antioch, the Hercules intermodal rail station, new ferry service between the Richmond waterfront and San Francisco, and Bus Rapid Transit along San Pablo Avenue. On the highway side, it includes funding for improved interchanges on I-80 at Central Ave and San Pablo Dam Road, a reconstructed I-680/SR-4 interchange,Operational Improvements on SR-4 between SR-242 and Bailey Road. The plan also proposes to close gaps in the system of HOV lanes on I-680 through the SR-24 interchange (northbound and southbound), and includes conversions of HOV lanes to tolled Express Lanes on I-80 and I-680. Most of the roadway projects specifically listed in the plan are new or improved local roads. Projects include the widening of Pacheco Blvd in Martinez, Truck Climbing Lanes on Kirker Pass Road, and safety improvements on Vasco Road. Many roadway improvements incorporate the Complete Streets treatment, providing infrastructure for users of all modes. Completion of the study of a new or improved route connecting East Contra Costa with San Joaquin County, known as the Tri-Link Study, is also included.

Of the $303 million in revenue identified under Plan Bay Area 2040, 76% is considered "committed", which means the project is either 1) under construction with a full funding plan (or a program that is under contract), or 2) funded with monies designated by statute for a specific purpose, or funded with locally generated and administered dollars (such as Measure J and local developer-funded projects). The majority of committed dollars are planned to be expended on system maintenance, with 10% going towards system expansion.

The remaining 24% of revenue under Plan Bay Area 2040 is considered "discretionary", and is assigned to projects and programs that will support Plan Bay Area's land use and investment strategies.

Plan Bay Area 2040 relies on the key three strategies (and sub-strategies) of Operate and Maintain, Modernize, and Expand to address key issues identified during the 2017 RTP update process, as described below:

- **Operate and Maintain**– directs the vast majority of funding to maintain the assets and infrastructure of the existing transportation system;
- **Modernize** – directs 16% of total revenue to cost-effective project like freeway operations, congestion pricing projects and bus rapid transit lines;
    - **Transit Modernization and Efficiency** – funds replacement of transit infrastructure through modernization projects that replaces existing assets with infrastructure that supports additional or more reliable service. Also includes strategic investments in trasit efficiency;

  - **Roadway Performance** – Invests $24 billion to support projects and programs that will boost system efficiency through technology and bottleneck relief;
- **Expand** – directs the remaining 10% of funding toward a set of transit extensions and roadway expansions.

While the CMP CIP outlined in this chapter and detailed in Appendix E contains approximately $16.2 billion in projects, operational improvements and studies, the CMP has a different focus than the RTP. The CMP focuses on specific projects that local agencies are actively pursuing for development within the next seven. Plan Bay Area instead takes a broader look at all transportation needs (analogous to the Authority's CTP) over the longer-term through year 2040.

Much of this funding is already committed or under the control of other agencies. One of the clearest examples is that of the revenues from county transportation sales tax measures. Decisions on how those funds are spent are made by the various county agencies, including the Authority, charged with allocating them. Those sales tax measures allocate the funding received to specific projects and programs, and MTC can only reflect the decisions made by the voters in those counties on which projects and programs are funded. In addition, several of the projects listed in the "strategic expansion" category in Plan Bay Area 2040 (such as the construction of the Sand Creek Road interchange) were funded by developers. Finally, considerable funding for expansion projects in Contra Costa, primarily but not exclusively for the expansion of roadway capacity, will come from the locally imposed fee programs called for in Measure J.

Many of the projects in the CMP CIP are listed explicitly in Plan Bay Area 2040, and hence are clearly "consistent" with that regional plan. It is important to note, however, that a project may be consistent even if it is not named specifically in Plan Bay Area. That plan includes a variety of funding programs, both regional and countywide, for which specific projects are not identified. These programs include the One Bay Area Grants (OBAG), Transportation for Livable Communities and Housing Incentives Programs, bicycle and pedestrian improvements, express bus acquisition, park-and-ride enhancements, and transit and roadway maintenance.

Many of the projects listed in the CMP CIP could be funded through these and other programs — that is, they would be "consistent" — even if the RTP does not list them by name.

UPDATING THE CIP AND RTP

The CMP CIP was updated in 2017, and will be updated again in 2018/9, at which time additional projects may be added to the CMP CIP, using the CTPL as the vehicle for compiling the project listing.

AIR QUALITY TRANSPORTATION CONTROL MEASURES

The State CMP legislation requires the CMP to "conform to transportation-related vehicle emission air quality mitigation measures," referring to the transportation control measures (TCMs) contained in the plans developed by the BAAQMD and MTC to achieve the air quality standards set in State and federal legislation. The currently-applicable TCMs are contained in three plans:

- Federal Ozone Attainment Plan for the 1-Hour National Ozone Standard, adopted Oct. 24, 2001
- 2004 Revision to the California State Implementation Plan for Carbon Monoxide, Updated Maintenance Plan for Ten Federal Planning Areas, approved January 30, 2006
- Bay Area 2010 Clean Air Plan

Currently, the Bay Area is designated "nonattainment" for the State and national ozone standards, for the State PM-10 and PM-2.5 standards, and — as of November 13, 2009 — for the national PM-2.5 standards. Urbanized areas within the Bay Area are also designated as a "maintenance" area for the national carbon monoxide standard. That is, the Bay Area was once designated as "nonattainment" but is now designated as "attainment". The Bay Area is in "attainment" or is "unclassified" for all other ambient air quality standards.

In June 2005, the U.S. EPA revoked the national one-hour ozone standard. Effective May 27, 2008 the national eight-hour ozone standard was lowered from 0.08 ppm to 0.075 ppm. The EPA is required to issue final designations based upon the new 0.075 ppm standard by March 2010. In 2006, the U.S. EPA revised the 24-hour PM-2.5 standard from 65 μg/m3 to 35 μg/m3. The EPA is required to designate attainment status of BAAQMD for the new standard by December 2009. In April 2005, the State adopted the eight-hour ozone standard of 0.07 ppm.

On September 15, 2010, the Air District adopted the 2010 Bay Area Clean Air Plan (CAP). The new plan updates the Bay Area 2005 Ozone Strategy to help implement "all feasible measures" to reduce ozone as required by the California Clean Air Act. It also considers the impacts of ozone control measures on particulate matter (PM), air toxics, and greenhouse gases in a single, integrated plan and establishes emission control measures to be adopted or implemented in the 2010-2012 timeframe. The

2010 CAP adds two new categories of control measures: Land Use and Local Impact Measures and Energy and Climate Measures.

The three plans listed above outline a number of measures to help improve air quality, including a total of 21 TCMs. The measures range from improving signal timing and constructing HOV lanes to improving bicycle and pedestrian access. Appendix F describes the TCMs in greater detail and discusses how the projects in the CIP help implement them.

CIP DESCRIPTION

The CIP is contained in Appendix E. For the most part, the information is self-explanatory, although a few items deserve comment:

1. The construction costs are "best estimates" at this point, and are not necessarily consistent with respect to "current" or "future" dollars. In addition, some projects do not yet have estimates because they have not had preliminary design completed. The 2017 CMP Update has incorporated new information on projects that has become available since 2015; updated information will be incorporated into future CMPs.
2. Since State law requires that projects on the State highway system have a completed Project Study Report (PSR) or equivalent prior to inclusion in the STIP, the draft listings provide information relative to the status of PSR preparation. As a separate, but related issue, the Authority will be required to prioritize candidate projects that need Caltrans involvement in their PSR preparation.

The detailed CIP in Appendix E is organized into 16 project types, and, within each type, by sponsor. For ease of discussion, the following summary describes some of those categories together. The following table summarizes the total estimated costs for the 16 project types:

Project Type	*Total Cost*	*Share of Total*
Arterial/Roadway	$2,504,486,138	15.2%
Bicycle/Pedestrian	$1,416,875,851	8.6%
Bus	$2,024,743,754	12.3%
Ferry	$343,080,000	2.1%
Freeway	$1,177,586,000	7.1%
Goods Movement	$173,700,000	1.1%
Innovation	$167,000,000	1.0%
Interchange	$1,146,820,856	6.9%
Intermodal/Park-and-Ride	$198,329,000	1.2%

Project Type	*Total Cost*	*Share of Total*
Operations	$634,875,000	3.8%
Paratransit	$5,000,000	0.03%
Rail/Rapid Transit	$6,178,900,000	37.4%
Safe Routes to School	$313,614,690	1.9%
Studies	$18,148,000	0.1%
TLC	$217,480,920	1.3%
TOTAL COST:	$16,520,640,209	100.0%

Altogether, the estimated cost for the projects listed in the seven-year CMP CIP total over $16.5 billion. (As noted, above the "true" estimate would be higher since some projects are in the early stages of conceptualization and design and actual costs have not been accurately estimated for them.) Rail and rapid transit projects represent the biggest single category, at nearly $6.2 billion with arterial projects the second largest category at $2.5 billion. Together, the two categories represent over 50 percent of the estimated cost of all projects in the CIP.

Bus-related projects (including Bus Rapid Transit) make up the third largest category at just over $2 billion, or about twelve percent of the total. Bicycle, pedestrian, Safe Routes to School, and TLC projects comprise 12 percent of the total estimated cost. It should be noted that many arterial projects, however, do include improvements for bicyclists and pedestrians, as many of the roadway improvements are Complete Streets projects, which benefit all modes, including buses and paratransit vehicles. Operations, innovation and goods movement-related projects together make up nearly 6 percent.

Over the last several CMPs, the relative shares of these categories have shifted: agencies have responded to changing demands and are increasing employing new strategies. In addition, the price of investment in major freeway or transit project has increased substantially, not just for actual construction but also the purchase of rights-of-way in urban areas, and major new projects are no longer realistic. Partly, the shifts result from the need for local jurisdictions, faced with shrinking local funding sources, to look for federal or State funding, and being listed in the CMP CIP is a key step in that search.

4.2 Freeway and High-Occupancy Vehicle (HOV) Projects

The CMP CIP contains nearly $2.3 billion in freeway and HOV/Express Lane projects. These projects include improvements to the freeway system, including im-

provements at interchanges throughout the county, HOV gap closures and Express Lane conversions, and various new auxiliary lanes.

The Authority has been working since its inception in 1989 with Caltrans and local agencies in East County to improve SR 4. Beginning with the widening of the freeway over Willow Pass, SR 4 has been widened to SR 160, including new HOV lanes west of Hillcrest Avenue. Construction of eBART infrastructure continues in the median, with the new cross-transfer platform taking shape east of the Pittsburg/Bay Point BART station, with new stations at Pittsburg Center (Railroad Avenue) and at Hillcrest Avenue. The new diesel train cars have been testing in the median since late 2016.

The State Route 4 Bypass east of SR 160 opened as a combination of full freeway and 2-lane expressway segments, and is now signed as SR 4, providing access to Discovery Bay and Stockton via Marsh Creek Road. The former arterial routing of SR 4 (Main Street and Brentwood Blvd.) through Oakley and Brentwood has been relinquished by Caltrans back to the control of the local jurisdictions, and are no longer state highway routes. The remaining non-freeway segments, south of Sand Creek Road, are being improved, with a full interchange at Sand Creek Road completed in late 2014, and construction of the Balfour Road interchange currently underway. Ultimately, the project will provide a full four-lane freeway running from SR 4 southwest to Vasco Road, with a potential connection to SR 239, should that route be constructed in the future.

The CMP CIP includes several HOV lane and HOV ramp projects. HOV lanes are planned on I-680 between Treat Blvd and SR 242 in the northbound direction and between Treat Blvd and Rudgear Road in the southbound direction. MTC in October 2017, just completed a project to convert existing HOV lanes to Express Lanes – lanes HOVs can access at no charge, and single-occupant vehicles can access for a fee, using Fastrak transponders – between Alcosta Blvd and Livorna Road, opened to the public in October 2017. CCTA will be leading the effort to convert the existing HOV lanes to Express Lanes on I-680 between SR-242 and Marina Vista (northbound) and between N. Main and Marina Vista (southbound), which should commence in 2018. In addition to the HOV and Express Lane conversions on I-680, the CIP includes other operational and transit service improvements on this corridor, known collectively as the "Innovate 680" program of projects. In West County, the I-80 Smart Corridor project has recently opened, providing westbound commuters with changeable message signs and advisory speeds on overhead gantries, with ramp metering activated in both directions.

Interchange improvements are planned at locations throughout Contra Costa. The most substantial is the reconstruction of the I-680/SR 4 interchange in Central County. This project includes several phases to replace the existing ramps, add capacity

between Morello Road and SR-242, and an HOV connector ramp between westbound SR 4 an d southbound I-680. Measure J sets aside funds for improvements on I-80 interchanges at San Pablo Dam Road, which has completed its initial phase of construction, and the Central Avenue interchange, where operational improvements will be implemented in 2018, to be followed in a future phase which will provide capitol fixes to the signals and roadway east of the interchange.

4.3 Arterial and Roadway Projects

The CMP CIP includes $2.5 billion in arterial and roadway projects. These range from the creation of new roadways, such as the extension Sand Creek Road in Brentwood and Leland Avenue in Pittsburg, and the widening of many others. Another "hot spot" for roadway construction is in the Dougherty Valley where several major roadways have been developed and new roadways will be developed over the next several years as new areas are converted to urban use. Many of these new roadways will include bike lanes and sidewalks, as a part of a Complete Streets approach. The continuing development of the Waterfront District in Hercules resulted in the extension of John Muir Parkway, including a new bridge over Refugio Creek, opened in 2017. A major railroad grade separation project on Marina Bay Parkway in Richmond opened in 2016, providing unobstructed access by residents, commuters, and emergency services to the growing Marina Bay neighborhood.

4.4 Transit Component of the CIP

The transit component of the CIP includes bus, rail and rapid transit, and ferries. This CIP focuses on capital projects that are necessary to maintain or improve current service (such as routine replacement of buses, adding or improving new train stations or intermodal facilities, and instituting vehicle locator and signal preemption systems). No priority has been established between the two types of projects. The CIP includes those projects currently programmed and those that will be programmed within the seven-year CIP cycle. The transit agencies have a variety of other capital projects included in their CIPs that are not included here.

Maintaining transit performance measures is contingent not only on the availability of funds for capital projects, but on operating funds as well. Most transit agencies operating in Contra Costa, in response to declining revenues in the last two years, have been forced to either reduce service levels or raise fares, or both. Unlike the performance standards in Chapter 3, which focus on transit routing and frequency, the CMP CIP requirements focus on the capital program only. Below is a summary of the capital projects associated with each of the transit agencies — BART, AC Transit,

County Connection, WestCAT and Tri Delta Transit (ECCTA) — as well as other transit projects.

EASTERN CONTRA COSTA TRANSIT AUTHORITY (TRI DELTA TRANSIT)

Tri Delta Transit has a capital project to construct two new park and ride lots in Antioch and Oakley. Design is currently underway on both lots, which would serve Tri-Delta riders and carpoolers. The comprehensive transportation project list also includes the purchase of both revenue (buses and paratransit) and non-revenue vehicles; facility improvements and street amenities; tools, equipment and computer training; and alternative fuels for both vehicles and facilities. The most expensive of these projects would be purchasing new revenue vehicles. Tri Delta has the following purchase schedule for fixed route buses:

	Fixed-Route Buses		*Dial-a-Ride Buses*	
Fiscal Year	*Replacement*	*Expansion*	*Replacement*	*Expansion*
2013–2014	–	–	–	–
2014-2015	–	–	–	–
2015-2016	5	5	3	–
2016-2017	20	–	25	–
2017-2018	6	–	–	–
2018-2019	–	–	–	–
2019–2020	–	–	6	–

The five expansion buses to be acquired in FY16 are planned to be battery electric buses to be put into limited, local route service as a demonstration project for Zero Emission Buses (ZEB). In addition to the vehicle replacements, Tri Delta is also planning construction of 2 park and ride lots in Antioch and Oakley that would serve as intermodal centers for riders.

AC TRANSIT

In Contra Costa County, as in the rest of its service area, the projects in the AC Transit CIP focus on developing transit centers to implement its Comprehensive Service Plan, improving service in key transit corridors and maintaining a functioning fleet of vehicles.

Transit Centers AC Transit, to implement its Comprehensive Service Plan, has restructured the District's routes from a primarily radial system into a multi-destinational route network with timed transfer points at new or expanded transit centers located throughout the district's service area. Transit centers will be located where bus users can efficiently transfer from bus to bus or from bus to BART. They provide bus bays that allow multiple buses to arrive and depart without blocking

one another, bus shelters, safe pedestrian areas, and amenities for passengers and drivers.

Transit centers at locations in Alameda County may encourage bus ridership among Contra Costa residents and workers by making trips to and from Alameda County by bus more attractive. Five transit centers have been developed – or are being developed – in Contra Costa County. AC Transit has developed the El Cerrito Del Norte BART, Contra Costa College and Richmond Parkway transit centers (the latter was begun by AC Transit but completed by Caltrans). A transit center has been completed at the Richmond BART station, as part of the Richmond Intermodal project. A separate project will address safety at the transit centers with the goal of maintaining attractive, properly functioning facilities to encourage ridership.

Key Bus Routes The concept of "Rapid Bus" is that preliminary operational and capital improvements could be made in corridors prior to a major investment in electrification infrastructure. Project components could include sidewalk improvements, high-capacity articulated buses, service frequency enhancements, stations and shelters, lighting, AVL/AVM, intersection improvements, pavement upgrades, advanced technologies in bus signal prioritization, bus lanes/queue jumpers, street furniture, intensive passenger information, ticket vending machines, etc. The proposed operational and capital improvements would enhance service delivery and promote ridership growth, leading to a strong ridership base supportive of future electrification.

AC Transit has implemented a Rapid Bus program on San Pablo Avenue in recent years, with riders experiencing an average 20 percent reduction in travel time. Recently, the San Pablo Rapid Bus has extended its service hours to Saturdays and Sundays.

AC Transit is also constructing a Bus Rapid Transit network along along International Boulevard/ East 14th Street in San Leandro and Oakland. As a long term goal, the project envisions replacing this line with a light rail network in the future. Improvements are intended to maximize the possibility for eventual conversion to light rail, with elements including dedicated transit lanes, traffic signal priority, wide station spacing, and stations with boarding areas and real-time schedule updates. AC Transit's Board has also begun discussions around a full BRT system on San Pablo Ave.

Fiscal Year	*Small Buses/Vans*	*30-Foot Buses*	*35-Foot Buses*	*40-Foot Buses*
2017	-	-	-	-
2018	-	-	-	-
2019	-	-	-	-

Fiscal Year	*Small Buses/Vans*	*30-Foot Buses*	*35-Foot Buses*	*40-Foot Buses*
2020	-	-	-	-
2021	-	-	-	-
2022	-	-	-	-
2023	-	-	-	-

Capital Improvements AC Transit's bus replacement schedule is shown above. This schedule is for the full AC fleet, serving both Contra Costa and Alameda Counties.

In addition to the bus replacement, AC Transit is proposing the following capital projects

1. West County Bus Storage and Maintenance Facility - Phase 2
2. AC Transit Computer Aided Dispatch (CAD) Upgrades
3. San Pablo Avenue Transit Enhancements (multi-phase)

COUNTY CONNECTION

The County Connection's schedule for replacement of buses, flex-vans and paratransit vans, are as follows:

Description	*FY 16*	*FY 17*	*FY 18*	*FY 19*
Heavy Duty bus	33	35	-	-
Cutaway vans	3	-	-	42

Other projects in the CIP that are intended to increase passenger ridership or increase the ability to meet performance standards include:

1. Restoration and Expansion of Fixed-route Bus Service
2. Facility maintenance and rehabilitation
3. Bus stop access improvements

WEST CONTRA COSTA TRANSIT AUTHORITY (WESTCAT)

WestCAT has two projects on the CIP: replacement of vehicles for fixed route and paratransit service. WestCAT has the following schedule for acquisition and replacement of fixed route vehicles:

Vehicle Type	FY15-16	FY16-17	FY17-18	FY18-19	FY19-20	FY20-21	FY21-22	FY22-23	FY23-24	FY25-26
Standard Conversion Van	10								10	
Heavy Duty Coach, 35'					5	6				
Heavy Duty Coach, 40'	1	1	2		4					
Administration Vehicles							1			
Over The Road Coach 45'							2			2
Suburban Coach, 40'										
Hybrid Dial-A-Ride vehicle					2					
Double Decker				3						

The capital plan also includes the following capital projects:

1. Construct new satellite WestCAT maintenance facility
2. Express bus service from Pinole to SF
3. Expand Lynx Transbay Service

BART

BART's portion of the CIP focuses on renovation and updates to stations to enhance safety and security. The CIP continues to include the following projects:

1. Renovation of system facilities, including train control and communications systems, power systems, structural repairs, and vehicle replacement;
2. System capacity and reliability projects;
3. Station access improvements;
4. Transit safety and security improvements;

BART also includes a number of projects currently underway or in the planning stages for system expansion, including the following:

1. East Contra Costa BART Extension (eBART), Phase 2

2. El Cerrito del Norte Station Modernization
3. Richmond Crossover

4.5 Pedestrian and Bicycle Projects

The CIP also includes a component that contains proposed trail, pedestrian and bicycle projects. The projects include new trails, bicycle paths and pedestrian facilities as well as improvements that make the bicycle a more attractive alternative to the private automobile for commuting or other travel. The CIP includes over 100 projects in this category. In October 2009, the Authority adopted its first update to the Contra Costa Countywide Bicycle and Pedestrian Plan, which focuses on improving the environment for bicyclists and pedestrians in Contra Costa and helping local jurisdictions develop their own plans and policies as well as to become eligible for State Bicycle Transportation Account funding. It also will help the region respond to TCM 9 in the State Clean Air Plan. The Bicycle and Pedestrian Plan is in the process of being updated, scheduled for completion in 2017.

There are three types of bicycle projects in this category. The first type is bicycle lanes and bikeways, including the widening of roads to accommodate these new facilities. The second type of project will provide bicycle and pedestrian paths separated from vehicular routes. These Class I bicycle and pedestrian facilities include projects such as gap closures on the Bay, Iron Horse and Delta-de Anza trails, the EBMUD bicycle pathway in Antioch, the Ohlone Greenway-to-Richmond Greenway connection in Richmond, and Mokelumne Trail overcrossing of SR-4 in Brentwood.

The final type of project will further support the use of bicycles for commuting by providing bike lockers. Bike rack or bike locker projects are proposed for all ten Contra Costa BART Stations, and various locations in San Ramon Valley, Diablo Valley College, and East County. Construction has recently begun on the County's first "bike station", which will be a staffed facility adjacent to Pleasant Hill/Contra Costa Centre BART Station, where bicycle commuters can leave their bikes, and where maintenance services will also be available, for a cost. Concord BART is planned to receive modified, un-staffed version of the bike station, where users would have 24-hour, card-control access to the secure facility.

The CIP also includes a number of pedestrian projects, besides the Class I facilities mentioned above. Many of these projects are around school sites, as part of the Contra Costa Safe Routes to Schools, and also including projects that provide safe access to BART stations, new pedestrian detection at major street crossings, including actuated signals and flashing lights, as well as more general programs like Walnut Creek's sidewalk gap closure program. A number of ADA projects are also planned at various locations countywide.

4.6 Maintenance and Operations

The CIP, reflecting the increased emphasis on maintenance and operations in the region, includes many projects designed to maintain and improve the operation of the transportation system. These projects run the gamut from the resurfacing or reconstruction of arterial and local streets to a wide range of operational improvements to streets, pathways, and transit facilities. The I-680 Operational Improvements Project would seek to provide solutions to the weaving issue between North Main Street and Treat Blvd. in the northbound direction, while Caltrans continues to complete fiber-optic installations on all state-owned freeways in order to add to the communication and connectivity of their ITS and TOS networks. The SR 4 Operational Improvements Project would seek to, through a variety of operations strategies, add needed improvements and capacity between SR 242 in Concord and Bailey Road in Bay Point.

4.7 Studies

Studies have been shown to be an important first step in defining optimal improvements within communities and specific corridors. The CIP incorporates several studies, including various bicycle and pedestrian-oriented studies by jurisdictions, the State Route 239 corridor study, which is investigating improvements between East County and San Joaquin County, to the recent completion of a pair of studies of high-capacity transit investment options in the I-80 Corridor (north of El Cerrito/Richmond BART Stations to Hercules) and the I-680 Corridor (between Walnut Creek and Dublin). The Authority recently entered into a funding agreement with the Alameda County Transportation Commission in order to undertake a holistic, multimodal study of San Pablo Avenue across the two counties, from downtown Oakland to Hilltop Mall in Richmond.

4.8 One Bay Area Grant Program and the PDA Investment and Growth Strategy

A key aspect of the implementation of Plan Bay Area is a new framework for allocating federal transportation funding through MTC called the One Bay Area Grant Program (OBAG). Through this program, CMAs will allocate Cycle 2 Federal Surface Transportation Program (STP) and Congestion Mitigation and Air Quality (CMAQ), and TLC funds for the next four fiscal years (FY2016-17 through FY2019-20). This program is intended to encourage the development of PDAs by directing federal grant funds through the CMAs, to PDA-serving transportation projects. A full listing of Contra Costa PDAs may be found in Chapter 6.

To help the CMAs set priorities for the OBAG funds that reflect the diversity of PDAs in their respective counties, MTC required CMAs to prepare a PDA Investment and Growth Strategy that describes how the transportation funding available through the OBAG program will be prioritized and allocated within each county.

The Authority, working with its local partners, adopted its initial PDA Investment and Growth Strategy in April, 2013, and subsequently awarded its first cycle of OBAG grants. The first update of the PDA Strategy took place in 2014, designed to assist PDA sponsors in developing plans for the growth of the PDAs. The PDA Strategy has again been updated for 2017. It is anticipated that subsequent updates of the PDA Strategy may transition to a 2-4 year cycle, pending ongoing discussions by MTC. Also in 2017, the Authority awarded its second cycle of OBAG grants, combined with Safe Routes to Schools, TLC and PBTF grants, for a total of $93 million awarded to local projects.

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Chapter 5

Land Use-Transportation Evaluation Program

State law requires each CMP to include a "program to analyze the impacts of land use decisions made by local jurisdictions on regional transportation systems, including an estimate of the costs associated with mitigating those impacts." The program described in this chapter meets this requirement.

The State-required land use-transportation evaluation program overlaps considerably with similar procedures established in the GMP. For that reason, the CMP incorporates many procedures from the GMP. It is important to note the intent of the Joint Powers Agreement for the Authority in serving as the CMA for Contra Costa County. This Joint Powers Agreement was signed by the Authority and all of the jurisdictions in late 1993, with the following statement:

It is expressly understood and agreed among the parties hereto that the Congestion Management Program and the Growth Management Programs impose separate requirements upon the Local Agencies. Non-conformance with a requirement of one of such programs shall not constitute non-conformance with a requirement of the other program, unless it also constitutes a separate requirement of the other programs. By way of example, non-conformance with the Measure J Action Plan process for mitigation of regional traffic impacts will not necessarily constitute non-conformance with the CMP program.

Local jurisdictions make land use decisions when they prepare and adopt long range policy documents and when they approve or deny proposed development projects. The land use evaluation program in the CMP addresses both of these types of land use decisions. (For a more detailed discussion of local responsibilities for implementing this program, please refer to the Authority's *Contra Costa Growth Management Program Implementation Guide*.)

CHANGES FROM THE 2015 CMP UPDATE

The 2017 Action Plan update process discussion has been added to this chapter.

5.1 Short-Range Planning

The CMP relies on the traffic impact analysis required by the Measure J GMP. That program requires every jurisdiction to conduct a traffic impact analysis for any proposed development project, development plan, or General Plan Amendment that would generate more than 100 net new peak hour vehicle trips (RTPCs may choose to specify a lower trip threshold). This analysis must evaluate the impacts of the proposed development on the regional transportation system and estimate the cost of mitigating those impacts, as discussed in Section 5.3 below. Traffic impact analysis may be conducted as part of the project's CEQA review or as part of a separate or prior review process.

The Authority's Technical Procedures describe in detail the traffic impact analysis requirements. Features of the required traffic impact analysis include:

- Study intersections are to be selected without considering jurisdictional boundaries.
- The analysis will include intersections on local streets as well as arterial and freeway ramp intersections.
- The area of analysis must not end when traffic gets on a freeway if the traffic would significantly add to freeway volumes or affect interchanges or off ramps.
- The analysis must include, at a minimum, consideration of three land use scenarios: (a) existing conditions plus approved development without the proposed project, (b) existing conditions plus approved development with the proposed project, and (c) cumulative conditions including all development consistent with the General Plan expected to occur within at least five years (the jurisdiction may elect to use a longer time frame.)
- If the traffic impact analysis identifies a need for project-related mitigation measures, any measures to mitigate impacts on the regional transportation

system must not conflict with programs and projects in adopted Action Plans.

- The analysis must include an estimate of the cost of mitigating the project's impacts on the regional transportation system. See Section 5.3 for further discussion of estimating mitigation costs.

Intersection LOS Methodology Change

- The Authority's *Technical Procedures* was updated in 2012 to reflect the changes in policy and process in the transition from Measure C to Measure J. Prior to the update, the *Procedures* specified using the planning-based Circular 212 or "CCTALOS" methodology for calculating Levels of Service for intersections. In the 2011 CMP, the Authority pledged to examine the possibility of incorporating the more universally-accepted Highway Capacity Manual operation-based Level-of-Service methodology, as is the standard for the Bay Area region. Staff from local jurisdictions had also indicated a willingness to transition methodologies as balancing the use of two different methodologies was beginning to become onerous.
- The Authority's Technical Coordinating Committee, working through its ad hoc subcommittee, the Technical Modeling Working Group, examined the impacts to local jurisdictions resulting from a transition in methodology. Upon comparing past CMP monitoring results using the two methodologies, it was found that all intersections remained at or above their LOS standards under the HCM methodology, and the transition was unanimously approved. The 2017 CMP Monitoring Report (to be issued under separate cover) reports intersection LOS using the 2010 HCM methodology, with select intersections using the 2000 methodology, due to unique intersection geometries.

5.2 Long-Range Planning

OPTION ONE: IMPLEMENTING THE CMP USING ACTION PLANS

An analysis of the impacts of land use decisions on regional transportation systems has been integrated into long-range planning at the local level through preparation and implementation of Action Plans, including the process for reviewing General Plan amendments (GPAs), and the development of the Regional Transportation Mitigation Program.

The performance measures included in Chapter 3 of the CMP are closely linked to the Action Plans: they were selected because these measures are also used as Multimodal Transportation Service Objectives (MTSOs) in the Action Plans. The 2009 Ac-

tion Plan Updates incorporated a change in terminology contained in Measure J, which uses MTSOs instead of TSOs, as performance measures for the CMP. Action Plan updates and General Plan Amendment review will provide an opportunity to assess both the status of transportation system operations based on the performance measures, and the potential to improve operations. These two parts of the evaluation program will be implemented as follows:

Action Plan Updates

The RTPCs have prepared Action Plans that recommend actions to change transportation demand, supply and operational efficiency to manage congestion on the regional transportation system. Each RTPC has also established a schedule for periodic review and updating of its Action Plan. Recently completed, updates assessed progress made in achieving the MTSOs, and measured change against baseline conditions assumed during the preparation of the initial Action Plan. Where progress in attaining or maintaining MTSOs is not satisfactory, the RTPC may identify new MTSOs, actions, measures, or programs to be included in the next update of the Action Plan. The 2017 update of the Action Plans has incorporated more measures related to non-motorized modes, including the addition of the Iron Horse Trail as a Route of Regional Significance in the Tri-Valley, with MTSOs developed to measure the demand on the trails and delay users experience at major street crossings. It is expected that by the next Action Plan update, more non-motorized routes and MTSOs will be incorporated to reflect the changes to CEQA under SB 743.

Features of the Action Plan process include:

- All jurisdictions in the county have participated, providing an opportunity for representatives of local governments to work together to address regional transportation issues.
- The planning process includes an analysis of the cumulative effect on the regional transportation system of probable plan build-out of all local General Plans in the county.
- Through the Action Plan process, each jurisdiction makes a commitment to specific actions designed to achieve MTSOs for Regional Routes. These actions have included land use policy changes such as measures to address the relationship between jobs and housing.
- The Regional Transportation Mitigation Program identifies projects on the regional transportation system that are needed to mitigate the impacts of new growth in Contra Costa, the costs of those projects, and the share of those cost attributable to this new growth.

The GMP includes two provisions for keeping the Action Plans current and evaluating the impact of land use policy changes as they occur. These are:

- Each RTPC will establish a schedule for periodic monitoring of the achievement of the adopted MTSOs and the updating of the Action Plans.
- Each RTPC will review major GPAs and updates under consideration by member jurisdictions, and evaluate whether proposed amendments would adversely affect the ability to achieve Action Plan objectives. This step is a key to insuring that amendments to local land use plans will not have unanticipated effects on the regional transportation system.

Review of General Plan Amendments

The Measure J GMP *Implementation Documents* requires each Action Plan to set a threshold above which a jurisdiction must study the impacts of a proposed GPA. The threshold established by the RTPC in its Action Plan may not exceed 500 net new peak hour vehicle trips, but may be lower. If such a threshold has not been established, the Authority's threshold of 500 net new peak hour vehicle trips governs. Action Plans for West and East County specify 100 peak hour trips as the threshold size, while the Lamorinda Action Plan requires all General Plan Amendments to be reviewed by the RTPC. The Tri-Valley and Central County Action Plans specifies a threshold size of 500 trips.

The review process outlined in the *Implementation Documents* focuses on the process of informing affected jurisdictions about proposed GPAs and its impacts and on the process of cooperatively resolving, wherever possible, the issues that the GPA and its impacts may raise. The jurisdiction sponsoring the GPA is responsible for adequately addressing the project's impacts on the regional route system in the CEQA document, preferably by using the MTSOs as thresholds of significance. If the GPA points toward revisions to the adopted Action Plan, the affected RTPC can work with the local jurisdictions to revise the Action Plan as necessary and appropriate. Ultimately, the proposed revisions to the Action Plan, if approved by the RTPC, will be incorporated into the CTP.

As described in the *Implementation Guide*, the GPA review process would take place concurrent with the CEQA timeline for preparation of a Negative Declaration or Environmental Impact Report.

OPTION TWO: CMP LAND USE-TRANSPORTATION EVALUATION PROGRAM SEPARATE FROM ACTION PLANS

In the first option, compliance requirements for the existing CMP are unified with those of Measure J, so that a jurisdiction that complies with Measure J can meet most of the requirements to comply with the CMP. A jurisdiction that does not comply with Measure J could alternatively meet the requirements of the CMP requirements through Option Two.

The following option can also be used to satisfy the CMP requirement to evaluate the impact of local land use decisions on the regional transportation system. This option is in line with the intent of the Joint Powers Agreement establishing the Authority as the CMP, which recognizes that the CMP and the GMP impose separate requirements on local agencies. Under Option Two:

- The sponsoring jurisdiction (a city or the county) accepts development application and conducts an initial study.
- Any land development application generating 100 or more net new peak hour vehicle trips will require a study of its traffic impacts on the CMP network. The study must be consistent with the Authority's *Technical Procedures* and can be either part of the project's environmental assessment or an independent study.
- The sponsoring jurisdiction shall measure, to the extent possible, the impact to the CMP network using the performance measures described in Chapter 3. The results of this evaluation must be submitted to each RTPC, every city, the County and the CMA for review and comment. Comments must be received prior to the close of comment for the environmental assessment.
- If the finding indicates a violation of a CMP performance measure, the sponsoring jurisdiction must identify mitigation to correct the violation and identify the cost of this mitigation. In addition, the sponsoring jurisdiction shall measure, to the extent possible, the impact of the project on the CMP network and affected public transit operations. The finding along with this supporting information must be submitted to each RTPC, every city, the County, and the CMA for review and comment. Comments must be received prior to the close of comment for the environment assessment.

5.3 Estimating Mitigation Costs

Under the State CMP legislation, the required land use-transportation analysis must also estimate the costs of mitigating the impacts of local land use decisions on regional transportation systems. The legislation does not provide detail on how to estimate mitigation costs, but does specify that, "In no case shall the program include an estimate of the costs of mitigating the impacts of interregional travel." This prohibition is consistent with State law and case law relating to impact fees. In addition, the law mandates that, "The program shall provide credit for local public and private contributions to improvements to regional transportation systems. In the case of toll road facilities, however, credit shall only be allowed for local public and private contributions that are unreimbursed from toll revenues or other state or federal sources. The agency shall calculate the amount of the credit to be provided." The CMP legislation does not require regional traffic mitigation fees, or other mecha-

nisms for the collection of mitigation costs. It requires only an estimation of the cost of mitigation.

The GMP does include a component that focuses on the cost of mitigating project impacts on the regional transportation system. It requires the Authority to, "Develop a program of regional traffic mitigation fees, assessments or other mitigations, as appropriate, to fund regional and subregional transportation projects, as determined in the Comprehensive Transportation Plan of the Authority." Work on a regional mitigation program, most of which use developer fees to fund mitigating transportation improvements, was essentially completed at the countywide level in the late 1990s. TRANSPLAN in East County and the Tri-Valley jurisdictions in the San Ramon Valley in the Southwest area have regional fees in place, as do WCCTAC in West County and Lamorinda. TRANSPAC in Central County has defined a regional transportation mitigation program that requires the execution of an inter-jurisdictional agreement between the jurisdiction in which a project is located and the other jurisdictions affected by that project.

OPTIONS FOR FULFILLING CMP REQUIREMENTS FOR ESTIMATING MITIGATION COSTS

Mitigation costs must be estimated for every project for which traffic impact analysis is performed, where the analysis identifies a need to mitigate regional impacts. Two options are available:

- The cost of implementing the proposed project mitigations for impacts on the CMP network identified in the traffic impact report prepared following the procedures outlined in the *Technical Procedures* can be estimated and included in the traffic impact report, or
- If a subregional transportation fee has been adopted for the sub-area, the traffic impact report can include a statement of the cost that would be charged to the project consistent with the subregional fee program. If that program is based on a per-trip cost, the trip generation estimate from the traffic impact analysis must be used as a basis of cost estimation.

5.4 Environmental Review

The CMP requirements for land use-transportation analysis do not preclude the CEQA requirements for environmental review established for development projects or long-range plans. Traffic congestion and related physical impacts (for example, air pollution and noise) attributable to a project or plan under study must be addressed through the environmental review process. Jurisdictions may incorporate the traffic

impact analysis process into the environmental review process or establish traffic impact analysis as a separate step in development review.

The Authority's *Implementation Documents* outline the processes for notifying all RTPCs and affected jurisdictions when a proposed project or General Plan amendment would generate more than 100 net new peak hour vehicle trips and would require an environmental document (whether a negative declaration, mitigated negative declaration or environmental impact report). Notification and consultation by the sponsoring jurisdiction would occur throughout the process of preparing and reviewing the environmental document. Consult the *Implementation Documents* for details on this process.

Chapter 6

Transportation Demand Management Element

Transportation Demand Management (TDM) is one of several methods used make best use of the existing transportation system, where capacity is limited, and major capacity increasing projects are either too costly, infeasible, or both. TDM can also help to improve air quality and reduce traffic congestion. TDM places the emphasis on shifting demand, decreasing single occupancy auto use and increasing multi-modal, higher occupancy transportation.

Since 1992, Contra Costa County, through the four Regional Transportation Planning Committees (RTPCs), has been providing transportation alternatives, in accordance with the CMP legislation through to RTPC TDM programsthe Transportation Demand Management Program, branded as 511 Contra Costa, has been providing programs aimed at reducing vehicle miles traveled (VMT) and single-occupant vehicle trips by employing alternative commute programs to encourage greater use of active transportation. The TDM programs haSve includesd countywide alternative commute incentives as well as local trip reduction programs and projects offered to local jurisdictions. These TDM elements have contributed to easing peak-period demand, thus improving system efficiency reducing congestion. According to current CMP legislation, the TDM element includes:

- Programs that reduce traffic congestion and improve air quality
- Incorporation of TDM tenets into the planning process.
-

- Carpool, vanpool, transit, bicycle, and walking encouragement and incentive programs;
- Guranteed Ride Home Program for active transportation commuters
- Promotion of park and ride lots;
- Access to School programs;
- Outreach, education and public awareness campaigns
- .

The TDM program also support MTC and the BAAQMD's implementation of recent Federal, State and local legislation regarding employer-mandated pre-tax benefit program requirements as well as employer outreach programs and air quality and VMT- reduction programs.

TDM is effective in reducing VMT and single-occupant vehicle trips. In addition, new and innovative programs have been implemented to meet public demand and to assist jurisdictions to meet GHG goals such as the Electric Vehicle Infrastructure Program, and the introduction of mobile application-based programs that provide greater information and access to transportation options. Partnerships with Transportation Network Companies (TNC) as in Lyft, Scoop, and Uber, and transit operators have provided greater opportunities for ride sharing.

As with several other parts of the CMP, implementation of the CMP TDM requirement is being combined with implementation of the Authority's GMP. Both require local efforts to reduce vehicle trips, increase use of transportation modes other than the automobile, and increase average vehicle occupancy. The TDM Element of the CMP relies on three basic strategies:

- Locally-based and countywide TDM programs;
- Efforts to increase the incorporation of TDM fundamentals into the planning process, land use and site design;
- A variety of implementing programs, including complete streets, bicycle infrastructure, parking management programs; and
- Changes in land use patterns and site design.

In addition to these three components, the CIP contains a number of projects that will also help meet the goals. Some examples of these projects include:

- Sycamore Valley Road Park and Ride Expansion;
- Completion of Phase 3 of the Martinez Intermodal Facility at the AMTRAK station;
- Oakley Multimodal Parking Lots Project:
- Walnut Creek BART Transit-Oriented Development (TOD) Multimodal Improvements

- Construction of carpool lots and bus centers in Lamorinda and Hercules; and
- First-mile and last-mile transit access projects.

The CIP also includes the further phases of improvements by AC Transit in the heavily-used San Pablo Avenue Corridor.

CHANGES FROM THE 2015 CMP

No significant changes have been made to this chapter.

6.1 Transportation Demand Management (TDM) Update

To comply with the Measure J GMP, each jurisdiction in the county amended its TDM Ordinance or Resolution in 1997 to be in substantial compliance with the Authority's model ordinance. The TDM Ordinances/Resolutions are intended to address the following policy provisions:

- Reflect recent Federal, State, Regional and local TDM and employer-based pre-tax benefit legislation; and
- Establish a policy of participation with other jurisdictions and/or the RTPCs in proactive efforts, programs and/or projects aimed at achieving the TDM trip reduction goals set forth in the subarea Action Plans, the Countywide Comprehensive Transportation Plan, the Measure J Strategic Plan, the CMP and the Bay Area Clean Air Plan; and
- Incorporate these TDM goals and fundamental elements into the jurisdiction's land use review and planning process.

These TDM requirements are being carried forward by Measure J. The model TDM ordinance and resolution document is included in Appendix G.

6.2 TDM Programs and Services

For more than two decades, Contra Costa County RTPCs have been providing comprehensive TDM programs and services. As discussed, the foundationcornerston of the TDM element has been carpool, vanpool, transit, bicycling, and walking incentive programs and supported by the Guaranteed Ride Home program. These programs support businesses and residents alike and provide economic viability, quality of life and sustainability to the region.

In addition to the fundamentals, many additional programs and services are provided to meet the demands of a growing population and fewer roadway infrastructure

projects. Access to school, bicycle and pedestrian infrastructure, electric vehicle charging infrastructure, and partnerships with TNCs and emergency preparedness planning have become vital components of the services offered.

ACCESS TO SCHOOL PROGRAMS

While TDM programs have historically focused on reducing work commuting, access-to-school programs have also been effective in reducing peak-period demand. Programs that which promote student walking, bicycling, carpooling and using public transit in lieu of district-sponsored bus systems all follow TDM tenets. Additionally, programs that encouraging parents to share student carpooling and encourage safe bicycling and walking to school those enabling walking, such as Safe Routes to School, provide greater access while decreasing peak demand in and around schools, which improves air quality, increases safety and reduces traffic congestion. Jurisdictions have implemented multiple programs to meet requirements.

Examples of TDM Access to School programs include:

- The Lamorinda jurisdictions (Lafayette, Moraga, and Orinda) and the San Ramon Valley jurisdictions (San Ramon and Danville), which have established school busing programs to reduce peak hour vehicle trips in their communities. These jurisdictions are using a combination of Measure J funds and parent fees to fund these programs. The Lamorinda School Bus provides more general home-to-school service while the San Ramon Valley program, *Traffix*, provides more focused service to schools where roadway congestion near the schools is significant.
- Safe Routes to Schools bicycle and pedestrian safety education programs are offered throughout the County. These include locally- branded Street Smarts programs for elementary, middle and high schools. The objective is to provide bicycle and pedestrian safety training to promote biking and walking to schools, and as life-skills for those students who are unable to bike or walk to school. These programs have proven to be effective in reducing the number of parents driving children to school.
- Central, East and South County's TDM program provides transit incentives to encourage students to take the public buses to school. These programs have proven successful, with more students accessing schools through public transit. With Measure J funds,
- West County's school transit ticket program offers free transit to children who are enrolled in the subsidized school lunch program.
- Safe Routes to School Programs which include bicycle and pedestrian infrastructure site-improvements at schools, infrastructure, bicycle parking facilities and other access improvements are also implemented at schools

through the use of local City and County funds, Federal SR2S funds, Regional MTC funds, Bay Area Air Quality Management District funds.

BICYCLE AND PEDESTRIAN PROGRAMS

Bicycling and pedestrian programs have increased in the last decade due to public demand and focused funding creating the need for countywide planning. In 2003, the Countywide Bicycle and Pedestrian Plan, which outlines policies and actions for improving the environment for bicyclists and pedestrians within Contra Costa, was adopted by the Authority. An update to that plan was adopted in October 2009 (and is currently being updated, with completion expected in 2017). The 2009 update refined the vision, goals and policies and outlined the approach to programming Measure J Pedestrian, Bicycle and Trails facilities, among other changes.

Among the programs provided are:

- Bicycle parking infrastructure, both electronic lockers and racks;
- Bicycle parking stations, both permanent and event-based;
- Bicycle and pedestrian access improvements and planning;
- Safety training programs for both the general public and schools; and
- Safety training for bicycling to work.

Over the years the TDM Programs have implemented and installed bicycle infrastructure at various locations throughout the County including employment sites, schools and downtown business districts. Hundreds of racks and lockers have been installed, increasing the parking capacity for thousands of additional bicycles.

In addition to bicycle parking infrastructure, bicycle programs have also been successfully developed and implemented. These include the development of the Bike Mapper iPhone application, Bicycle Commuter Assistance Program, Citywide Summer Bike Challenge, and Bike to Work Day. The use of bicycles as a means of commuting and linking trips with transit is increasing based on the additional bicycle infrastructure, as evidenced by Complete Streets legislation.

ELECTRIC VEHICLE INFRASTRUCTURE PROGRAM

As electric vehicles become more common place, it's important to note that electric vehicle use should be encouraged and promoted in conjunction with typical TDM methods to help improve air quality.

In response to the passage of AB 32 and SB 375, in 2011 a pilot program was intro-duced. and funded by the 511 Contra Costa TDM Program called the Countywide Electric Vehicle Infrastructure Program. It encouraged jurisdictions to install electric vehicle charging stations at locations available to the public and provided TDM funds for the procurement of electric vehicle charging units. Since that time with additional funding available through the BAAQMD and other sources, over half of the Contra Costa jurisdictions the program has funded 46 electric vehicle charging stations and private entities as well as local jurisdictions continue install electric vehicle charging units. have installed charging stations and the public demand is continuing to increase. According to the US DOT, California has more than 16% of all the electric charging stations in the country and a comparable percentage of electric vehicles, which warrants this attention to electric vehicle infrastructure.

6.3 TDM and Land Use Planning

Transportation Demand Management can encourage greater vehicle occupancy and thus reduce the number of vehicle trips made. Working towards a balance of jobs and housing within a community or area can help the regional transportation system by reducing the length of trips. Land development practices that would increase the need for, and encourage the use of the single-occupant vehicle, should be avoided. In Contra Costa County, 82% of all commute trips are made by private vehicle, with 70% being solo drivers. In order to decrease the need and use of single-occupant vehicles, incorporation of TDM fundamentals into the entire planning process is vital. Including a greater mix of land uses, such as transit-oriented development (TOD), can make transit, walking and bicycling more accessible. Parking demand management is another effective method of reducing demand on the private vehicle.

In addition to these strategies, four techniques in land use planning and site design can encourage a more multi-modal and transportation-efficient pattern of land uses:

- Concentrating development within walking distance of transit stations lines;
- Mixing a greater number of uses within a single development;
- Making the transportation network friendlier for pedestrians, bicyclists and transit riders; and
- Increasing the number of connections within and between developments.

In order to maximize on the opportunities to develop transit-friendly developments, the California legislature passed SB 743 (Steinberg) in 2013, which expands the definition of "infill opportunity zones" to include areas within one-half mile (from one-third mile) of an existing or planned major transit stop (consistent with Transit Prior-

ity Areas definition). This allows jurisdictions with a designated infill opportunity zone to claim an exemption under CEQA guidelines from the application of Level of Service standards on the roadway system for developments therein.

Concentrate Development around Transit Corridors Shifting trips from the private automobile to transit would remove a significant number of vehicles from the regional transportation system. To do this, transit must be made more convenient for potential riders. One way to do this is to increase the number of potential riders close to bus stops and rail transit stations. To be successful, both ends of the trips must be convenient to the riders.

Mixed-Use Developments In addition to shifting trips from the private automobile, land use changes can reduce the number of vehicle trips made by bringing different uses closer together. Where jobs are close to restaurants, banks, shopping and other services, workers will not need to drive to lunch, shop or run errands. Likewise, if homes are closer to shopping, schools and recreation, residents may be able to walk—instead of driving—to these destinations. The specific mix of uses will depend on the character of each area and the role that it will play in the city's life. Transit- and pedestrian-supportive shopping districts would have a different mix of uses than an employment center, which would in turn differ from a more residential area.

Pedestrian- and Bicycle-Friendly Design Even if uses are brought close together, people may still drive if walking or bicycling is not perceived to be easy, safe or comfortable. In addition to having a mix of uses that allows short, linked trips, the design of streets must consider the needs of walkers and bicyclists. Pedestrian amenities could include new or expanded sidewalks, separating these sidewalks from traffic with parking, locating storefronts close to sidewalks and encouraging multiple, closely spaced building entrances. Bicyclists must also feel safe and welcomed in these areas with efforts made to slow traffic, add clearly marked bike lanes and provide parking for both bicycles and cars. This type of design would not ban automobiles but would try instead to balance the needs of pedestrians, bicyclists and transit riders with those of drivers.

Increase Street Connections Most contemporary subdivision and employment center design limits connections among adjacent areas except along arterial streets. This reliance on arterial streets limits pedestrian access between adjoining uses and can lead to greater congestion on those arterial streets. Transit-supportive or pedestrian friendly development design would create a greater number of connections among the uses it contains. By creating a greater number of links, automobile traffic would be spread over a larger area, thus diluting its impact. To counteract the increase in traffic on local streets, streets should be designed to slow traffic through

narrower pavement widths, on-street parking and a greater sense of enclosure with streets trees and buildings located closer to the street.

PARKING DEMAND MANAGEMENT PROGRAMS

Parking management programs also provide an important way of reducing trips and achieving TDM goals. A parking management program combines the basics of land use management and TDM elements to potentially increase the amount of land available while making use more efficient. This improves traffic flow, use of alternative transportation modes, reduces congestion from circling, and encourages further economic development.

Parking cash-out programs, shared-use parking programs, electronic parking management systems and reduced parking requirements are key components of a robust parking management program. The CMP legislation requires consideration of parking cash-out programs. A parking cash-out program is defined as an employer funded program under which an employer offers to provide a cash allowance to an employee equivalent to the parking cost that the employer would otherwise pay to provide the employee with a parking space.

One cost effective element of shared-use parking is leased park and ride spaces at movie theaters, churches and other locations where peak demand is opposite that of peak commuting demand. Signs clearly identifying the hours of park and ride availability and restrictions of use are typical. This is particularly important for vanpool programs where riders meet and park their private vehicles on a daily basis.

In addition to shared parking programs, jurisdictions could investigate reduced parking requirements generally. A local survey could identify and lead to reduced parking requirements for some uses or a rate that varies based on the size of the building or firm occupying the building. (A firm subject to the State parking cash-out requirement, for example—that is, one that has over 50 employees—may need fewer parking spaces.). Also, jurisdictions could adjust the pricing of on-street parking spaces based on demand (much like the pricing of high occupancy toll lanes) where the higher the demand, the higher the cost and vice versa. Over time, this congestion pricing method decreases the practice of drivers circling the area looking for cheaper parking during the most congested timeframe.

Additional programs to reduce congestion and reliance on single-occupant vehicle usage may include congestion pricing, through the Express Lanes effort and other strategies, implementation of paid parking where free parking currently exists, and institution of parking maximums and bundled parking programs for new developments, both residential and commercial. In addition, the concept of shared curb

space to address the proliferation of shared use vehicles and the transportation network companies should be explored by jurisdictions and property owners.

Making these changes in land use patterns and site design will require local jurisdictions to look at opportunities for redevelopment and infill as well as new development. Existing transit corridors are located to serve existing development, thus making redevelopment the most likely method for carrying out these changes. Redevelopment and infill is a much more difficult process that requires greater consideration of existing uses than new development would. Local jurisdictions need to evaluate realistically their opportunities for transit-supportive development. In addition, since commuters frequently live in one city and work in another, transit-supportive development in one jurisdiction must be coordinated with similar development in other jurisdictions to be successful.

Within the Bay Area, MTC and ABAG have prepared guidebooks for incorporating these concepts into local plans and programs.

6.4 TDM and Housing and Jobs Planning

Efforts to improve jobs-housing relationships are to be undertaken through work on the Action Plans for Routes of Regional Significance and through local planning activities. These activities include the use of General Plans and zoning and subdivision ordinances, as well as economic development and housing affordability programs. The Authority encourages and is willing to assist local jurisdictions to improve jobs-housing balance in order to reduce the impacts of long-distance commuting. The Authority is facilitating consideration of jobs-housing balance at the local, sub-regional and countywide level through the Action Plan process. Opportunities for local governments to address jobs-housing relationships have been addressed in the 2010 update of the Measure J Growth Implementation Guide.

6.5 Regional Programs to Support Improved Land Use and Transportation Connection

MTC'S TRANSPORTATION FOR LIVABLE COMMUNITIES & HOUSING INCENTIVE PROGRAMS

Since 1998, MTC has offered funding for projects that foster the creation of livable communities. These types of development include those that support multimodal transit, provide jobs or housing near existing town centers, and enhance pedestrian and bicycle access to transit hubs, activity centers, and neighborhood commercial districts. MTC provides technical assistance and capital grants to support projects

fitting this description. The goal of the program is to support vibrant downtown areas along with commercial centers and neighborhoods that provide a range of transit options and enhanced connectivity.

MTC'S TOD POLICY FOR REGIONAL TRANSIT PROJECTS

As part of its Regional Transit Expansion Program of Projects set out in Resolution 3434, MTC established a policy on transit-oriented developments (TOD) associated with the development of those transit expansion projects. This policy has three elements:

- Planning for minimum levels of residential development around transit stations in new transit corridors;
- Local station area plans that address future land use changes, station access needs, circulation improvements, pedestrian-friendly design, and other components of transit-friendly design; and
- Corridor working groups of key stakeholders to support the transit project development process

In Contra Costa, the TOD policy applies to eBART and the second phase of the Water Transit Authority's expanded ferry service program. For the eBART project, which is considered "commuter rail" in the policy, the corridor (including the existing end-of-the-line station) must plan to an average of 2,200 housing units per station. Jurisdictions with proposed new ferry service would need to provide a minimum of 750 housing units near the ferry station. The OBAG program is expected to assist in the development of TODs along the eBART line, with the Pittsburg Center Station due to receive funding for infrastructure and access improvements under the OBAG 2 program.

The Authority is working with local jurisdictions, BART, Tri Delta Transit and other stakeholders on the development of the eBART project as part of that corridor working group and on the development of the station area plans needed in the corridor. In addition, the Authority is using Measure C and Measure J funds to support both the station area planning and planning for the project itself. The Authority will be involved in similar processes needed to begin ferry service in the county.

TABLE 6.5.1 Resolution 3434 Transit Extension Projects Subject to Corridor Thresholds

Project	*Sponsor*	*Type*	*Threshold met with current development?*	*Meets TOD Policy (with current + new development as planned)?*
BART East Contra Costa Rail Extension (eBART)	BART/CCTA	Commuter Rail		
a) Phase 1 Pittsburg to Antioch			No	Yes
b) Future Phases			No	No

SAN FRANCISCO BAY AREA FOCUS PROGRAM

The FOCUS program was an effort developed in 2002 through the collaboration of a number of regional agencies, local governments, and community groups in the San Francisco Bay Area. The goal of the FOCUS program is to address housing and traffic problems facing the area while developing solutions that will improve the quality of life in the Bay Area. Through the program, local jurisdictions are collaborating to identify areas that can best accommodate future growth and identifying these sites as Priority Development Areas. Other sites not suitable for development are identified as Conservation Areas. Each participating jurisdiction can nominate areas that it would like to receive either designation, and these designations may be coordinated with other planning efforts developed under the CMP. Jurisdictions with designated areas may be eligible for a number of financial incentives in the future.

Priority Development Areas (PDAs)

One of the most important components of the SCS is identification of the location of housing and jobs over the next 25 years. PDAs are locally-identified, infill development opportunity areas within existing communities. They are generally areas of at least 100 acres where there is local commitment to developing more housing along with amenities and services to meet the day-to-day needs of residents in a pedestrian-friendly environment served by transit. To be eligible to become a PDA, an area had to be within an existing community, near existing or planned fixed transit or served by comparable bus service, and planned for more housing.

Since ABAG began the PDA program under FOCUS and continuing into the SCS process, some 33 sites have been identified in Contra Costa as PDAs. In order to assist in making these PDAs a reality, MTC has established the One Bay Area Grants (OBAG) program. Jurisdictions with a PDA may apply for grant funding under

OBAG for site planning, infrastructure construction, economic feasibility studies and other forms of assistance. Under OBAG, at least 70% of the grant funds must be spent within, or in proximate access to the PDA. The Authority has developed a PDA Investment and Growth Strategy that describes how the transportation funding available through the OBAG program will be prioritized and allocated within the County. A full listing of Contra Costa PDAs is found in Table 6.5.2.

TABLE 6.5.2 Contra Costa County Priority Development Areas

Sponsor	*Name*	*Place Type*	*Size (gross acres)*
Antioch	Hillcrest eBART Station	Suburban Center	382
Antioch	Rivertown Waterfront	Transit Town Center	474
Concord	Community Reuse Area	Regional Center	1,066
Concord	Community Reuse Area	Transit Neighborhood	1,606
Concord	Downtown	City Center	486
Contra Costa County	North Richmond	Transit Neighborhood	1,126
Contra Costa County	Downtown El Sobrante	Mixed-Use Corridor	171
Contra Costa County	Contra Costa Centre	Mix-Use Corridor	100
Contra Costa County	Pittsburg/Bay Point BART Station	Transit Neighborhood	409
El Cerrito	San Pablo Avenue Corridor	Mixed-Use Corridor	430
Hercules	Central Hercules	Transit Neighborhood	252
Hercules	Waterfront District	Transit Town Center	244
Lafayette	Downtown	Transit Town Center	304
Martinez	Downtown	Transit Neighborhood	191
Moraga	Moraga Center	Transit Town Center	180
Oakley	Downtown	Transit Town Center	146
Oakley	Employment Focus Area	Suburban Center	758
Oakley	Potential Planning Area	Transit Neighborhood	232
Orinda	Downtown	Transit Town Center	155
Pinole	Appian Way Corridor	Transit Town Center	141
Pinole	Old Town	Suburban Center	240
Pittsburg	Downtown	Transit Neighborhood	435
Pittsburg	Railroad Avenue eBART Station	Transit Town Center	1,071
Pleasant Hill	Buskirk Avenue Corridor	Mix-Use Corridor	320
Pleasant Hill	Diablo Valley College	Transit Neighborhood	58

Sponsor	*Name*	*Place Type*	*Size (gross acres)*
Richmond	Central Richmond & 23rd Street Corridor	Mixed-Use Corridor	825
Richmond	South Richmond	Transit Neighborhood	1,422
San Pablo	San Pablo Avenue & 23rd Street	Mixed-Use Corridor	284
San Pablo	Rumrill Boulevard	Employment Center	55
San Ramon	City Center	Suburban Center	456
San Ramon	North Camino Ramon	Transit Town Center	302
Walnut Creek	West Downtown	Suburban Center	232
WCCTAC	San Pablo Avenue Corridor	Mixed-Use Corridor	635

Priority Conservation Areas (PCAs)

Priority conservation areas are areas of regional significance that have broad community support and an urgent need for protection. These areas provide important agricultural, natural resource, historical, scenic, cultural, recreational, and/or ecological values and ecosystem functions.

The purpose of designating priority conservation areas through the FOCUS Program and SCS process is to accelerate protection of key natural lands in the San Francisco Bay Area through purchase or conservation easements within the next few years. Conservation will be promoted through regional designation by:

- Coordinating conservation efforts within a regional framework of near-term priorities
- Providing a strong platform on which to leverage public and private resources
- Building upon prior and existing land protection efforts and investments; and
- Providing opportunities for forging new partnerships

In the fall of 2007, local governments, public agencies, and nonprofit organizations nominated over 100 areas for consideration as Priority Conservation Areas. Nominations were reviewed by staff, a review panel, regional committees, and local governments. Recommendations were based on the three nomination criteria: level of consensus, regional significance, and urgency for protection. The ABAG Board adopted a set of Priority Conservation Areas on July 17, 2008. Table 6.5.3 lists the approved PCAs in Contra Costa.

TABLE 6.5.3 Contra Costa County Priority Conservation Areas

Lead Nominating Agency	*Name*	*Acres*
City of Hercules	Central Hercules and Waterfront District	142
City of San Ramon	Big Canyon Preserve	8
Town of Moraga	MOSO and NON-MOSO Open Space	2,297
City of Walnut Creek	Acalanes Ridge Open Space	24
East Bay Municipal Utility District	Indian Valley	707
City of Lafayette	Burton Ridge	549
City of Lafayette	Lafayette Ridge	1,370
Contra Costa County	Contra Costa County Agricultural Core	11,434
Contra Costa County	East Contra Costa County Habitat Conservation Plan/Natural Community Conservation Plan	41,232
East Bay Regional Park District	Point Edith Wetlands Area	3,551
East Bay Regional Park District	Delta Recreation Area	12,623
East Bay Regional Park District	Potential Pinole Watershed Area	2,753
East Bay Regional Park District	San Francisco Bay Trail - Bay Area Ridge Trail	42
East Bay Regional Park District	East Bay Regional Parks District, Regional Trails System Gaps	708

CALIFORNIA SUSTAINABLE COMMUNITIES AND CLIMATE PROTECTION ACT OF 2008 (SB 375)

SB 375 establishes new local and regional coordination expectations to help achieve the greenhouse gas (GHG) reduction targets of AB 32, the State's global warming legislation. SB 375 uses four different approaches to achieve its goals:

- New State guidelines for regional transportation demand models;
- Regional Sustainable Communities Strategies (SCS);
- New links between Regional Housing Needs Assessments and RTPs; and
- Exemption of certain kinds of projects from CEQA analysis.

Guidelines for Transportation Demand Models

Under SB 375, transportation demand models used to prepare RTPs must account for:

- The statistically-based relationship between density, vehicle ownership and vehicle miles traveled;
- The effect of enhanced transit service on vehicle ownership and vehicle miles traveled;
- The effect of highway or passenger rail expansion on changes in transportation and land development;
- The allocation of trips between automobile, transit, carpools, and bicycling and walking; and
- Speed, frequency, days, and hours of operation of transit service.

The Sustainable Communities Strategy (SCS) and Alternative Planning Strategy (APS)

Under SB 375, MPOs such as MTC must adopt a Sustainable Communities Strategy (SCS) as part of their RTPs. The SCS must identify an integrated system of land use and transportation that together work to meet the greenhouse gas emission reduction targets approved by CARB. This pattern of land uses and transportation facilities must also provide sufficient development potential to house the existing and future population over the next eight and 20 years and serve the transportation needs of the region. In the Bay Area, the SCS is developed in conjunction with ABAG. MTC's Plan Bay Area is the first plan for the Bay Area region to contain an SCS under SB 375, and successfully met the required goals for greenhouse gas reductions.

If the SCS were to fall short of these greenhouse gas targets, regional agencies must develop an "alternative planning strategy" (APS) that meets the targets. The APS can include bolder ideas that may require additional funds or changes in law. CARB can only approve or reject the SCS and APS. If rejected, MTC must revise the strategies until CARB agrees that at least the APS would reach the GHG reduction targets.

Housing Needs and CEQA Exemptions

SB 375 requires that the allocations of regional housing needs that ABAG prepares must be consistent with the development pattern adopted in the SCS and the schedule of the RTP process. Local governments will now need to update their housing elements within three years of the adoption of the SCS to be consistent with ABAG housing needs allocations. SB 375 also exempts housing and mixed-use projects that meet specified criteria — such as proximity to transit — from some of the requirements of the California Environmental Quality Act (CEQA).

Role of the Authority

Regional agencies, as part of their required public participation program, must consult with CMAs, such as the Authority, about the SCS or (if necessary) the APS. The Authority invested significant time and resources as part of the development of the

SCS and Plan Bay Area. Coordination with the other CMAs and MTC, ABAG and the other regional agencies that make up the JPC to create an SCS that works for both Contra Costa and the region, while recognizing the decisions embodied in Measure J, was the ultimate goal. To that end, the Authority retained consultant support to assist the Contra Costa jurisdiction respond to the SCS alternatives and help the Authority develop its PDA Investment and Development Strategy.

SCS Guiding Principles

In anticipation of the SCS process, the Authority in January 2010, developed a set of principles in order to support collaborative decision-making in working towards a feasible SCS that meets the greenhouse gas reduction targets, while supporting the Authority's mission, vision, and core values:

Forge a Positive Relationship with the Regional Agencies. At both the elected official and staff level, the Authority intends to work with the regional agencies to support development of an SCS by facilitating a dialogue between the regional agencies and local jurisdictions regarding land use plans in Contra Costa.

Consensus-Based Planning. The Authority will seek to achieve an SCS as it applies to Contra Costa that reflects agreement between local jurisdictions and the regional agencies regarding land use assumptions, along with a Contra Costa-based plan for supportive transportation investments.

Consideration of General Plans. The long-range (2040) vision for the SCS will specify where new growth is to occur. This vision may conflict with currently adopted General Plans. Local jurisdictions that are in agreement with the land use assumptions in the SCS would undertake subsequent General Plan Amendments to reflect the agreed-upon SCS, and such action may take place subsequent to adoption of the 2013 RTP. Local jurisdictions that are not in agreement with the proposed land use assumptions in the SCS will be given the opportunity to work at the subregional level in collaboration with the regional agencies to develop an alternative land use proposal that contributes towards achievement of the Bay Area's GHG emissions target. Where mutual agreement on the proposed SCS is not achieved, the role of the Authority will be to acknowledge the conflict and to identify other factors or impacts that may be relevant for the protection of the environment, furtherance of GHG goals by alternative means, or the sustainability of a local jurisdiction.

Local Control of General Plans and Zoning Maps. Each local jurisdiction shall retain full control of local general plans and zoning within its municipal boundary.

Ensure the Participation of all Local Jurisdictions and Partner Agencies. Beyond a focus on the priority development areas (PDAs) as the core of the SCS, efforts will also be made to ensure that all cities and towns can successfully participate in the process, so that their land use and transportation needs can also be addressed. Furthermore, the Authority welcomes and encourages participation by other agencies, such as the transit operators.

Facilitative Role. Working in partnership with local jurisdictions and the regional agencies, the Authority, as a transportation agency, should play a facilitative role by providing resources, information and policy insights to cities, towns and Contra Costa County, while recognizing that local jurisdictions have sole discretion with respect to land use decisions. A working group of Contra Costa planning directors will be established to monitor the development of the SCS and any issues raised during that process.

Urban Limit Line. The SCS needs to respect the Measure J mandated Urban Limit Line (ULL) for Contra Costa, which represents an agreed upon "urban growth boundary," and shall direct all urban development to areas within the ULL.

Sustainable Transit. Ensure that the SCS includes feasible transit service that is adequately funded to provide reliable and convenient service for Contra Costa, while encouraging walking and bicycling.

Rural Sustainability Component. Recognizing SB 375's overall goal of achieving more focused growth, the SCS also needs to consider transportation investments for the safety and preservation of roads serving farm to market and interconnectivity transportation needs.

Public Health. The Authority recognizes that there are multiple public health benefits to transportation policies that both reduce GHG emissions and increase mode share of walking, cycling, and transit, and will consider these health co-benefits in planning decisions.

Reflect Contra Costa's Continuing Commitment to Growth Management and Resource Conservation. Development of the SCS shall incorporate Contra Costa's existing efforts and programs that would help reduce GHG emissions. These include the Measure J Growth Management Program (GMP), the establishment of PDAs and PCAs, and the East Contra Costa Habitat Conservancy. The GMP, in particular, has much in common with the objectives of the SCS, including the ULL provision noted above, local jurisdiction compliance with State Housing and Community Development (HCD) Department requirements, 511 Contra Costa Clean Fuel Infrastructure and transportation

demand management programs funded by Measures C and J, and a general plan amendment (GPA) review process to address the impacts of growth and promote appropriate mitigation.

Shaping Our Future. Continue the collaborative process that began with Shaping Our Future, where Contra Costa jurisdictions collectively developed the Shaping Our Future land use plan, and which provided a springboard to the PDAs and PCAs that are now being incorporated into the SCS and which has significant transportation benefits.

Common Voice. The Authority in collaboration with the cities, towns and Contra Costa County should provide a unified voice and advocate for all Contra Costa jurisdictions in working work with the regional agencies and adjacent CMAs.

Final SCS. The Authority will support the final SCS provided it is consistent with each local jurisdiction's mission, vision and sustainability goals.

The Authority views these principles as a "living" document, and from time-to-time may update or revise the list in order to make course corrections in order to better facilitate a collaborative SCS development effort.

Chapter 7

Travel Demand Modeling

The Countywide Model is built on information on the transportation system and land uses in the county that was supplied by local jurisdictions, State and regional agencies, and transit providers. These agencies and jurisdictions were involved in the development and review of the model during its creation. The models are available to these agencies for use in planning projects. Model input requirements, output options and applications are discussed here; Appendix H and related materials describe in detail the way in which consistency is being achieved between the Authority model and regional models developed by MTC.

The model uses the MTC 1454 zone system outside of Contra Costa, a change from the previous model, which used the 1099 zone system. The model applies data from MTC's latest RTP effort. Building on the MTC model and previous Contra Costa models, the Countywide Model has a combined structure of 3,120 zones, including zonal detail for the 33 PDAs in Contra Costa.

CHANGES FROM THE 2015 CMP

This chapter has been updated to reflect model updates since 2015, and to document current modeling activities and the ongoing Model Evaluation Study.

7.1 The Countywide Model

The Authority recently completed the update of its five-step Countywide Model. The Countywide Model is driven by the land use database and retains the trip-generation and trip-distribution steps to the modeling process to develop trip tables that approximate, and also replicate MTC's trip tables at the county-to-county level. The model provides VMT, VHT, and GhG production as outputs to more accurately estimate the impacts of projects and development scenarios.

LAND USE DATA BASE UPDATE

The five-step Countywide Model uses demographic data as the basis for estimating trip generation, as did the former subarea models. Both the demographic and transportation network data are used in predicting trip distribution patterns and mode of travel.

This database was updated in 2010 in order to achieve conformance with ABAG's Current Regional Plans land use dataset, and is currently being updated with the Play Bay Area-based Projections 2013. The model demographic inputs for traffic zones within Contra Costa consist of the following thirteen variables for the years 2000, 2010, 2020, 2030 and 2040:

- Number of Households
- Household Population
- Employed Residents
- Household Income
- Retail Employment
- Service Employment
- Manufacturing Employment
- Agricultural Employment
- Wholesale Employment
- Other Employment
- Total Acreage in Each Zone
- High School Enrollment
- College Enrollment

ACHIEVING CONFORMITY WITH THE RTP MODEL

MTC completed the update of its Model for the purposes of analyzing the latest Regional Transportation Plan (RTP). This update used the land use assumptions in the preferred scenario ('Jobs-Housing Connection') land use data set from ABAG, with 2005 as the base year and forecasts to year 2040. As the CMA for Contra Costa, the Authority is required by MTC to maintain a travel demand model that conforms to

ABAG housing and jobs projections. A tolerance of one percent is permitted within the County.

To remain compliant with MTC's CMP consistency guidelines, CCTA has developed updated the model with P-2013 land use data, based on the adopted SCS and adopted Plan Bay Area RTP. The model takes MTC's Baycast Model vehicle trip tables and expands them to the detailed Contra Costa zonal system and re-assigns traffic to the CCTA model network. Beginning in late 2017, CCTA will update the model with P-2017 land use data, developed as part of the 2017 RTP, Plan Bay Area 2040. The updated land use will allow CCTA to begin assessing project performance ahead of the next RTP update.

HIGHWAY AND TRANSIT NETWORK ASSUMPTIONS

The highway and transit networks for the countywide model include freeways, major arterials and selected minor arterials. The network has been refined to provide additional detail for each subarea, including most minor and major arterials and signalized intersections. The network assumptions for the model are as follows:

2010 All existing roadways and transit links as of early 2010

2020 All projects under construction and/or programmed in accordance with the approved Transportation Improvement Program (TIP)

2030 All projects from the year 2020 network plus all projects in the RTP Financially Constrained Element

2040 All projects in the Vision Element of the RTP

COUNTYWIDE MODEL EVALUATION STUDY

Every 10 years, the Authority embarks on a major overhaul of the Countywide Model, known as the *Decennial Model Update*. The next Decennial Update is scheduled to begin in 2020. Ahead of the update, the Authority commenced a study to evaluate the future direction of the Countywide Model. Since the last Decennial Update in 2010, the modeling environment has changed significantly, with MTC and other Bay Area CMAs transitioning to activity-based models (ABM), from the traditional trip-based models. This transition has made maintaining consistency with MTC's model an increasingly difficult task, one that is required by CMP legislation, which was one of the major reasons to undertake this evaluation.

The Authority, working with on-call modeling support consultant, Kittelson and Associates, and through the Technical Modeling Working Group (TMWG), began de-

veloping strategies and criteria in 2016 that would help determine whether to transition an ABM, what software platform should be utilized, and whether to add San Joaquin as a permanent tenth county in the model. In June 2017, the TMWG, upon receiving two detailed presentations from the consultant and staff, recommended a strategy to migrate to the ABM platform, and to use MTC's (under development) Travel Model 2, as the basis for the model, with detail to be added to Contra Costa's roadway network and land use zones. MTC expects Travel Model 2 to be ready for use by CMAs in 2019. The hope is that by directly using the MTC model, that consistency will no longer be an issue, and that the model will be able to test some of our operational and technological innovations, including Express Lanes, ramp metering, bus-on-shoulders, transportation network companies (Uber, Lyft and the like), and connected/autonomous vehicles. Staff and consultants will continue to use the four-step Countywide Model until the ABM is developed and validated, and may be retained in the future for "quick-response" model runs.

7.2 Uses of the Model

State law requires the Authority and other CMAs to develop a computerized countywide travel demand model. The CMP model and the new countywide model developed by the Authority have multiple purposes — some are directly related to the CMP, while others support a range of land use and transportation planning activities.

CAPITAL IMPROVEMENT PROGRAM (CIP) ANALYSIS

The CIP included in this CMP includes actions intended to improve the multimodal performance of the CMP network and those needed to maintain operation within the standards for roadway levels of service and transit performance. The effectiveness of the capital projects in meeting these objectives can be evaluated by comparing results of model runs for the year 2020 with and without the capital projects included in the CIP. The year 2020 TIP network includes all projects in the approved Transportation Improvement Program (TIP).

ACTION PLAN DEVELOPMENT

The Action Plans for Routes of Regional Significance are developed and updated by the RPTCs and include MTSOs that will be evaluated against existing, near-term and long-range conditions. This evaluation requires that data be collected for existing conditions and that travel forecasts be developed for both near-term and long-range future conditions. The near-term condition reflects a five-year planning horizon and includes all approved development that has not been constructed. The long-range conditions reflect reasonable assumptions regarding anticipated development given

General Plan policies and anticipated market conditions, normally within a 20 to 25-year planning horizon.

The Countywide Model was the primary tool for establishing the MTSOs and testing selected policy actions. The model was used to develop estimates of through-traffic, future local traffic demand, travel times, average auto occupancies and transit ridership, among other MTSOs.

Approved Action Plans formed the basis of the CTP, which was adopted by the Authority in September 2017. The objectives and actions contained in the Action Plans are the basis for the multimodal performance measures included in this CMP. The Countywide Model was used for the Action Plan Updates that were adopted into the 2017 CTP. The updated Countywide Model was used in the analysis of the MTSOs for the 2017 update of the Action Plans. These Action Plans feed into the Contra Costa Countywide Transportation Plan, which is currently using the Countywide Model for the Environmental Impact Report. VMT, VHD, and Greenhouse Gas emissions resulting from the 2040 build-out of the Plan are being quantified by the Countywide Model. The 2017 CTP EIR was finalized in September of 2017.

DEFICIENCY PLAN PREPARATION

The CMP requires identification of jurisdictions that contribute 10 percent of the traffic using capacity of any CMP facility where the established level of service standard is exceeded. The select link capabilities of the travel demand models will be used to identify those who must participate in the development of a Deficiency Plan according to this criterion.

The Action Plans for Routes of Regional Significance could serve as Deficiency Plans should CMP facilities exceed the established LOS standards. The travel forecasting models will be important tools in the refinement of the Action Plans to meet Deficiency Plan requirements and in evaluating the Deficiency Plan's expected effectiveness.

GENERAL PLAN DEVELOPMENT AND REVIEW

To achieve local compliance with the GMP, transportation analysis must show that all signalized intersections on Basic Routes within the jurisdiction can reasonably be expected to meet LOS standards adopted in the General Plan's GME. The travel demand forecasting model will be only one of the tools used to develop and test General Plan policies. The model can be used to:

1. "Balance" proposed land uses to reflect available transportation infrastructure;

2. Evaluate the relative impacts of alternative types and intensities of land uses;
3. Estimate the impact of through-traffic generated from and/or destined for locations in other jurisdictions; and
4. Permit the evaluation of the impact of major roadway or transit improvements on travel behavior and impacts of major land use changes.

General Plans are not required to include the LOS standards adopted as part of the CMP.

OTHER USES OF THE MODEL

The preceding uses of the Authority's travel demand models are tied to the Authority's direct responsibilities and activities. The models, however, continue to be useful in other activities.

Traffic Studies Local governments may use the travel demand models to prepare traffic studies, either using the model directly or periodic model output. These studies could evaluate the effects of specific developments or subarea plans on the future functioning of roadways and transit systems. The Countywide Model has already been used in updates to several local General Plans and for the reuse of the Concord Naval Weapons Station.

Transportation Corridor Studies The Countywide model is being used for various corridor and project studies, including the SR-239 corridor study in Eastern Contra Costa, for which the Authority is developing a 10-County model, adding San Joaquin County to the nine Bay Area county modeling system. The Countywide Model was also used in the development of the Corridor System Management Plans for I-80, I-680, SR-4, and SR-24, as well as the major transit investment studies in the I-680 and I-80 corridors to estimate potential ridership for various alternatives.

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Chapter 8

Deficiency Planning

STATE REQUIREMENTS

The CMP legislation requires Deficiency Plans to be prepared when a LOS standard established on the CMP network is exceeded after calculating required exclusions. Deficiency Plans provide a method for local governments to focus on areas where congestion has diminished system performance below adopted standards. Deficiency Plans also provide an opportunity to analyze the cause of the deficiency and determine whether the implementation of local improvements or measures to improve overall system efficiency and air quality would be more appropriate. When a deficiency is determined, both the jurisdiction in which the deficiency occurs and any jurisdictions that contribute substantially to the deficiency must work together to prepare, or oversee the preparation of, a Deficiency Plan.

SUMMARY OF THE DEFICIENCY PLANNING PROCESS

There are three basic steps in the process of deficiency planning: (1) identification of the deficiency and which jurisdictions must be involved in the plan preparation, (2) preparation of the Deficiency Plan itself, and (3) review, adoption and implementation of the Deficiency Plan.

The first step — identifying deficiencies — begins with the required monitoring of conditions on the designated CMP network. Monitoring will be conducted by the Authority. (While CMP legislation requires monitoring at least every two years, it

can be more frequent. See Chapter 2 for monitoring requirements in the Contra Costa CMP.) If monitoring uncovers a LOS standard that is being exceeded, the Authority must then conduct an exclusions study. Certain kinds of traffic or traffic impacts may, according to the CMP legislation, be excluded from the analysis of the conditions on the intersection or freeway segment. Exclusions are listed in Section 65089.4(f) of the CMP legislation. The exclusions study quantifies each exclusion, and documents how the exclusions and the revised LOS calculation were performed. If after exclusions, no LOS exceedance occurs, the Authority will make a finding at a noticed public hearing that no deficiency exists. If, however, the intersection or freeway segment still does not meet the LOS standard after these exclusions are made, a Deficiency Plan must be prepared. The Authority then must determine which jurisdictions within the county are generating the traffic responsible for causing the deficient segment or intersection.

In the second step, the lead and contributing jurisdictions must work together to prepare, or oversee the preparation of, the Deficiency Plan. As described below in greater detail, the jurisdictions must:

1. Analyze what is causing the deficiency;
2. Identify projects that would both maintain the LOS standard that was exceeded or otherwise improve multimodal performance of the overall system and air quality; and
3. Develop an action program that includes implementation strategies and schedules for each jurisdiction and identifies "the most effective implementation strategies for improving current and future system performance."

The third and final step is the adoption, implementation and monitoring of the Deficiency Plan. This step includes both local adoption and approval by the Authority. Failure to prepare a Deficiency Plan that receives Authority approval will put a jurisdiction out of compliance with the CMP. Deficiency Plan progress will be monitored through the annual compliance checklists and implemented through both local actions and updates to the Action Plans.

CHANGES FROM 2015 UPDATE

No changes to the Deficiency Planning chapter have been made.

8.1 Determining a Deficiency

This step in the deficiency planning process includes identifying the deficiency and which jurisdictions must be involved in the plan preparation. The flow chart in Fig-

ure 8.1 illustrates this process. The process of determining a deficiency begins with the Authority monitoring LOS on the designated CMP network. Monitoring is conducted to determine conformance with the CMP level of service standards. (Refer to Section 2.4: Monitoring Level of Service Standards for further discussion.) Beginning with the 1995 CMP cycle, the state CMP legislation allows monitoring to be conducted every other year, rather than every year. Under the Contra Costa CMP, however, an intersection or roadway segment at LOS E must be monitored annually. If during monitoring, an intersection or freeway segment is at LOS F, a deficiency may exist.

The Authority will monitor intersections or freeway segments three times where an initial count shows LOS F conditions. If two of the three measurements are at LOS F, then the Authority will conduct an "Exclusions Study" to determine whether a deficiency remains after making allowable traffic exclusions. If the deficiency remains after making the exclusions, the Authority will conduct a "Participation Study." This study will determine which other jurisdictions within Contra Costa County contribute more than 10 percent of the traffic at the deficient intersection or on the freeway segment. These jurisdictions must work with the jurisdiction that contains the deficiency to prepare the Deficiency Plan.

The Authority will notify the jurisdictions in which the deficiency is located that it has the responsibility for preparing and adopting the Deficiency Plan. The Authority will also notify contributing jurisdictions that they must participate in the Deficiency Plan preparation. If the intersection or freeway segment is not deficient after making the required exclusions, the Authority will notify the jurisdiction in which the deficiency is located and make a finding at a noticed public hearing that no Deficiency Plan is required.

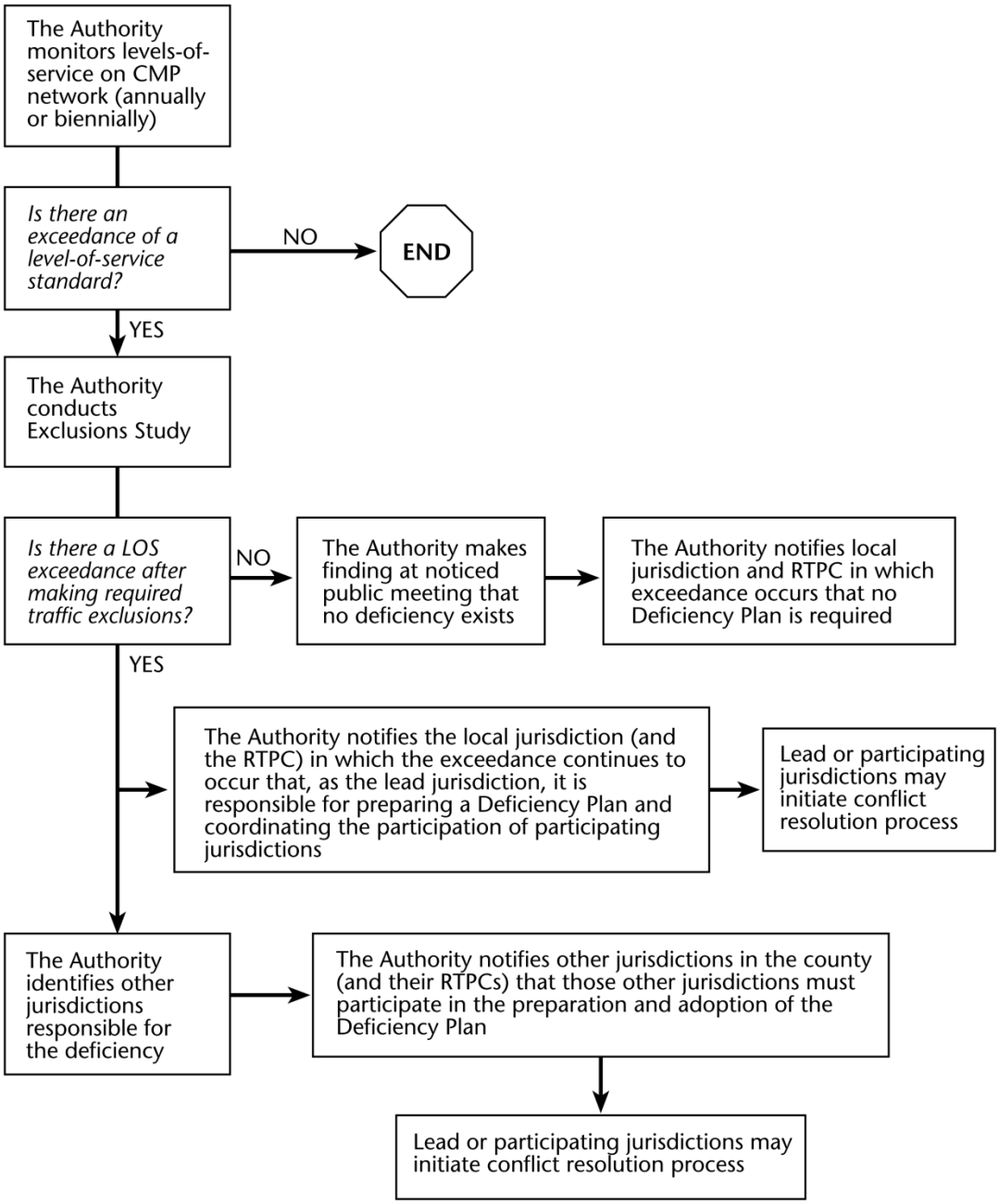

Figure 8.1

Process for Identification of Deficiency and Notification of Deficiency Plan Responsibilities

1997 Contra Costa CMP Update

8.2 Preparing a Deficiency Plan

The process for preparing a Deficiency Plan includes the following steps: creation of a Deficiency Plan Working Group, preparation of the Deficiency Plan by the working group, review of the Deficiency Plan by an RTPC Review Subcommittee, RTPCs and involved jurisdictions, adoption of the Deficiency Plan. Figure 8.2 illustrates these basic steps in the preparation of the Deficiency Plan.

The first step is to draw together the lead and participating jurisdictions and define how they will organize the Deficiency Plan effort (the lead jurisdiction is the jurisdiction in which the deficiency occurs.) The lead and participating jurisdictions must establish a Deficiency Plan Working Group made up of technical staff from the lead and each participating jurisdiction. The Working Group will have the responsibility of refining the work scope and for preparing and overseeing the preparation of the Deficiency Plan by a consultant, if one is used. The size of the working group will reflect the number of jurisdictions participating in preparing the Deficiency Plan; each jurisdiction should appoint one or two members. A staff member from the Authority will also participate.

In addition to the Deficiency Plan Working Group, a joint RTPC Review Subcommittee will be created. The affected RTPCs will appoint representatives to the Review Subcommittee, who will come from the lead and contributing jurisdictions involved in the Deficiency Plan preparation. The RTPC Review Subcommittee will be responsible for reviewing and approving the work scope and approach for the Deficiency Plan, as well as for directing the preparation of the Deficiency Plan and reviewing the draft recommendations presented by the Working Group.

REQUIRED COMPONENTS OF THE DEFICIENCY PLAN

Each Deficiency Plan must contain four components:

- **Analysis of the cause of the deficiency** This analysis has been expanded to include the identification of both the cause of the deficiency, and the impacts of those local jurisdictions that contribute to the deficiency. The Deficiency Plan only has to address the traffic impacts that are not excluded.
- **Improvements to maintain minimum level of service** The second component is a list of improvements necessary for the deficient segment or intersection to maintain the minimum level of service otherwise required and the estimated costs of the improvements.

Figure 8.2 – Process for Preparation of Deficiency plan

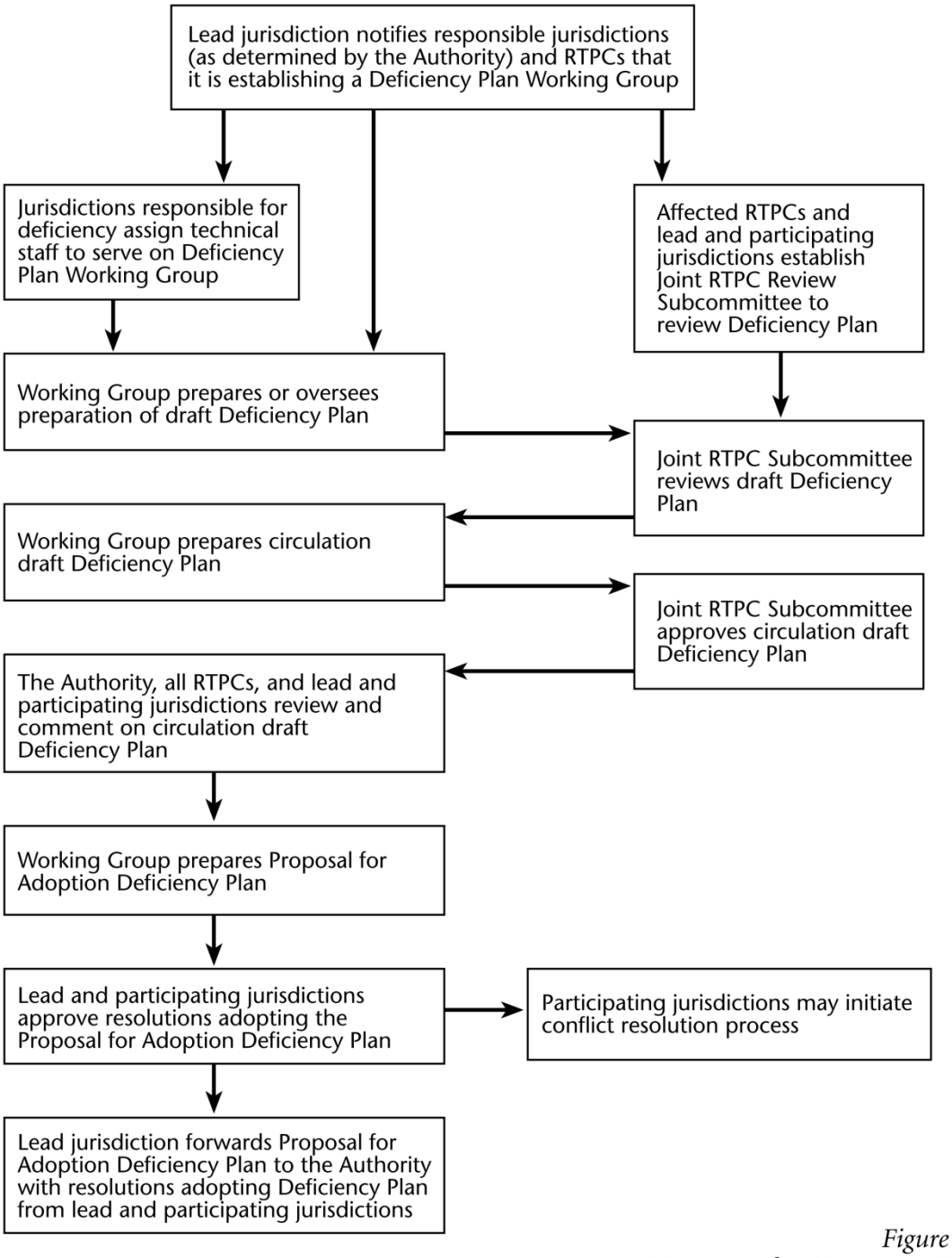

Figure 8.2
Process for Preparation of Deficiency Plan

1997 Contra Costa CMP Update

Improvements, programs of actions to improve multimodal system performance or air quality The third component is a list of improvements, programs, or actions, and estimates of costs, that will measurably improve multimodal performance (rather than level of service of the system) and contribute to significant improvements in air quality. (BAAQMD has established, and will periodically revise, a list of approved improvements, programs, and actions that would improve air quality.) Multimodal Transportation Service Objectives (MTSOs) established for the Action Plans for Regional Routes can be modified to serve as the performance measures in Deficiency Plans. MTSOs are quantifiable standards which Action Plans seek to achieve and maintain. The CMP performance measures are likewise quantifiable measures of multimodal system performance. Unlike the MTSOs they do not set a standard that may not be exceeded. (See Chapter 3 Performance Element for a complete discussion of performance measures.)

Action plans to address deficiencies The fourth component is an action plan to address deficiencies. (This action plan is distinct from the Action Plans for Routes of Regional Significance developed under the Measure J GMP.) The CMP legislation requires this action plan to draw from one or both of the list of improvements that will maintain the minimum level of service or the list of improvements, programs or actions that will measurably improve multimodal system performance and air quality. In addition, the action plan must include implementation strategies for those jurisdictions that have contributed to the cause of the deficiency. It need not mitigate the impacts of any exclusions. Lastly, the action plan must represent the most effective implementation strategies for improving current and future system performance.

RELATIONSHIP OF DEFICIENCY PLANS WITH ACTION PLANS FOR REGIONAL ROUTES

If level of service standards adopted in the CMP are exceeded and Deficiency Plans must be prepared, much of the required material will be included in the Action Plans for Routes of Regional Significance prepared by RTPCs. The Action Plans assess existing and future travel conditions on regional routes, include detailed transportation information, and identify specific actions, programs and projects to achieve the MTSOs for the Routes of Regional Significance. The Deficiency Plans can draw on the analysis and direction contained in the Action Plans to meet the requirements of the CMP legislation. Information to be added would include a list of improvements needed to meet the LOS standard, a list improvements, programs, or actions that will measurably improve multimodal performance of the system, or significantly improve air quality, and cost estimates of these improvements. Once the recommended actions in the Deficiency Plan are approved by the local jurisdictions, RTPCs, and the

Authority, they will be considered for incorporation into the affected Action Plans as part of their periodic update.

8.3 Adopting and Implementing the Deficiency Plan

ADOPTION PROCESS

The recommended process for reviewing and adopting Deficiency Plans is summarized below and described in greater detail in the Deficiency Plan Procedures. First, the Deficiency Plan Working Group and RTPC Review Subcommittee will prepare a circulation draft of the Deficiency Plan to be reviewed by the lead and contributing jurisdictions, affected RTPCs, the Authority, and regional agencies. Then the working group will prepare, and the joint RTPC review subcommittee will release, the Proposal for Adoption Deficiency Plan. Lead and contributing jurisdictions will approve resolutions adopting the Proposal for Adoption Deficiency Plan. Next the lead jurisdiction will forward the Proposal for Adoption Deficiency Plan with the adopting resolutions to the Authority. At the Authority, the adopted Deficiency Plan will be reviewed by the TCC task force and the PC first. Then, the full Authority will either accept or reject the Deficiency Plan. If the Authority accepts the Deficiency Plan, the lead and contributing jurisdictions will implement the Deficiency Plans and the RTPCs will incorporate the recommended changes into the Action Plans during the next update. Figure 8.3 graphically shows the process for Authority review and acceptance of Deficiency Plans.

IMPLEMENTATION AND MONITORING OF DEFICIENCY PLAN

After the adoption and acceptance of Deficiency Plans, the Authority will have continuing responsibility for monitoring their implementation. This monitoring will be accomplished through the regular, biennial submittal and review of CMP checklists. All local agencies and all RTPCs will need to fill out and submit a checklist. Each jurisdiction and RTPC participating in one or more Deficiency Plans will be required to respond to the part of the checklist with questions about Deficiency Plan preparation, adoption and implementation.

8.4 Conflict Resolution Process

The CMP legislation requires each CMA to "establish a conflict resolution process for addressing conflicts or disputes between local jurisdictions in meeting the multi-jurisdictional deficiency plan responsibilities of this section." (Section 65089.4[e][3]) The Contra Costa CMP relies on the Authority's adopted conflict resolution process to meet these CMP requirements. The conflict resolution process, adopted through

Resolution 95–07–G in July of 1995, will serve in both the Authority's Growth Management and Congestion Management processes.

The intent of the Authority's conflict resolution process is to help local jurisdictions resolve conflicts that arise from these two programs through a useful, flexible process, one that is not overly rigid so that it can respond to the particulars of the jurisdictions involved. This process can be used in two types of conflicts. The first type of conflict arises when one jurisdiction questions another's compliance with either the CMP or GMP. In these conflicts, the Authority has an obligation to determine a jurisdiction's compliance. The second type of conflict arises where disputes between jurisdictions hinder the implementation of the Authority's programs, although they do not affect a jurisdiction's compliance with the GMP or CMP. In the first type of conflict, participation is mandatory. In the second, it is voluntary.

Three principles underlie the conflict resolution process. First, consensus at the regional level on the resolution of conflicts is encouraged. Second, when the regional committees are unable to reach consensus, the Authority will look for evidence of "good faith" among the parties involved when determining compliance. Finally, the Authority's determination of compliance will affect the allocation of Measure J and CMP funds but will not affect local agencies' land use authority or require programs that conflict with a community's fundamental socioeconomic or environmental character.

The conflict resolution process has four phases. In the first phase, project initiation, the initiating party asks the RTPC (or the Authority, if the RTPC does not agree) to approve the initiation of the process and outlines the issues needing resolution. In the second phase, the Authority staff or consultant will meet with the parties involved to assess the issues in the dispute and its appropriateness for the conflict resolution process. The third phase involves the settlement sessions among the parties involved and the development of a settlement agreement. The final phase involves the implementation and monitoring of the agreement and the Authority's assessment of good faith by the parties involved.

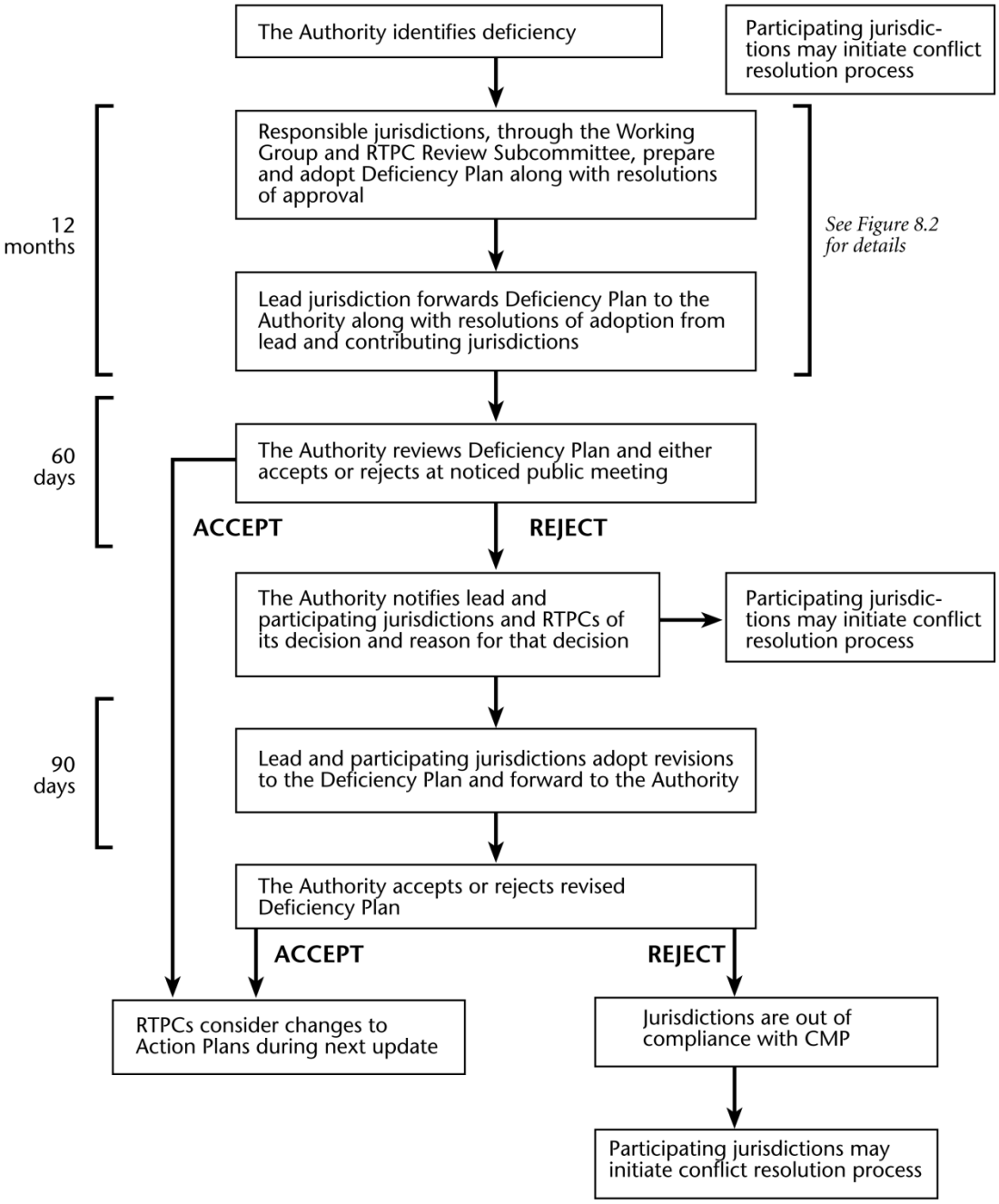

Figure 8.3

Process for Authority Review and Acceptance of Deficiency Plan

1997 Contra Costa CMP Update

Chapter 9

Local Compliance Requirements

One of the responsibilities of the Authority, as the county's designated CMA, is to monitor implementation of the CMP and conduct a biennial determination of local compliance with the program. Under State law, if a CMA finds that a jurisdiction is not in compliance with the CMP, and that jurisdiction does not come into compliance with the program within 90 days after receipt of notice of non-compliance, the State Controller will withhold apportionments of gas tax funds to that city or county. Furthermore, if the local jurisdiction remains out of compliance for 12 months, the gas tax funds will be allocated to the Authority for use in funding projects of regional significance in the CMP CIP or in an adopted Deficiency Plan. State law prohibits the expenditure of surface transportation program funds or congestion management and air quality funds for a project located in a jurisdiction that has been found to be out of compliance with the CMP, unless MTC finds that the project is of regional significance.

MTC is responsible for evaluating the consistency between all of the CMPs prepared by Bay Area CMAs, and the Regional Transportation Plan. MTC's responsibilities do not extend to examining or evaluating the conformity of individual localities; the CMAs alone have that obligation.

CHANGES FROM THE 2015 CMP

None.

9.1 Local Compliance with the CMP

The CMP legislation requires that the Authority "determine if the county and cities are conforming to the congestion management program" on at least three measures:

1. Consistency with level of service standards,
2. Adoption and implementation of a program to analyze the impacts of land use decisions, including the estimate of the costs associated with mitigating these impacts, and
3. Adoption and implementation of a deficiency plan when highway and roadway level of service standards are not maintained on portions of the designated system

The Authority monitors local conformance with these three aspects of the CMP through its existing monitoring activities. The Authority monitors whether the level-of-service standards are being achieved on the CMP network every other year. (Where the level of service standard is LOS E and the measured level of service is at LOS E or above, the Authority monitors intersections every year.) The results of this monitoring are disseminated to local jurisdictions. Where these standards are exceeded, the Authority prepares an "exclusions study." If, after subtracting out allowed exclusions, the exceedance still persists, then the affected jurisdictions, including jurisdictions that contribute significantly to through traffic at the intersection must jointly prepare and implement a Deficiency Plan, as described in Chapter 8.

The Land Use Evaluation Program in Chapter 5 gives local jurisdictions two options to meet CMP requirements. The first is through the land use impact procedures established in the Measure J GMP, which includes required participation in local and regional mitigation programs. Compliance with that program is assessed in the GMP Compliance Checklist. If jurisdictions cannot meet that process, the Chapter 5 outlines a second land use evaluation program that allows jurisdictions to comply with the CMP even if they do not meet the GMP requirements.

The Authority will judge compliance with the Chapter 5 CMP requirements by following up with any jurisdiction that notes on its GMP Compliance Checklist that it did not comply with the GMP land use impact analysis process and was otherwise determined not to have done so. This follow-up will focus on whether the jurisdiction complied with the CMP land use analysis program.

The Authority will determine compliance with the requirement to adopt and implement a deficiency plan through monitoring of individual deficiency plans. To date, however, no deficiency plans have been required.

9.2 Relationship between Compliance with the CMP and the Measure J GMP

As noted elsewhere in this document, the Authority seeks to implement the State's CMP requirements by integrating them as much as possible with the Authority's pre-existing GMP. Table 9.2-1 illustrates the similarity and overlap between the two programs and their requirements.

As outlined in Chapter 5, the enabling Joint Powers Agreement that established the Authority as the CMA for Contra Costa states that nonconformance with the GMP does not constitute nonconformance with the CMP, and vice versa. Accordingly, a finding of noncompliance with the GMP does not automatically translate into a similar finding of noncompliance with the CMP. (See Chapter 5 for the actual wording of that section of the JPA.)

Table 9.2-1 Comparison Of Compliance Requirements: CMP and GMP

Congestion Management Program	*Measure J GMP*
Checklist Submittal and Compliance Evaluation	
Biennial	Biennial
General Plan Growth Management Element	
No parallel requirement.	Required of all localities.
Traffic Level of Service Standards and Traffic Impact Studies	
Traffic Impact Studies consistent with the Authority's Technical Procedures must be conducted as part of the CMP Land Use-Transportation Analysis program.	Traffic Impact Studies are required to help assess impacts of major development projects and General Plan Amendments on Action Plan MTSOs.
Multimodal Transportation Service Objectives and Actions	
CMP performance measures, which are built on Action Plan Multimodal Transportation Service Objectives, are not used directly in compliance evaluation. Actions from Regional Route Action Plans will reflect adopted Deficiency Plans.	Multimodal Transportation Service Objectives are not used directly in compliance evaluation. Local implementation of actions is required for compliance.
Development Mitigation Programs: Local and Regional	
No parallel requirement for a local mitigation program. The regional mitigation program provides one possible basis for estimating the costs of mitigating project impacts on the regional transportation system, as required by the CMP.	Local programs required for GMP compliance. The Authority also requires that all jurisdictions participate in a sub-regional program.
Participation in Multi-jurisdictional Planning	
No parallel requirement.	Required for GMP compliance.

Table 9.2-1 Comparison Of Compliance Requirements: CMP and GMP

Congestion Management Program	*Measure J GMP*
Five-Year Capital Improvement	
No CMP compliance requirements relating to the CIP. A seven-year CMP CIP is adopted as part of the CMP, but is not adopted locally.	Required for GMP compliance. Local jurisdictions must adopt and annually update a five-year CIP.
Housing Options and Job Opportunities	
No specific requirement, although the land use–transportation evaluation program concerns itself with parallel issues.	Required for GMP compliance.
Transportation Systems Management Program	
Local adoption of a trip reduction and travel demand ordinance is no longer required for CMP compliance.	Required for GMP compliance.
Deficiency Plan Preparation, Adoption and Implementation	
Required for CMP compliance.	Deficiency Plans are to include identification of Action Plan amendments required to make the documents consistent.
Review of General Plan Amendments	
Required for CMP compliance (part of land use-transportation evaluation program) under Option 1. Not required under Option 2.	Required for GMP compliance.
Action Plan Updates	
Deficiency Plans may require changes to Action Plans.	Requires review and update of Action Plans in accordance with schedule established by RTPCs.